SPECIFICATION

Fire Safety Works

Specification – Folkestone & Hythe District Council – Fire Safety Works

Introduction

Folkestone & Hythe District is situated on the East Kent coast approximately 75 miles from London, covering an area of approximately 363 sq. kilometres. The main population of the District is split across four major urban areas. Folkestone is the largest town in the District, Hythe the second largest and then New Romney and Lydd. The remainder of the population is spread across a number of rural settlements and villages. The rural landscape is diverse – the District's hillier northern parishes falling predominately within the Kent Downs Area of Outstanding Natural Beauty and the southern parishes forming the Romney Marsh which is bordered by a Saxon Way coast line.

The District is administered by the Council and within its boundaries is a total of about 1880 houses/bungalows, 1500 flats/maisonettes/bedsits, and about an additional 215 leaseholders properties.

Folkestone & Hythe District Council are seeking to engage a professional contractor to undertake remedial works and repairs to a variety of residential buildings within its property portfolio to ensure that the highest standards of fire safety are maintained.

Scope of Works

The scope of the Works under this Contract comprises the following:

Works may include:

- Renewal and/or remedial works to fire doors (front entrance, kitchen, communal doors);
- Compartmentation works;
- Firestopping works;
- Installation of loft hatches;
- Fire rated bin store enclosures;
- Signage.

Orders may be placed in respect to Works to:

- Tenanted Properties;
- internal and external Common Parts (including bin stores, refuse chambers and the like);
- managed leasehold Properties;
- sheltered housing Properties;
- other Tenures.

Properties are likely to be occupied by Customers of the Client whilst the Works are undertaken. Works may take place to any or all of the Properties.

The Client expects the same high levels of satisfaction with the Works to be enjoyed across all ethnic groups. This will be the subject of regular review throughout the Contract Period and action will be required where necessary.

The Contract is to maintain all Properties owned or managed by the Client. This includes the Properties of any other organisation that the Client manages now or in the future and any additional Properties the Client subsequently acquires by development, stock transfer or purchase.

SPECIFICATION OF WORKMANSHIP AND MATERIALS

CONTENTS

GENERAL

GENERAL

Applicability

001 This initial general section applies to all subsequent sections of this Specification **("this Specification")**.

002 This Specification is drafted as a series of instructions that the Service Provider must ensure are complied with in relation to the Works. Each instruction includes all tasks necessary to comply fully with the instruction and the tendered Rates to which they relate.

003 The Rates include for carrying out all tasks required by this Specification including detailed requirements described or delineated on the Client's standard detail drawings where appended to this Specification. No further payment is due to the Service Provider in respect of any such tasks beyond the payments provided for in the Rates.

004 Specifications across several trades may be relevant to each tendered Rates item. The Service Provider must comply with all requirements of this Specification applicable to the specific type of Works to be undertaken.

005 References to Paragraphs and Sections in this Specification are to the applicable Paragraph and Section of this Specification.

Standards of workmanship and Materials

006 Carry out and complete all Works as required by this Contract including:

- in accordance with all Law including Health and Safety Law;
- in accordance with Good Industry Practice;
- in accordance with the Client's Policies;
- in accordance with the Client's standard drawings and details (where provided);
- in accordance with any specific requirements for those Works in this Specification; and
- to the satisfaction of the Client's Representative (acting reasonably).

007 To the extent that the standard of any Works has not been specified in this Contract, agree the relevant standard for the Works with the Client's Representative before their execution. Where particular Works or working methods are to be "approved by" "agreed with" or are indicated to be "subject to the approval of" the Client's Representative, give the Client's Representative adequate notice when such approval or agreement is needed and retain evidence of all approvals given, and items that have been agreed, by the Client's Representative.

008 To the extent that it is necessary to design any aspects of the Works, in preparing those Designs the Service Provider hereby warrants that the services have been and will be performed with such skill, care, diligence and expedition as would be reasonably expected of a prudent experienced contractor with Design obligations having experience in carrying out projects similar in size, scope, nature, complexity and value to the services.

009 Maintain all existing lines and levels at all times and carry through new Work to the same lines and levels unless otherwise instructed by the Client's Representative.

British Standards & Codes of Practice

010 Ensure all Works undertaken and all Materials used in those Works comply with all applicable Standards and Codes of Practice that are current at the time of their use.

011 References in this Specification to any Standard or Codes of Practice are to be construed as references to the version current at the time the Order is undertaken.

012 Where a specific Standard or a Code of Practice is referred to, this sets out the minimum acceptable standard of Materials or workmanship.

013 Any requirement in this Specification to use Material or an article or follow a process which is defined by reference to a specified Quality Assurance Scheme, British Board of Agrément Certificate, Standard or other approval, may be met by a Material, article or process (as applicable) which has received an equivalent international standard recognised but not yet adopted in the UK.

014 A Service Provider offering a product or following a process on the basis of compliance with any such approval shall notify the Client's Representative of all such substitutions in advance of placing any order and will be required to provide, in English, technical or other details of the approval and its qualifying tests.

Materials

015 The Client wishes to standardise the use of Materials across its Properties. This is in order to simplify Material requirements and van stock loads, to improve its repairs processes and to reduce maintenance costs. Wherever possible, match all Materials used to materials currently used in the Properties, particularly in terms of their parts requirements and repair procedures. In this Specification the Client has set out details of its current Materials to which the Service Provider is required to standardise.

016 Where this Specification indicates that Materials are to be "approved by the Client's Representative", provide samples of the proposed Materials to the Client's Representative for approval. Any Materials that comply with the functionality and compatibility (including aesthetic compatibility) requirements of this Specification may be proposed. No further approval is required for any Materials listed in this Specification as being the Client's currently used Materials. The purpose of the Client's Representative's decision on the use and approval of such Materials is to ensure that they meet the Client's Requirements for functionality and compatibility. The decision of the Client's Representative on this is final.

017 Where this Specification requires Materials to be matched to existing Materials or finishes, this match is subject to the approval of the Client's Representative.

018 Do not use any Prohibited Materials in carrying out the Works. Prohibited Materials are those Materials which are generally accepted or (having regard to Good Industry Practice) are reasonably suspected of:

- being harmful in themselves;
- being harmful when used in a particular situation or in combination with other Materials;
- becoming harmful with the passage of time; or
- being damaged by or causing damage to the structure in which they are to be affixed.

Prohibited Materials also include those materials which are generally considered to be deleterious within the building design professions in the UK.

019 Materials are to be regarded as harmful if, in the context of their use in the Works (whether alone or in combination with other materials) they:

- are prejudicial to health and safety;
- may pose a threat to the structural stability or the physical integrity of any Property; or
- could materially reduce the normal life expectancy of any part of the Property.

020 CE/UKCA Marked Products: All products referred to throughout this document and supplied to the Client, or used in the Works, must be supplied with a Declaration of Performance (DoP) and carry the appropriate CE/UKCA conformity assessment marking.

Performance Standards on the CE/UKCA mark must comply with relevant Building Regulations as required.

The CE/UKCA mark must be fixed visibly, legibly and indelibly either to the product or to a label attached to the product. If this is not possible or not warranted, then it must be fixed to the packaging or within the accompanying documentation.

The DoP must be made available by the manufacture (this may be via a website).

021 Use, fix and apply all Materials strictly in accordance with the manufacturer's recommendations, directions or technical data sheets.

022 Participate in joint initiatives with the Client and other contractors to establish supply chain agreements.

023 Where appropriate suggest (economically viable) amendments to this Specification where those amendments may lead to an improvement in environmental performance or sustainability.

024 Provide all information the Client's Representative reasonably requests regarding the environmental impact of the supply and use of any Materials the Service Provider selects for use in the Works.

025 **[optional clause]** This Specification incorporates the Client's Codes of Practice in respect of the following:

- **[insert details]**

In the event of any conflict or disparity between the requirements and obligations contained in the Codes of Practice and this Specification, the Codes of Practice will have precedence.

026 The Client's Standard Details where appended to this Specification are to be referred to by the Service Provider to amplify both this Specification and the descriptions in the Rates. The Rates descriptions are deemed to be fully inclusive of any requirements delineated, described or illustrated in the Client's Standard Details. It should be noted that the Standard Details may contain a referencing system that relates to an alternative specification. This alternative specification does not form part of this Contract, and where this type of referencing occurs it should be considered as a reference to a comparable item of equal quality and performance within this Specification and Schedule of Rates.

Periodic Servicing and Inspection, Routine Maintenance and Responsive Maintenance

027 This Specification covers all Routine Maintenance, Responsive Maintenance and Out of Hours Emergency Work to all installations within the boundaries of each group of Properties. The Specification must be read and interpreted in conjunction with the Rates.

028 Routine Maintenance must involve the undertaking of the comprehensive Routine Maintenance operations described in this Specification throughout the duration of the Contract Period at the regular intervals pre-defined by the Client and starting immediately from the Commencement Date. Routine Maintenance is the repair or renewal of components undertaken at the same time as programmed Periodic Servicing and Inspections are being undertaken.

029 All references to British Standards or other equally approved national standards must be deemed to mean those current, including all amendments, at the date of tender.

030 As set out in the relevant section of this Specification and/or on the Instruction of the Client's Representative the Service Provider will be required to undertake Responsive Maintenance to deal with day to day repairs/maintenance including Emergency Work and Out of Hours Emergency Work.

031 The Service Provider must ensure that his Staff visits each individual Property or group of Properties at the requisite frequency and carry out the specified inspections, maintenance, repairs, tests, certification and any other servicing Works to ensure that all systems, installations, equipment and appliances are maintained in prime condition.

032 At each Scheme visit the Service Provider's Staff must access the electronic log book for the respective installations and record all details of the visit and action taken. The Service Provider must be deemed to have allowed in his tender for creation of the site specific installation data as each Scheme is inspected for the first time.

033 The Service Provider must, within the first 3 months after the Commencement Date (i.e. at the end of the first servicing period) ensure that each installation and the like at each Scheme has a unique identifiable number.

034 Also within 3 months after the Commencement Date, the Service Provider must provide the Client's Representative with both an electronic and a hard copy bound report containing a listing of all Schemes in alphabetical order and indicating against each Scheme, the full name and address of the Scheme; a full positional listing of all systems, installations, equipment, appliances and the like referenced with their uniquely identifying number in accordance with paragraph 032 above; the dates when Periodic Servicing and Inspections and Routine Maintenance has been undertaken and/or is due in respect of each Scheme.

035 At the same time, the Service Provider may submit to the Client's Representative a separate report detailing any specific recommendations with respect to any individual Property or group of Properties. The Service Provider is also following the completion of his first Periodic Servicing and Inspection visit to each Scheme or predefined group of Properties to prepare the annual cost of the Periodic Servicing and Inspection and Routine Maintenance requirements to the installation(s) to each Scheme or group of pre-defined Properties on the basis of the frequencies indicated later in this Specification and evaluated at his tendered Rates, this evaluation is to be in accordance with the format and requirements of the Client's Representative, particularly having regards to any required Section 20 recharge information. If the evaluations are accepted by the Client's Representative they will form the basis of preparing all subsequent Valuations, which will be reimbursed at the rate of $1/12^{th}$ of the annual cost per month, starting from the first month following acceptance by the Client's Representative.

036 At the completion of each visit, to each Scheme the Service Provider's Staff must complete electronically clear and explicit service report sheets. The electronic signature of the Customer in respect of an individual Property or the Client's relevant Scheme manager or other responsible officer must be obtained as proof of the Works being undertaken and completed. In blocks of flats or similar situations where there is no such dedicated, responsible manager or officer, the Service Provider's Staff must self certify completion of the Works. In such cases the name of the self certifying operative must be printed clearly and legibly. Copies of reports are to be forwarded to the Client's Representative, together with any recommendations for Works not already authorised. If the recommendations include for Works not covered by Rates in the Contract Documents then a quotation for such must be included with the service report sheets. The Service Provider must update the electronic log book with all service report sheets.

037 The service report sheet is also to incorporate the following information:

1. arrival and departure times
2. state of installation or system on arrival
3. details of Works carried out
4. details of any Material or components renewed

038 Minor Work or alterations to electrical installations, which involves a change or modification to an existing single circuit, must include the issue of the certificate for Minor Electrical Installation Works in accordance BS7671.

039 Major Work or alterations to electrical installations, which involves a change or modification to two or more existing circuits and all new installations, must include the issue of an Electrical Installation Completion Certificate in accordance with BS 7671.

040 Following any non-routine visit to a Property or group of Properties, to undertake Responsive Maintenance, the Service Provider must also forward a report sheet to the Client's Representative detailing the nature of the visit, the authorisation for it and the actions taken.

041 All logs, reports and test recording sheets for all categories and sections of Work (whether specifically stated below or not) must be recorded in the electronic log book and be available for inspection and download by the Client on a web based system in a format to be agreed by the Client's Representative and the Service Provider.

042 All project issues must be communicated through the Client's Representative's channels (to be agreed in advance with the Client's Representative) and must not be channelled directly or indirectly via the Customer.

043 All bespoke software must be fully documented, recorded and provided to the Client (including providing all codes, passwords and part no's) and all must remain open protocol.

044 All systems must remain open protocol.

045 At handover meetings with the Client's Representative the Service Providers are to provide all codes, passwords and part numbers for all systems, parts and equipment

046 Any damage caused by the Service Provider installing inferior equipment must be made good at the expense of the Service Provider

Quality

047 The Client is aiming for an economic, high quality maintenance service with a stable workforce and effective supervision.

048 The Works must be performed in accordance with the Contract Documents and must be carried out in an efficient and proficient manner.

049 The Client's Representative will monitor that the Specification is being met. Any default in performance will be dealt with in accordance with the Contract.

050 The monitoring system will include an inspection of the following:
- the number and suitability of engineers and Staff used;
- quality of Materials, components and parts used;
- that the servicing and maintenance procedures used are either as detailed in the Contract or as agreed with the Client's Representative;
- that the frequency and standards of servicing and maintenance are being met; and
- that health and safety requirements are met.

Equipment and Materials

051 All equipment and Materials required for the performance of the Contract must be supplied by the Service Provider and must be approved by the Client's Representative. Any alternatives subsequently proposed by the Service Provider must have the prior approval of the Client's Representative.

052 All equipment and Materials used by the Service Provider to fulfil the Contract must be suitable for the purpose and where an appropriate British Standard issued by the British Standards Institute, or other equivalent nationally approved standard is current, must as a minimum, be in accordance with that standard.

Reporting of Defects

053 The Service Provider must report in writing any obvious apparent defects in the design, installation and/or operation, to any of the existing installations, to the Client's Representative.

054 The Service Provider must in particular report immediately to the Client's Representative any matters that may impact on health and safety issues and where immediate action is required from the Client's Representative.

Web Based Electronic Log Books

055 The Service Provider is required to provide an Electronic Monitoring System or Log Book.

056 The electronic monitoring system shall be Designed in such a way that the Client can be involved in the planning, management and view its compliance with its obligations as a landlord.

057 The system shall be web based with varying levels of access as the Client is a multi site and possibly a multi client organisation.

058 The scheduled monitoring and inspection tasks as set out within the Scheme must allow for customisation for each particular site and Property contained within the schedule. Occasionally this may include new Properties as and when the requirement arises.

059 Tests out of Scheme shall generate a non-conformity report that shall be immediately available to the Client's Representative.

060 The Client will require the ability within the program to create notes or messages within the system; this must be recorded within the software audit trail.

061 All non-conformities raised must be clearly identified as a visual warning on the date of the fault and be summarised in visual alert facility and report.

062 The central electronic logbook will have communication software with the ability to 'synchronize' any test results put in by each remote site, Service Providers or into the central database.

063 The logbook software must include a user password security system, which can be set up by the administrator of the software and allow or restrict access as applicable.

064 The Client will require the Service Provider to supply a support contract to include:-
- Telephone support during normal office hours Monday to Friday;
- Future upgrades and training for use of software as a result of improvements or changes in current legislation.
- All data stored shall be the property of the Client and all data must be provided to the Client on a regular basis on demand and at the termination of a contract.

065 The system shall be available to all Service Providers and not limited to any single provider.

066 The Client will own all data and such data should be made readily available by the Service Provider to the Client upon request in a recognised format (e.g. Excel).

067 It should have a document storage system that includes:
Method Statements
- Risk Assessments
- COSSH Assessments
- PPM Planner
- Record Sheets
- Test Certificates
- Photographs
- Schematic Layouts

068 The Service Provider is required to adhere to the Data Protection Act 1998 in the course of providing the Services that the Service Provider may be compiling, processing and storing Personal Data for the Client and where this is the case, the Service Provider will not unlawfully transfer any Personal Data to others.

Programming of Works

069 The Service Provider must within 20 working days of the award of the Contract submit and agree a full annual Programme for all Works covering each element of the maintenance Works with the Client.

070 The Service Provider must ensure that all the dates contained within the Programme have been agreed with the Client's Representative and that the equipment will be made accessible for service on the agreed dates.

Permit to Work Certification

071 If it is deemed necessary by the Client's Representative for the need for a permit to be issued before any Work is undertaken on the system, the Service Provider shall ensure his compliance with the permit to work system as employed by the Client.

Access

072 The Service Provider shall ensure that he undertakes a risk assessment and provides a method statement for his means of access to allow for inspection and testing.

073 All Works shall be carried out in strict accordance with the requirements of "The Work at Height Regulations 2005".

Firestopping

074 The Service Provider is required to ensure that all holes for cables, pipes etc., in the structure of any Property formed or drilled by the Service Provider are to be firestopped in accordance with current BS regulations.

075 If the Service Provider ascertains that existing holes for cables, pipes etc in the structure of any Property have no or inadequate firestopping, this is to be reported immediately to the Client's Representative giving the detailed location of the hole or holes, including the provision of digital photographs.

DEMOLITION

DEMOLITION

GENERAL

Generally

001 Execute all demolition Works and alterations in the most careful manner to avoid damage to the surrounding structures in accordance with BS 6187. Make good any damage caused.

002 Do not allow dangerous portions of any structure to remain standing during idle periods or overnight except where this is unavoidable. Where this is unavoidable, adequately strut and prop such portions to ensure their stability until Works recommence.

003 Load and remove from site all materials (including debris) arising from the demolition or alterations. Do not allow these materials to accumulate. Ensure the care and protection of any Materials to be re-used.

004 Bear the risk of any damage in removing, re-fixing and storing old Materials that are set aside for re-fixing. Replace any damaged or defective Materials or missing parts.

Survey

005 Before starting the Works, examine all available information, survey the structure(s), site and surrounding area. When requested by the Client's Representative provide a survey report with a method statement covering all relevant matters listed in the Health and Safety Executive (HSE) guidance in relation to development of safe working practices (www.hse.gov.uk) for further information.

The Report and method statements should describe:

- Form, condition and details of the structure or structures, the site, and the surrounding area;
- Type, location and condition of features of historical, archaeological, geological or ecological importance;
- Type, location and condition of adjoining or surrounding premises that might be adversely affected by removal of the structure or structures, or by noise, vibration and/ or dust generated during deconstruction/ demolition;
- Identity and location of services above and below ground, including those required for the Contractor's use, and arrangements for their disconnection and removal;
- Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal;
- Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage;
- Proposed programme of work, including sequence and methods of deconstruction/ demolition.
- Details of specific pre-weakening required;
- Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons;
- Arrangements for control of site transport and traffic; and
- Any special requirements.

Bench marks

006 Report to the Client's Representative any bench marks or other survey information found on the structure(s) to be demolished. Do not remove or destroy unless so Instructed in writing.

Existing features and adjacent works to be retained

007 Keep in place and adequately protect from any damage all features and adjacent work/Properties that are to be retained. Trees are to be protected in accordance with the requirements of BS 5837.

UTILITIES AFFECTED BY DEMOLITION

Regulations affecting utilities

008 Carry out any Works affecting new or existing services in accordance with all applicable Regulatory Requirements.

Location of services

009 Locate and mark the positions of services affected by the Works. Arrange with the appropriate Utility Providers for the location and marking of the positions of mains services.

Disconnection of services

010 Before starting demolition, arrange with the appropriate Utility Provider(s) for the disconnection of services and removal of fittings and equipment unless the drawings provided by the Client's Representative state otherwise.

Disconnection of drains

011 Locate and disconnect all disused drains connections. Seal within the site all the connections to existing sewers to the approval of the Utility Provider.

Drains in use

012 Protect drains, manholes, gullies, vent pipes and fittings still in use. Keep them free of debris at all times. Make good any damage arising from demolition. Leave them clean and in working order on completion of the demolition works.

Bypass connections

013 Provide bypass connections as necessary to maintain continuity of services to occupied areas of the Property and adjoining properties. Give a minimum of 72 hours' notice to Customers if shutdown is necessary during changeover.

Services which are to remain

014 Notify the Client's Representative, Utility Provider and Customer of any damage. Repair such damage to the satisfaction of the Client's Representative and Utility Provider.

WORKMANSHIP

Generally

015 Demolish structure(s) in accordance with the Health and Safety Executive (HSE) guidance notices and BS 6187. Staff undertaking demolitions are to be appropriately skilled and experienced for the type of demolition work and hold or are being trained to obtain relevant CITB Certificates of Competence. Staff responsible for supervision and control of demolition work are to be experienced in the assessment of risks involved and methods of deconstruction/demolition to be used.

Equipment

016 Use suitable types and standards of cutting and demolition Equipment for the location and type of Works.

Gas or vapour risks

017 Take adequate precautions to prevent fire or explosion caused by gas or vapour.

Flammable liquids & gases

018 When removing tanks and pipes which may have contained flammable liquids or gases:
- inform the appropriate officer of the Statutory Authority and follow any advice given;
- display danger notices;
- prohibit smoking and the use of naked lights;
- use only non-ferrous tools and equipment, with an ample supply of water, to reduce the risk of sparking;
- empty tanks and dispose of their contents to ensure that none enters any drainage system or watercourse;
- clean tanks and pipes and make them inert as described elsewhere in this Specification or as Instructed by the Client's Representative

Dust

019 Reduce dust by for example periodically spraying demolition Works with water (with suitable mitigation to prevent run off entering the drainage system). Use dust sheets and temporary screens.

Health hazards

020 Take adequate precautions to protect Staff and the public from health hazards associated with any dangerous fumes and dust arising during the Works. It is expected this will include suitable consideration of/testing for lead contamination in existing painted surfaces.

021 Perform all Works in such a manner to ensure the safety of the Works and the public and so as to cause the minimum inconvenience to the public.

Adjoining properties

022 Leave adequate temporary support and protection for adjoining properties at each stage and arrange for inspection by the Client's Representative when demolishing structure(s).

023 Maintain and alter temporary supports and protection as necessary as the Works progress.

024 Demolish structure(s) causing a minimum of damage to adjoining properties. Leave no unnecessary or unstable projections.

025 Do not disturb any support to the foundations of any adjoining property unless otherwise Instructed.

026 Report to the Client's Representative any defects exposed or becoming apparent in any adjoining property.

027 Promptly repair any damage caused to any adjoining property by demolition work. Make good to ensure safety, stability, weather protection and security.

Structure(s) to be retained

028 Adequately protect all parts of existing structure(s) which are to be kept in place.

029 Cut away and strip out with care the minimum amount necessary so as to keep the amount of making good to a minimum.

030 Prevent debris from overloading any part of the structure which is not to be demolished.

Services which are to remain

031 Notify the Client's Representative and Utility Provider of any damage. Make arrangements for repair to the satisfaction of the Client's Representative and Utility Provider.

Partly demolished structure(s)

032 Leave partly demolished structure(s) in a stable condition, with adequate temporary support at each stage to prevent the risk of uncontrolled collapse.

033 Prevent debris from overloading scaffolding platforms.

034 Prevent access to partly demolished structure(s) by unauthorised persons.

035 Leave safe whilst not working at the Property.

Dangerous openings

036 Illuminate all openings as necessary, provide guarding and barriers at all times, including outside of normal working hours, and prevent access by unauthorised persons.

Asbestos-based materials

037 Where asbestos-based materials are known to be present in the structure(s) to be demolished, ensure they are removed in accordance with the Client's Policy for asbestos removal and the Health and Safety Executive's (HSE) Control of Asbestos Regulations 2012 where possible before any demolition works commence.

Unknown hazards

038 Inform the Client's Representative of any unrecorded voids, tanks, chemicals, etc. discovered during demolition works. Agree with the Client's Representative the methods for safe removal, filling, etc.

New openings

039 When forming new openings or altering existing openings:

- cut away existing arches, lintels or sills;
- provide temporary strutting and supports and shoring;
- cut away for hoist and insert new lintels, including cutting and pinning ends;
- cut away for, and insert new sills, including cutting and pinning ends;
- make good floors up to levels for new thresholds, sills etc., including latex levelling screed;
- wedge and pin up to existing work and build up jambs as described;
- extend and make good finishings to match existing as necessary;
- remove all debris from the Property and site; and
- retain supports until the new Works have adequate strength to support the existing structure.

Taking down

040 When taking down:

- provide temporary support;
- remove all applied finishes;
- make good finishes and match to existing as necessary;
- make good floors up to levels with latex levelling screed; and
- remove all debris from the Property and site.

Building up existing openings

041 When building up existing openings:

- build up in Materials to match existing or as described for the full thickness of the wall;
- cut out existing thresholds, sills, arches, lintels, etc;
- hack off finishings from jambs or reveals before building up;
- prepare surfaces for raising, including lead core or similar damp proof course;
- cut toothing;
- wedge and pin up to existing work as required; and
- extend and make good finishings to match existing as necessary.

Extending finishings

042 Match all extensions to finishings, plasterwork, ceilings, flooring etc., and any making good exactly to the existing finishings.

MATERIALS

Ownership

043 Components and materials arising from demolition (other than any found during excavations) belong to the Service Provider. Remove them from site as the Works proceed.

The Client's Representative will indicate to the Service Provider whether certain components and materials are to remain the property of the Client, these components and materials are to be maintained and protected until they are removed by the Client or instructed to be reused in the Works.

Material and components other than brick, stone and concrete rubble or other hard material, arising from the deconstruction and demolition works can be recycled or reused elsewhere on the Contract, subject to compliance with the appropriate specification and in accordance with any site waste management plan, The service Provider would be required to submit full details and supporting documentation as evidence of compliance with the specification, and to allow adequate time in his programme of Works for verification of compliance.

Hardcore

044 Reuse brick, stone and concrete rubble or other hard materials arising from demolition as hardcore, subject to compliance with this Specification.

Bricks

045 Use whole, sound bricks arising from the Works for replacing cracked or defective bricks or filling to existing openings.

Infected Timber

046 Inform the Client's Representative when infected timber is encountered. Remove timber infected by fungal/insect attack from the Property in a way which will minimise the risk of infecting other parts of the building. Destroy it as soon as possible.

Commencement condition survey

047 Before starting the Works:

- survey the existing state of the Property to be kept in place;
- record the magnitude and extent of all cracks, spalling, flaking and other irregularities of the fabric of the Property; and
- agree the commencement condition survey record with the Client's Representative.

Extent of support work

048 Where necessary, provide support systems to those elements of the Property which are to be retained.

049 Submit detailed proposals including drawings and calculations for all systems to the Client's Representative for approval, and resolve any amendments proposed. Service Provider is responsible for procuring structural engineering services for drawings and calculations for support systems.

050 Provide adequate and stable support systems and thereby maintain the integrity of supported structure for the period of erection to completion of dismantling support systems.

Workmanship

051 Carry out all work in accordance with the Order or any design brief issued with it.

052 Use Staff experienced in the methods of erecting and maintaining support systems to supervise and control the Works.

Erecting support systems

053 Locate the positions of existing and new services which may be affected by support systems and provide any necessary temporary diversions.

054 Prevent excessive loadings from foundations of support systems being imposed onto foundations of structure to be kept in place.

055 Erect and connect support systems to structure to be kept in place. Take:
- all necessary precautions to prevent damage; and
- due account of movement of the structure which may occur before, during and after demolition.

056 Promptly repair any damage caused to adjoining properties by the erection or connection of support systems. Make good to ensure safety, stability, weather protection and security.

057 Report to the Client's Representative any damage caused to retained features or works by the erection or connection of support systems. Agree the methods of repair with the Client's Representative.

058 Check support systems at agreed stages during erection for compliance with design proposals.

Unknown hazards

059 Inform the Client's Representative of any unrecorded voids, flues, services, etc., discovered during the erection of support systems. Agree with the Client's Representative methods for infill, making good, relocation of support connections, etc.

Loading support systems

060 Complete the erection and connection of the support systems before starting the demolition of any adjoining structures.

061 Inform the Client's Representative when support systems are erected and all connections are made to the structure to be kept in place. Obtain any required permissions to load systems.

Maintaining support systems

062 Provide safe access and safe places of work in the support systems for inspection and maintenance.

063 Regularly inspect and maintain support systems, making good ties, wedges, connections, corrosion protection, etc., as necessary.

064 Adequately protect support systems from impact by vehicles, plant and site operations. Prevent access by unauthorised persons. Leave safe when not working at the Properties and outside the Service Provider's Working Hours.

Dismantling support systems

065 Inform the Client's Representative when all permanent connections between the supported structure and new construction have been made. Obtain permission before disconnecting and dismantling support systems.

Making good

066 Repair any connection holes made in the structure kept in place, using Materials to match those existing. Repair damage caused to buildings, roads or pavements.

Site clearance

067 Clear away all debris, excess materials and temporary Works and leave the Property and its site in a tidy condition on completion of the Works.

Client's current manufacturers/suppliers/products

068 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

ASBESTOS WORKS

ASBESTOS WORKS

GENERAL

001 Removal of licensed asbestos can only be carried out by an Asbestos Licensed Contractor.

002 The Service Provider shall employ the services of an Asbestos Licensed Contractor before undertaking any Asbestos Works. All works classed as Asbestos Works should be undertaken in accordance with the Control of Asbestos Regulations (CAR) and the general procedures listed in this Specification.

Removal

003 Asbestos should be removed when: deemed by the survey Risk Assessment to be:

- A high risk material i.e. Insulation materials;
- In a damage state;
- It is breaking away from the substrate base; or
- The asbestos is likely to be abraded or otherwise damaged.

As there is a possibility that non-asbestos materials may become contaminated from adjacent asbestos, consideration may need to be given to the removal or cleaning of adjoining materials and belongings.

Encasing

004 Encasing is constructing an airtight barrier around the asbestos, and is suitable where the cost of removal would outweigh the benefit or risk posed.

005 An encasement can be constructed from wood, metal or sheetrock, all joints must be sealed completely and be air tight.

Encapsulation or sealing

006 Encapsulation is suitable for use when the asbestos present is in a hard to reach place(s).

Encapsulation is the application of an impervious materials, which is secured over or around an ACM and is designed to prevent the release of fibres under foreseeable conditions, such as vibration, impact and age degradation.

007 For large areas the cost of encapsulation or sealing may approach the cost of removal. Any eventual removal may be more difficult and costly. Continuing assessment on a periodic basis will be defined by the asbestos survey risk assessment will also be required if the encapsulation or sealing option is taken. Not all paints and other surface coatings on the market are suitable. In particular, the sealant should not increase the fire hazard properties of the material being treated. If the asbestos is poorly bonded to the substrate, the application of a coating may result in large sections of the asbestos breaking away from the substrate. The surface to be encapsulated or sealed should be cleaned with an approved "H" type vacuum cleaner to remove all debris and dust particles ensuring good adhesion of the coating to be applied.

Removal and maintenance work

008 Where Asbestos Works is being performed, the Service Provider is required to notify the Health and Safety Executive or other enforcing authorities using Form FODASB5 14 days in advance of the works commencing, except in emergency situations where shorter notice with their agreement can be given.

009 Reasonable notice shall be given to any adjacent Client Party, Customers and Staff that Asbestos Works is to be carried out, and when it is to be carried out. The notification should also include an explanation of the general procedures and equipment involved and the precautions to be taken in accordance with CAR Regulations. Waste asbestos products shall be disposed of in accordance with the Hazardous Waste Regulations having given at least 3 days' notice to Environment Agency.

Notifiable Non Licensed Work

010 Notifiable non licensed Works (NNLW) is the removal of asbestos materials that would not normally require the Service Provider to give notification prior to commencement of Works, an example would be the removal of damaged or broken asbestos cement products, when the condition or the quantity of the material may give rise to significant quantities of dust and debris. This would mean this Work would be notifiable but not subject to full requirements of licensable Asbestos Works. In such instances it is advisable for the Service Provider to consider if the quantity of Work being carried out to asbestos containing materials would mean the Works are notifiable, in such scenarios use of an Asbestos Licensed Contractor may be necessary subject to the results of risk assessments.

011 Where NNLW is being performed, the Service Provider is required to notify the relevant enforcing authority using Form ASB NNLW1, with additional requirements and obligations being placed upon the Service Provider in respect of medical surveillance and maintenance of health records for each employee exposed to asbestos.

The Service Provider should contact www.hse.gov.uk for further information and guidance on NNLW.

In considering whether the works will require notification of non-licensed Works consideration needs to be given as to whether the Works are:

- **Maintenance** e.g. drilling holes to attach fittings or pass cables through, painting, cleaning etc. Maintenance includes some removal where it is incidental to the main task, e.g. removing an asbestos ceiling tile to allow inspection.
- **Removal** e.g. as part of a refurbishment or redesign project.
- **Encapsulation** e.g. work to enclose or seal asbestos materials in good condition.

And whether Air monitoring and control, and the collection and analysis of samples will be required.

Consideration will need to be given to the asbestos type

Is it friable? Friable means easily crumbled or reduced to powder. The more friable a material is, the more likely it will release asbestos fibres when worked on and the greater the risk of exposure. Work which disturbs more friable materials, e.g. asbestos pipe insulation, will tend to be notifiable non-licensed work and work which disturbs the least friable materials, e.g. asbestos cement, can normally be treated as non-licensed work.

How firmly is the asbestos bonded in a matrix? (For removal work only). Bonded in a matrix means the asbestos is coated, covered or contained within another material, such as cement, paint or plastic. ACMs of this type in good condition can usually be treated as non-licensed work. If the ACM's are significantly damaged, and so more likely to release fibres, they will need to be treated as notifiable non-licensed work.

Consideration will ned to be given to the Asbestos material's condition

Has the material been damaged or is it in poor condition? Removal of ACMs in poor condition e.g. due to flood or fire damage, will normally need to be treated as notifiable non-licensed work.

Will the materials' matrix be destroyed when worked on? e.g, using gel or steam to remove deteriorating textured decorative coatings such as 'Artex' will normally need to treated as notifiable non-licensed work.

Examples of notifiable non-licensed work (NNLW) with asbestos

- Using steaming or gelling methods large-scale removal of textured decorative coatings (e.g. beyond that required for maintenance activities such as installation/replacement of smoke alarms and fittings);
- Minor short duration work to remove asbestos insulating board as part of a refurbishment project;

- Minor short duration involving asbestos insulation (e.g. repairing minor damage to a small section of pipe insulation where the exterior coating has been broken or damaged);
- Removal of asbestos cement products (e.g roof sheeting) where the material has been substantially damaged or broken up (e.g. as a result of fire or flood damage);
- Removal of asbestos cement products (e.g. roof sheeting) where the removal activity will mean that the material will be substantially broken up, creating significant quantities of dust and debris (e.g. 'dropping' an asbestos cement roof); and
- Removal of asbestos paper and cardboard products if not firmly bonded in a matrix

All non-licensed and notifiable non-licensed work with asbestos needs to be carried out with the **appropriate controls** required by the Health and Safety Executive or other enforcing authorities in place, and those carrying out the work must have had the correct level of **information, instruction and training**, to protect themselves (and others in the area) from the risks to health that exposure to asbestos causes.

If the Service Provider determines that the Works, they are about to do is notifiable non-licensed work (NNLW), the section below on notification explains how the Service Provider is comply with the additional requirements.

Notification

The Service Provider will need to notify the relevant enforcing authority of any NNLW with asbestos:

- Notification is to be use of the **online notifications form** (via either a computer or Smartphone);
- all three possible regulators can be notified via this database - the Health and Safety Executive, Local Authorities and the Office of Rail and Road (see table below);
- notice is required before the work starts - there is no minimum notice period;
- the Service Provider does not need to wait for permission from the enforcing authority – the database will provide a PDF copy of the notification;
- if the Service Provider is are doing a project or contract with multiple NNLW jobs you can notify once for the whole project or contract;
- if the Service Provider is a licensed asbestos contractor carrying out NNLW work, a notification will still have to be submitted; and
- the **online notifications form** is the only method of notification accepted.

Type of premises/activity	Enforcing Authority
Shops, offices, separate catering services, launderettes, sport, entertainment and recreational activities, exhibitions, church or religious meetings, hotels, camping and caravan sites, wholesale and retail storage	LA (Local Authority)
Factories and factory offices, civil engineering, construction and demolition sites, hospitals, research and development establishments, local government services and educational establishments, fairgrounds, radio, television and film broadcasting, sea going ships, docks, transport undertakings, domestic premises, quarries, farms (and associated activities), horticultural premises and forestry's, mines or quarries and offshore installations, licensed nuclear sites	HSE (Health & Safety Executive)
Railways, railway lines, signal boxes	ORR (Office of Rail and Road)

Designating areas

All areas where there is NNLW taking place must be designated and marked with a suitable warning notice. These areas must be restricted to those carrying out the work.

Food and drink must never be consumed in designated areas.

Medical surveillance

All Service Provider's operatives carrying out NNLW will need to have had a medical examination **at least every 3 years**, as long as the operative continues to do NNLW. Service Provider's operatives carrying out NNLW for the first time will have to have an examination before they can start such work:

- medical examinations must include an examination of the chest and a lung function test;
- they need to be carried out by a licensed medical practitioner, e.g. a GP;
- those operatives already under surveillance via a licensed asbestos contractor and in possession of a valid certificate do not need to have the NNLW medical;
- medical examinations should be carried out in work time at the Service Provider's expense; and
- the GP must issue a certificate to confirm the examination has taken place and on what date - the Service Provider needs to keep this certificate for 4 years.

Record keeping

The Service Provider need to keep a register (health record) of NNLW with asbestos for each operative exposed to asbestos:

This must include:

- the nature and duration of work with asbestos and estimated exposure for each individual operative; and
- dates of the operative's medical examinations.

Registers of work (health records) must be kept for 40 years (and offered to the Health and Safety Executive or other enforcing authorities or the individual concerned should the business cease trading).

The need to record exposure does not mean that every non licensed task must have air sampling. There will often be published exposure figures or knowledge within the industry about exposures found at similar lower risk work done in the past. If a task is unusual, then sampling may be required.

Non Notifiable Non Licensed Work

012 Removal of non-licensable asbestos containing materials is deemed to be included within the rates contained in the Schedule of Rates (with the exception of the rates in the Asbestos Works section of the Schedule of Rates which are only for the removal and/or encapsulation of licensed asbestos or non-licensed asbestos that may have been contaminated by adjoining licensed asbestos) together with the Service Provider's tendered percentage adjustment.

013 Non licensed asbestos works are deemed to be:

Sporadic and of low intensity – to be considered sporadic and of low density the concentration of asbestos fibres in the air should not exceed 0.6f/cubic centimeter measured over 10 minutes;

Carried out in such a way that the exposure of workers to asbestos will not exceed the legal control of 0.1 asbestos fibres per cubic centimeter of air (0.1f/cm^3) (averaged over a four (4) hour period);

Meet at least one of the four following conditions:

1. It is a short non-continuous maintenance task, with only non-friable materials (friability describes how likely a ACM is to release asbestos fibres when worked on, so non-friable materials will only release a small number of fibres during work);
2. It is a removal task, where the ACMs are in reasonable condition and are not being deliberately broken up, and the asbestos fibres are firmly contained in a matrix e.g. the asbestos is coated, covered or contained within another material, such as cement, paint or plastic;
3. It is a task where the ACMs are in good condition and are being sealed or encapsulated to ensure that they are not easily damaged in the future: and
4. It is an air monitoring and control task to check fibre concentrations in the air, or its condition and analysis of asbestos samples to confirm the presence of asbestos in a material.

Examples of non-licensed asbestos work:

- Cleaning of small quantities of loose/fine debris containing ACM dust (where the work is sporadic and of low intensity, the control limit will not be exceeded and it is short duration work);
- Drilling of textured decorative coatings for installation of fixtures/fittings;
- Encapsulation and sealing –in work on asbestos containing materials (ACMs) that are in good condition;

Maintenance Works involving:

- Asbestos cement products (e.g. on roof sheeting, tiles and rainwater goods);
- Asbestos in ropes, yarns and woven cloth;
- Asbestos gaskets or asbestos rope cord (including removal as part of the repair and upkeep of equipment) if this can be done without substantial breakage;
- Asbestos containing thermoplastic and vinyl floor tiles, bitumen roof felt, shingles, damp-proofing coatings and mastics;
- Asbestos-containing felt and paper;
- Plastic paint coatings, PVC floors, panels and sealing compounds;
- Asbestos-containing conveyor belts/drive belts, bonded rubber, electric cables;
- Resin-based ACMs such as friction products (e.g. brake linings)
- Painting/repainting Asbestos Insulating Board) (AIB that is in good condition;

Removal of:

- Asbestos cement products (e.g. roof sheeting and rainwater goods) providing the material is carefully handled/removed without breaking up, this includes work with asbestos cement which is weathered but not otherwise substantially damaged;
- Small areas of textured decorative coatings using suitable dust-reducing methods, to support other activities such as installation/replacement of smoke alarms and light fittings;
- Textured decorative coatings provide that this can be done without deterioration of the material (e.g. if the backing board is carefully cut around to achieve virtually intact removal);
- Loosely fixed (e.g. screwed) asbestos insulating board (AIB) panels in order to gain access to areas for other Maintenance activities (e.g. under a bath to carry out pipework maintenance, or for access to a ceiling void for repair of lighting) This also includes re-attaching the panels after the work is done;
- An AIB door with asbestos fire proofing;
- Asbestos cement products (e.g. roof sheeting) where the material will be substantially damaged or broken up (e.g. as a result of fire or flood damage);
- Asbestos cement products (e.g. roof sheeting) where the material will be substantially broken up, creating significant quantities of dust and debris (e.g. dropping an asbestos cement roof);
- Asbestos paper and cardboard products if not firmly bonded in a matrix)

Short duration work:

- To repair minor damage to AIB;
- Involving drilling holes in AIB (e.g. installing shelving);
- To remove asbestos insulating board as part of a refurbishment project;
- Involving asbestos insulation e.g. repairing minor damage to a small section of pipe insulation where the exterior coating has been broken or damaged;

Other work on:

- On other materials containing asbestos (such as paints, bitumen, resins, rubber etc.,) where the fibres are bound in a matrix which prevents most of them being released (this includes, typically, aged/weathered AC);
- Associated with collecting and analyzing samples to identify the presence of asbestos;
- Large scale removal of textured decorative coatings using steaming or gelling methods (e.g. beyond that required for maintenance activities such as installation/replacement of smoke alarms and fittings)

014 Certain of the operations listed in 013, dependent upon the circumstances in which the Works will be undertaken, will also be notifiable to the Health and Safety Executive or other enforcing authorities on form ASB NNLW1, with additional requirements and obligations being placed upon the Service Provider in respect of medical surveillance and maintenance of health records for Staff exposed to asbestos.

Demolition and structural alterations involving restricted work

015 Demolition and structural alteration of buildings or other structures containing asbestos material should be in accordance with the Regulations. All asbestos products, including asbestos cement sheeting, must be removed before demolition is commenced. In some circumstances, partial removal, followed by partial demolition to allow access to previously obstructed asbestos material, may be necessary. In such cases, the partial demolition operation should be conducted under conditions appropriate to the removal Work. The techniques for handling and removal of non-friable asbestos-cement products are detailed later in this Specification.

REMOVAL OF ASBESTOS

016 This section provides guidelines for undertaking the planned and safe removal of asbestos-based materials from buildings, equipment/plant and structures, and outlines the equipment that could be used, removal techniques and general safety and hygiene requirements.

017 This section applies to the removal or work on:

- Friable asbestos, including sprayed asbestos coatings used for thermal and acoustic insulation in buildings.
- Decorative coatings in buildings;
- Asbestos-based lagging on boilers and other industrial plant;
- Asbestos cement products;
- Roof coverings;
- Asbestos Insulation Panels;
- Ropes, felts, papers and the like; and
- Other non-asbestos materials that have been contaminated with asbestos.

018 Working with asbestos and asbestos-based products is hazardous. It is the Service Provider's duty under the Health and Safety at Work Act to provide a healthy and safe place of work. To achieve this it will be necessary to plan the work and adopt good work practices.

019 In any activity involving the removal of asbestos-containing materials the procedures adopted must allow for the containment of asbestos. All practicable steps must be taken to ensure that Staff and any Client Party in the area are not exposed to asbestos fibres.

NOTE: Removal of friable asbestos that has been used for thermal or acoustic insulation and other stated applications may only be carried out by a competent person(s) with a valid asbestos removal license from the Health and Safety Executive using appropriate guidance, restricted work must be at all times be under direct supervision.

SAFE REMOVAL OF FRIABLE ASBESTOS

020 This section applies to the removal or work on:

- Friable asbestos, including sprayed asbestos coatings used for thermal and acoustic insulation in buildings.
- Decorative coatings in buildings;
- Asbestos-based lagging on boilers and other industrial plant.

Information to be provided by the Client

021 The Client will provide the Service Provider with access to the Client's Electronic Asbestos Register where they can obtain (if available) a copy of the asbestos survey (or suitable representative survey) giving details of the ACM identified to the Service Provider prior to commencement of any work.

It is recognised that in some cases the full extent of the asbestos material is not known until removal is under way.

In the preparation of job specifications by the Service Provider's Asbestos Licensed Contractor the following considerations should be addressed:

Location and Status of ACM:

- Internal;
- External but protected.
- External exposed to weather;
- Enclosed in ducts; "Confined Spaces Considerations"
- Difficult or unusual site conditions, which will influence the selection or application of removal methods, particularly in regard to transport, scaffolding or weather protection.
- Removal from roof space areas or areas or Working at Heights, confined spaces, or areas with other constraints within a property.

Technical description of the material to be removed with details of the type of asbestos present and any special or unusual materials or circumstances.

022 The extent of the removal Work should be adequately detailed on the Order (subject to Clause 020 above), to indicate areas for removal, otherwise, information of the following nature should be provided where available. If necessary, the Service Provider should contact the Client's Representative where his risk assessment states a sample is required, requesting that additional sampling and testing of potential ACM's is necessary.

- Surface dimensions of flat or large curved areas, thickness of insulation, external diameters of pipes, length of each size pipe, and number and type of pipefittings, e.g. flanged joints, valves, tees, expansion bends. Particular detail is to be provided if asbestos is to be removed from any part of the building's air-conditioning system;
- Details of any pipe work sections that are steam or electrically heated and the arrangement of its insulation;
- Details of any section or materials to be left in place;
- Confirmation and details of residual heat that will remain in pipe work, boilers, etc.;
- Any unusual or specific hazards associated with the removal Works;
- Temperature considerations — normal working temperature for each portion of the plant concerned, ambient temperature at the removal area;
- Conditions of substrate surfaces — special requirements, such as the removal or otherwise of protective paint or lacquer from pipe work or for the application of paint or other protective coatings to the substrate from which the asbestos-based material has been removed;
- Types of fittings and supports and whether or not these may be removed or disposed of with the waste;
- Type of finish required or specification for re-insulation;
- Special service requirements, for example, where there is any potential hazard from contact with live electrical equipment in use in the removal area; attention should be drawn to this fact;
- Where electrical switchgear or panels are to be sealed, consideration should be given to the provision of supplementary ventilation to dispose of potential heat build-up and consequent fire risk;
- Site occupancy restrictions and conditions;
- Adjacent area cleaning (adjacent areas which are to be cleaned or are to be protected from airborne dust and are to be cleaned on completion);
- Safety practices to be followed under relevant legislation; and
- Location of any relevant electrical cables;

Information to be supplied by the Service Provider

023 Restricted Work involving asbestos must be notified to the Health and Safety Executive 14 days prior to abatement activities commencing.

024 The Service Provider (or his appointed Asbestos Licensed Contractor) should provide a detailed plan of Work and all method statements with specifications or drawings showing details as require under CAR regulations as follows:

- Type, quantity and extent of isolation required at the asbestos removal area and location of restricted access borders;
- Particular methods to be adopted when removing material, including detail of the contamination control programme, for example, provision of negative air pressure and the location of the exhaust unit;
- This should include specifications of size, capacity and type of filter, location of decontamination unit and where it is to be discharged;
- Detailed risk assessment for both asbestos and all other perceived risks;
- Waste disposal programme including;
    - On-site storage system;
    - Method of removal from the building;
    - Detailed risk assessment; and
- Waste disposal site to comply with Hazardous Waste Regulations 2005
- Any other information required to ensure compliance with CAR Regulations and Health and Safety Executive guidance
- Where the risk assessment requires that removal operations be undertaken under controlled conditions the Service Provider will request the Client to appoint a Health and Safety approved analyst to provide assurance that his operations have been completed in accordance with the Service Provider's plan of Work and other management duties including air testing, 4 stage clearances and issue certificate of reoccupation.

This information is to be uploaded to the Client's Electronic Asbestos Register by the Service Provider on completion of the Works.

Guidelines for Service Providers for planning and programming:

025 Consideration should be given to the removal of all asbestos from a Property at the same time. Decanting (if necessary) and/or other management issues to be agreed with the Client prior to commencement of Works.

026 Conversely, the work of other Client Parties should be scheduled to preclude them working near to, or accidentally breaking into the asbestos removal area. The Service Provider is given access to the Client's Electronic Asbestos Register so he can download survey data if available, in a situation where no relevant sample or survey data exists and his risk assessment requires that samples should be taken, the Service Provider should bring this to the attention of the Client's Representative who will either, issue an Order with the Service Provider or through the Client's own analyst, get a sample or survey completed and uploaded to Client's Electronic Asbestos Register.

027 The following are the major points to which early consideration should be given:

- Safety and Health of personnel;
- Safety and Health of Customers;
- Most appropriate work methods for the work;
- Identification of types of asbestos involved;
- Programme of commencement and completion dates. However, it should be recognised that unforeseen problems with removal or the extent of the asbestos cannot always be ascertained prior to removal Work commencing;
- Responsibility for the supply and application of isolating materials, e.g., ropes, barriers, plastic screens, waste containers and warning signs;
- Preparation of surfaces (pre-removal) cleaning;
- Precise information on extent of the work covered by the Contract;
- Limitations of access to the removal area;

- Conditions of employment on the site, including the labour and supervision required and agreed working hours;
- Transport facilities;
- Protected storage area pending the removal of asbestos-based materials;
- Availability of water, power, heat, light and drainage;
- Accommodation, decontamination and canteen facilities;
- Provision of access equipment, such as scaffolding or ladders;
- Protection of adjacent areas, plant and machinery;
- Waste disposal methods and responsibilities and cleanup requirements;
- Temporary sealing of asbestos where necessary;
- Notification to the Health and Safety Executive;
- Responsibility for air monitoring, including clearance monitoring;
- Customers furniture store;
- Decanting arrangements;
- Analyst work area
- Transit routes waste disposal facilities

Training

028 All asbestos removal Staff must be instructed in the relevant aspects of working with or on asbestos to ensure compliance with CAR Regulation 9 and associated Approved Codes of Practice: the health hazards associated with asbestos, safe working procedures, and the wearing and maintenance of protective clothing and equipment. The level of training may vary according to the requirements of a job but all Staff should be given detailed information on the reasons for safety and health precautions.

The Service Provider is to provide evidence that his Staff have received training for task specific removal of non- notifiable, non-licensed, and notifiable non-licensed asbestos containing materials including use of special PPE, cleaning materials, disposal procedures etc.,

Supervisory personnel

029 The Service Provider shall ensure that supervisory personnel have a detailed knowledge of the precautions and procedures outlined in the CAR Regulations, ACOP HSG 247 and in this model Specification. With this knowledge and personal experience, they should assume the following responsibilities:

- To plan the total removal procedure;
- To select the most appropriate technique for removal of asbestos;
- The pre-removal setting up;
- Reassurance Air Tests
- The actual removal and final cleaning operation, 4 stage clearances and certificate of reoccupation as applicable;
- To ensure that all necessary measures are taken to reduce the airborne concentration of asbestos dust to the lowest practicable level;
- To ensure that asbestos fibres and asbestos-containing material do not contaminate adjacent areas;
- To ensure that all Staff under their supervision are adequately trained in the safe working practices outlined in HSWO and in CAR Regulations;
- To ensure that the removal is continually supervised by Staff and that the operation is carried out in a safe and proper manner, in accordance with the precautions listed in the CAR Regulations;
- To ensure that personal protective equipment is used and maintained in good condition;
- To ensure that the removal site is maintained in a clean condition, that waste is quickly and properly disposed of in accordance with process detailed in Service Provider's Plan of Work
- To ensure personal hygiene procedures are continually observed;
- To maintain copies of all records and a site log detailing all site operations on a daily basis and can be signed off by all parties on site; and
- To supply all information to the Client's Representative (electronically uploading to Client's Electronic Asbestos Register) on completion of the Works.

Site preparation for the removal of friable asbestos from buildings and other structures

030 The plan of Work issued to the Health and Safety Executive or other enforcing authorities will set out the procedures adopted for the removal of friable asbestos must be designed to contain the asbestos and minimise airborne exposure. The steps required will vary from job to job but in all cases will include the following:

- Access to the asbestos removal area must be restricted to those involved in the removal work. A thorough pre clean must be undertaken prior to work area preparation and commencement of abatement activities;
- Contamination of flooring and furnishings with asbestos containing dust must be avoided';
- The drift of airborne fibres must be restricted by ensuring that the removal area is effectively screened off from adjacent areas. This is usually achieved by extracting air from the removal area to ensure that it remains at negative pressure with respect to surrounding areas;
- The precautions taken must be sufficient to ensure that any asbestos contamination in the air or surrounding areas is maintained below 0.01 fibres/ml (for a sample volume of at least 480 litres passed through a filter with an effective diameter greater than 20mm) at all stages during and after the asbestos removal work. The steps to be taken will be determined the likelihood of asbestos fibre release and the size of the job in terms of the time taken to complete it and the area involved. In the following sections, the site preparation that is considered appropriate for three commonly performed removal tasks are specified;
- The removal of fireproofing, thermal or acoustic insulation applied to structural steel or ceilings, or other similar major asbestos removal jobs;
- The removal of decorative coating containing relatively low percentages of asbestos; and
- Small-scale jobs such as the removal of minor amounts of asbestos pipe lagging.

Preparation of a site for a major removal programme.

031 Where total enclosure of the removal area is required, isolation of the area can be achieved by the installation of low-density polyethylene sheeting (not less than 1000 gauge) on the floor and walls of the structure. It may be necessary to erect a temporary timber or metal frame to which the plastic barrier can be attached. All joints should be overlapped and taped to ensure that the area is completely sealed off. In some circumstances the use of adhesives may supplement the use of tape.

032 Existing floor coverings should be removed where practicable. A double layer of plastic sheeting (suitably fixed by double-sided tape or adhesive to prevent movement between layers) should be used on the floor of the containment area, and a turn-up should be used where the floor joins the sidewalls. Plywood 6mm should be used between layers to prevent accidental penetration of sheeting.

033 Vertical shafts should be properly sealed off to prevent the thermos-syphon effect spreading asbestos fibres throughout the building.

034 Where asbestos is removed from an entire floor of a multi-storey building, all passenger and goods lifts should be prevented from stopping at the floor from which asbestos is being removed. Asbestos removal Staff may gain access to the floor via the fire stairs or from an elevator dedicated for this purpose. Where a lift is used for access, all exit doors to other floors should be sealed. It is important that emergency escape exits are available when blocking off such areas

035 All movable furniture, plant and fittings shall be removed from the asbestos removal area. The immovable items should be fully wrapped and sealed in suitable plastic sheeting and stored in lockable container on site to facilitate involvement of the Client's loss adjuster; an inventory (including photographs) of all items removed should be taken and where possible their condition agreed with the Customer (signed copy) so that they are effectively isolated from the removal area. In regions of heavy traffic or high wear, additional masking or barricading may be necessary.

036 Where masking operations may liberate asbestos fibres, all Staff in the removal area should wear respiratory protective devices approved for asbestos. This precaution is particularly applicable when removing existing barriers or partitions such as false ceiling tiles. Where asbestos materials may have fallen on to a false ceiling, the ceiling should only be removed under full controlled removal conditions. Any utility or service pipework, which penetrates into the ceiling space, is to be sealed.

037 Except for the Negative Pressure Units ("NPU") all ventilation and air-conditioning networks servicing the removal area should be closed down for the duration of the removal job. All vents should be thoroughly masked to prevent the ingress of asbestos fibres into the duct network. Upon completion and after final cleaning of the removal area, all mechanical ventilation filters for re circulated air should be replaced.

038 Additional care must be taken to ensure that asbestos fibres cannot escape at points where pipes and conduits pass out of the removal area. Greater attention to masking and re-assurance testing should be given in these regions, particularly if service riser-shafts pass through the removal area.

039 To prevent the escape of airborne asbestos fibres from the removal area enclosure, an exhaust extraction fan should be installed in a position so as to create a negative air pressure of approximately 5 Pascal's (water gauge) within the removal area. While accepting that the measurement of this pressure is not always possible, a good guide to the effectiveness of the system can be gauged from the inwards effect on the plastic tenting. It is a requirement that clear viewing panels be installed at strategic locations throughout the enclosure to allow inspection from outside the enclosure, if clear viewing panels cannot be provided, then the Service Provider is to install a close circuit TV system with external monitors. If there is a visible bellowing inwards, there is a good negative pressure. In this arrangement, the major and usually only route of air into the removal area would be through the three-stage unit. The correct flow of air should be verified using the smoke testing method.

040 The air extracted by this system should pass through an appropriate High Efficiency Particulate Air ("HEPA") filter to remove any asbestos fibres. Ideally, air extraction units should be so situated that access to the filters can be gained from the removal area. This expedites the otherwise difficult decontamination of these units and allows another unit to be brought into service in the event of a breakdown. Where it is not possible to change the filter within the removal area, a temporary enclosure should be constructed around the unit to allow for filter replacement.

041 The HEPA filter should comply with the minimum 99.997 percent efficiency requirement detailed in BS EN 1822. A coarse pre-filter should be installed prior to the HEPA filter to prolong the useful life of the high efficiency filter. Where practicable, the discharge point for this extraction unit should be to the outside air, distant from other working areas, air-conditioning inlets or breathing air compressors. Where this is not possible, testing of the exhaust air should be carried out.

042 Extraction equipment should be operated continuously whilst the removal enclosure is in place. Such equipment should be DOP tested every six months.

043 When installing the asbestos removal area containment, extra consideration should be given to the alteration of the fire rating of the building and to the provision of the fire-fighting facilities, emergency exits and emergency lighting.

044 Warning notices stating "Asbestos Hazard Area, Keep Out" shall be placed at entrances to the removal area. These signs are to be placed so they are clearly visible. Other more general signs may be used elsewhere in the Properties to indicate that Works are in progress.

Compliance testing of removal area containment prior to commencement of work.

045 Before any asbestos removal begins in an enclosure, a visual inspection to check the integrity of the structure must be carried out. Smoke testing should also be used to detect leaks and observed by the asbestos analyst.

046 Attention should be given to the bellowing inward of the plastic sheeting. At the beginning of each working period the inspection should be repeated and any defects remedied immediately.

Decontamination facilities.

047 To prevent the escape of asbestos as Staff enter and leave the removal area a specially constructed transit route and mobile or on-site decontamination unit will be required. In all cases where it is deemed necessary to totally enclose the removal area, a decontamination unit consisting of at least three compartments should be used. It is recommended that a 4:1 shower to the Staff member ratio be used for calculating the appropriate size of decontamination unit to be used on any particular project. Where a friable asbestos removal programme is being undertaken, a decontamination unit must be provided that incorporates the following elements or achieves the same or better protection:

.1 A dirty area having provision for:
- Removal of contamination from protective clothing, footwear and respirator;
- Washing footwear in footbath;
- Storage of contaminated clothing and footwear; and
- Airflow towards the removal area;

.2 A Shower Area with hot water adjustable at the source. Body soap liquid and shampoo, nail brushes, mirror, and clean disposable towels.

.3 A clean area having provision for:
- Storage of individual respirators in containers or lockers;
- Storage of clean clothing; and
- Airflow towards dirty area;

048 Spring-loaded doors between the areas should be used to ensure that an airlock is maintained as the person passes through the unit.

049 The decontamination unit should be sited immediately adjacent to, or joined to the enclosed asbestos removal area where possible. Where it is not physically possible to locate the decontamination unit adjacent to, and joined to, the removal enclosure transit procedures to minimise asbestos contamination should be implemented, such procedures are outlined in the Health and Safety Executive guidance HSG 247.

050 Decontamination procedures should be followed whenever the Staff member leaves the enclosure. While the protocol to be followed will vary with the design of the decontamination unit, it is recommended that:
- The respirator should be worn and operating until the person has removed all contamination from outer garments and equipment;
- Personnel should not smoke, eat or drink in any part of the decontamination facility;
- The decontamination unit should be regularly cleaned by persons wearing protective clothing
- Standard entry and decontamination procedure to be adopted as part of this Specification.
- The decontamination unit must have a copy of certificate of reoccupation when it arrives at the Property and a 4 stage clearance completed at the end of operations before it leaves the Property which will be completed by the asbestos analyst.

Entry to the Work Enclosure

051 Staff shall enter the clean room of the decontamination unit in groups of no more than two. Staff shall remove all street clothing and store it safely in their assigned locker. The Staff member will remove his or her respirator from its protective sealed bag and fit it. Battery packs will be held by hand until the the Staff member has suited up.

052 When the Staff member has properly fitted and tested his or her respirator a clean stripping suit will be donned or carried through the shower room into the dirty end of the decontamination unit. At this time with the respirator on, the Staff member will don work clothes and the clean stripping suit. When these items of clothing have been put on, a transit suit shall be put on over all other clothing for transit to the work area. Work clothes that are worn into a contaminated area must be bagged up at the end of each project. Clothing may be laundered utilizing a washing machine equipped with a 5-micron water filter. This washing machine must be a dedicated unit, no other clothing to be laundered in this unit.

053 Transit to the work area shall be by the shortest possible route. Staff will be familiar with the transit route prior to participating in any transit procedure. When the Staff member arrives at the three-stage air lock he/she will enter the clean or exterior chamber and remove the blue transit suit. The Staff member will then pass into the interior or dirty stage of the airlock where boots and gloves will be collected and put on.

054 The Staff member is ready to begin tasks that have been assigned to him/her by the site supervisor.

055 When the Staff member is ready to leave the work area, the Staff member will adhere to the following.

.1 Staff will wait inside the work area until permission to exit is given by the site supervisor. When permission to exit is given Staff will inspect each other while still inside the work area. Any visible debris found shall be removed prior to commencing transit procedure. Boots will be thoroughly inspected at this time and washed.

.2 When the inside visual examination is complete the first Staff member may enter the dirty end of the three-stage unit to begin transit out. When the Staff member is completely inside the dirty stage he/she must inspect their Personal Protective Equipment ("PPE") and Respiratory Protective Equipment ("RPE") and wipe it down or vacuum where necessary, boots and gloves will be removed and stored safely to one side of the unit. The stripping suit shall then be removed and disposed of in a labelled red asbestos bag provided.

.3 When the Staff member has completed these steps he is free to step into the clean end of the three stage and don a transit suit. After transit suit has been donned the Staff member may proceed to the decontamination unit via the transit route.

.4 After arriving at the decontamination unit the Staff member will enter the dirty end making sure to close the door behind them. The transit suit shall be removed first followed by any other clothing. RPE must not be removed or stored in the dirty end of the decontamination unit at any time.

.5 The Staff member is now ready to enter the shower unit of the decontamination unit. With his or her RPE- respirator still fitted the Staff member shall enter the shower unit. Water shall be turned on and temperature adjusted to a comfortable level. Before the Staff member steps under the water stream the battery pack must be turned off and the filter covered. When these steps have been completed the Staff member may step under the water stream allowing water to soak the head and the exterior of their RPE. The Staff member may then remove the RPE and thoroughly clean it making sure not to get water into the motor or battery connections. When the respirator "RPE" is clean it may be hung on a hook while the Staff member thoroughly showers and cleans his/her body.

.6 When the Staff member has finished showering he may then enter the clean room remembering to bring RPE with him. RPE shall be bagged prior to the Staff member drying off and getting dressed back into street clothes.

Equipment

056 All tools and electrical equipment, such as H type vacuum cleaners and power tools, should be left in the removal area until the completion of the removal job. When the equipment is removed it should be vacuumed thoroughly and all accessible surfaces wiped over with a damp cloth. When decontamination is not possible, the item should be wrapped in plastic and sealed and only opened in another removal area.

057 Any asbestos contained in the H type Vacuum cleaner should be disposed of as asbestos waste.

058 The H type Vacuum should be cleaned, tested and calibrated at least every month.

Removal techniques for buildings and structures

059 The removal of asbestos-based materials from buildings and other structures should be carried out by methods, which will minimise the release of asbestos fibres into the atmosphere both during and after removal operation. The choice of method is determined by the nature of the asbestos material, the quantity of insulation and its location.

060 Breaking through the finishing compound and cutting the reinforcing wire in the lagging are operations, which can liberate considerable quantities of dust. Care should therefore be taken in the selection of tools and in keeping the insulation wet. Tools should allow cutting of the insulation into small sections while keeping asbestos fibre levels in the removal area to a minimum.

061 Power cables, telephone cables and fire alarms may lie beneath asbestos insulation. These cables must be clearly identified prior to the commencement of any cutting as severe damage and/or hazard to the Staff member could result.

062 As the techniques used for the removal of sprayed thermal insulation from buildings are not dissimilar from those used for removal from steam pipes and boilers, the following removal methods may equally be adapted to the removal of asbestos from industrial plant and machinery.

Protective clothing and equipment

063 Respiratory devices "RPE" and protective clothing "PPE" are required during all abatement activities, adequate rest breaks should be provided for Staff during removal to take into account the physical strain caused by the use of such equipment.

064 The degree of respiratory protection required is determined by the nature of the removal job, the type of asbestos and the potential for exposure to asbestos fibres.

065 A guide to the selection of appropriate respiratory protection for various operations involving asbestos is presented in paragraph's 99 to 115 inclusive later in this Specification.

066 Face masks are to be checked and tested at least every 6 months.

Dismantling of asbestos removal area

067 The asbestos removal Work ordered should only be considered to have been completed when the Service Provider and/or the Asbestos Licensed Contractor has complied fully with the clearance criteria.

068 On completion of the asbestos removal job, all tools and equipment not used for cleaning should be removed from the removal area so that efficient vacuuming of the inside of the removal area enclosure can be undertaken. In taking these tools and equipment from the removal area, appropriate decontamination procedures should be observed.

069 After clearance has been given, any sealing plastic used should then be dismantled, folded inwards and placed in appropriate disposal bags and sealed. The sealing plastic should not be reused, but must be treated as asbestos waste. Safety barricades and warning signs should not be removed until the complete area has been thoroughly cleaned.

HANDLING OF NON-FRIABLE ASBESTOS -FRIABLE ASBESTOS

070 Works of removal and disposal of non-notifiable non licensed, and notifiable non licensed materials in accordance with this Specification are deemed to be included in the rates in the Schedule of Rates and in the Service Provider's Tendered Rates and as defined in the NHF Schedule of Rates Measurement Preambles – Generally as stated below;

.3 The removal of all non-licensable asbestos containing materials such as but not limited to artex, vinyl floor tiling, disposal off site of all non-licensable asbestos containing material is to undertaken by a licensed asbestos waste carrier.

.4 Working in conjunction with all non-licensable asbestos containing materials such as but not limited to artex, vinyl floor tiling.

General

071 Non-friable asbestos products have been compounded from asbestos mixed with cement or other hard bonding materials "asbestos is firmly bound in the matrix of the material". This section recommends precautions to be observed when working with non-friable asbestos products.

072 These products include, but are not limited to:

- Flat or corrugated, compressed asbestos-cement sheeting;
- Asbestos-cement pipes for water, drainage and flue gases;
- Roofing slates;
- Floor or wall coverings;
- Asbestos gaskets;
- Pump and valve packings;
- Asbestos bonded into bituminous products;
- Reinforced plastic products;
- Thermoplastic products and backings;
- PVC floor tiles and backings;
- Asbestos-cement ducts and the like; and
- Asbestos-cement drip trays and tank covers.

073 So long as these products are maintained in good order and are not worked on with abrasive cutting or grinding tools they are not likely to present a health risk.

074 New building materials incorporated since 1999 should not contain asbestos.

075 The Service Provider shall ensure that precautions are observed during structural alteration or demolition involving asbestos-cement materials and removal of floor and wall coverings containing asbestos.

General precautions to be observed for non-friable asbestos products can be found in the Health and Safety Executive guidance "Asbestos Essentials Task Manual"

076 Work procedures must be designed to minimise the generation of dust. Action should be taken to avoid the spread of asbestos fibres. In particular, the following principles should be adopted:

- Abrasive cutting or sanding power tools should not be used on asbestos-containing products. These may generate large amounts of dust containing asbestos;
- Non-powered hand tools such as handsaws should be used;
- Wetting down the material further reduces the release of asbestos fibres when cutting;
- High pressure water jets/guns shall not be used because of the potential to spread asbestos waste over the surrounding environment;
- Work with asbestos-containing products in well ventilated areas and, where possible, in the open air;
- Good work hygiene principles shall be observed. This may entail the use of plastic drop sheets to collect off-cuts and coarse dust or the use of appropriate vacuum cleaning equipment when necessary;
- Suitable respiratory protection should be used when airborne asbestos fibres is likely to be present; and
- All off-cuts and collected dust should be disposed of as asbestos waste. (See section 116-126 of this Specification.)

Removal and disposal of asbestos cement sheeting (Hazardous Waste Regulations)

077 The Service Provider should ensure that the following precautions are observed when removing asbestos-cement roofing, wall sheeting or other asbestos cement products from buildings or other structures:

- The asbestos-cement sheets should be sprayed with a sealing solution or wetted with water, but not with high-pressure water jets. Roofing sheets should not be wetted during freezing weather if it is anticipated that this could create a risk of slipping or falling from the roof;
- Power tools should not be used during removal with the exception of a low RPM drill to remove roofing screws; this method should be used in conjunction with shadow vacuum techniques. Fixings may vary from job to job but in most cases a modified bolt cutter can be used to detach roofing material from substrates. Concrete saws including all electrical grinding equipment must not be used to detach asbestos cement products from substrates;
- Damaged asbestos-cement should be kept wet to reduce levels of dust;
- Asbestos-cement sheets should be removed whole where possible and should be lowered to the ground, not dropped;
- The removed sheets should be stacked on a plastic sheet and not allowed to lie about the site where they may be further broken or crushed by machinery or site traffic;
- All asbestos-containing waste should be wrapped in plastic or otherwise sealed and removed from the site as soon as possible, using covered skips or on a covered lorry;
- The asbestos-containing waste should be disposed of in a manner, and at a site licensed for the storage, labelling and disposal of asbestos waste;
- Asbestos-cement sheets must not be reused or offered for sale;
- Any asbestos-cement residues remaining in the roof space or around the removal area should be cleaned up, using a "H" type vacuum cleaner or suitable wipes if necessary;
- Customers should be decanted or relocated (where appropriate);
- As far as practicable there should be no spread of contamination beyond the work area;
- All windows and doors in the building should be closed or in buildings where there is no ceiling the area below or adjacent to the work should be barriered off; and
- Staff should wear disposable overalls and either a disposable suitable RPE respirator or half-face mask fitted with appropriate dust filters.

Working on brittle roofs

078 Asbestos-cement sheeting is liable to shatter without warning under a person's weight and for this reason roofs that are sheathed in asbestos cement sheeting are included in those roofs known as "brittle roofs".

079 Persons who have the knowledge, experience and resources necessary to allow them to work at heights safely should only undertake the removal of asbestos-cement sheeting from a roof.

080 The Service Provider should consider what hazards are involved and how they can be overcome. In the planning and execution of the Work, a system of Work should be established, taking into consideration the Work to be done, relevant statutory requirements, the type of equipment necessary, the training and experience of the Staff involved and the instruction and supervision required. The system of Work should allow for not only those directly involved in the Work, but also other persons who could be affected.

Removal of vinyl floor and wall coverings containing asbestos
NOTE: Dry sanding of vinyl asbestos floor coverings is **prohibited.**

081 Vinyl-asbestos coverings (usually asbestos-backed floor coverings) may still be encountered. They do not usually present a risk on site but breaking up to prepare the surface for replacement, or removal operations, may create a hazard.

082 The Service Provider in working with products that may contain asbestos should ensure that all practicable steps are taken to confirm whether or not asbestos is present. If there is any doubt about the product being asbestos free after the Service Provider has completed a risk assessment he should inform the Client requesting an Order for the asbestos analyst to have samples taken and laboratory tested to ISO/ICE 17025 undertaken. The product is more likely to contain asbestos if it was installed between 1960 and 1999.

083 Where the vinyl-asbestos coverings are found (or assumed) to contain asbestos the provisions set out in 059 to 062 above should be followed.

084 Significant release of asbestos fibres can result when vinyl-asbestos products are abraded by sanding. The work methods and control procedures used when working with vinyl-asbestos products must be designed to limit Staff' exposure to asbestos and the spread of asbestos into the surrounding environment.

085 In deciding the approach that is to be taken in replacing asbestos-backed vinyl products, the following option may be considered:

- Removing the product with a spade or other flat instrument in accordance with the Health and Safety Executive guidance.

MONITORING ASBESTOS IN AIR LEVELS AND CLEARANCE PROCEDURES

General

086 The analytical service in monitoring asbestos in air levels and clearance procedures will be undertaken by Asbestos Consultants and Analysts (Specialist Subcontractors) appointed directly by the Service Provider whose fees and expenses are deemed to be included in the rates in the Schedule of Rates and in the Service Provider's Tendered Rates.

087 The measurement of airborne asbestos fibre levels may be required to verify that asbestos exposure standards have not been exceeded and to check that practices set out in the Health and Safety Executive guidance and these guidelines have been met. The main objective of sampling should be to ensure that the potential for personal exposure has been minimised. Air sampling should always be undertaken by competent laboratory as set out in the Health and Safety Executive guidance HSG 248.

088 The type of monitoring that is applicable will depend on the exposure circumstances and removal methods employed. Advice should always be sought from a competent laboratory that conforms with HSG 248.

089 The determination of airborne asbestos fibre concentrations in air must be carried out in accordance with HSG 248.

Selection of laboratories

090 As set out in the Health and Safety Executive guidance all involved in asbestos must be competent and the Client's Representative must satisfy himself that those employed in asbestos management or removal are competent to standards laid down in CAR Regulations. To demonstrate such competence the laboratory should demonstrate the meet requirements of International Standards Organisation "ISO/ICE 17025" that covers the whole organization in terms of quality systems, control of records, training, test calibration methods etc.

Air sampling

091 The Service Provider will be issued with an Order to appoint a Health and Safety Executive approved analyst to witness and sign off all test and clearance operations and issue of certificate of reoccupation.

092 Air sampling forming part of the overall asbestos management will include some/all of the following:

- Background sampling to establish the conditions that exist before work is commenced;
- Leak testing to check the integrity of the enclosure deployed in removal or encapsulation activities;
- Personal monitoring to verify that action level predictions are accurate and to facilitate internal risk assessments and control;
- Clearance air monitoring to verify that the area is safe for normal occupation following the removal of asbestos materials;
- Reassurance sampling — sampling after the working enclosure has been removed or other works in the vicinity of asbestos have been completed;

Visual inspections

093 The appointed analyst will examine the Service Provider's appointed Asbestos Licensed Contractor's plan of work (method statements) to familiarise themselves with the scope of Works. The first stage in the 4-stage clearance process is for the asbestos analyst to ensure the Works ordered have been completed, what was removed; is there any asbestos remaining in the Work area and the actual asbestos materials that were removed.

094 The visual inspection second stage of 4 stage clearance is conducted after the removal area has been meticulously cleaned and prior to clearance air monitoring. Inspections, prior to clearance monitoring, will be the responsibility of the Service Provider, but the asbestos analyst must duplicate this function. The asbestos analyst may request that the Asbestos Licensed Contractor's supervisor accompany him during this exercise. Any asbestos remaining (i.e. that not visible to the naked eye) will be removed rapidly in the normal cleaning process. In some circumstances sealant may be applied to work surfaces and plastic sheeting after the visual inspection and initial monitoring (see Guideline for the Removal of Enclosure Area Sheeting). Any dust present in the removal area must be treated as if it contains asbestos. If asbestos is not completely stripped from an area because of access difficulties, then it should be sealed, and the location noted.

Clearance indicator air sampling Stage three of 4 stage clearance

095 Following a satisfactory visual inspection, clearance monitoring will be required. The area must be dry, and the negative air switched off and the inlet capped before sampling is started. As far as is practicable the decontamination unit must be isolated from the area being cleared. Clearance air monitoring should be carried out to HSG 248 and a written report issued by the laboratory.

096 Guideline for the removal of enclosure area sheeting

- Clean all internal surfaces including plant cover. Run exhaust air fan to clear area. Switch off fan and cap exit;
- Visual inspection. Carry out clearance monitoring. Is result 0.01 fibres/ml or below? Strike tenting. Dispose of waste;
- Reoccupation is this the first clean? Seal all inner surfaces with spray on sealant. Carry out clearance monitoring;
- Is result 0.01 fibres/ml or below? Assess where fibre contamination is coming from and take appropriate action; and
- Before tenting is struck, a result below 0.01 fibres/ml is required or confirmation that fibre contamination has not come from the asbestos removal job.

Final Assessment post enclosure/ work area dismantling stage four of 4 stage clearance

097 On satisfactory completion of all previous stages the final stage of the clearance process can commence, the analyst can be present during this process and all PPE, RPE should be worn. All polythene sheeting used in enclosure is disposed of as asbestos waste. In some situations, the asbestos analyst may take a further air test as an additional safety precaution or reassurance air test" after work area is fully cleared.

098 When all stages are completed satisfactorily the certificate of reoccupation is issued for the Work area and before removal from site at the end of the project but after use the decontamination unit is tested and certificate of reoccupation is issued. On completion of removals the Service Provider shall upload all details of removals on the Client's electronic asbestos register on a Property by Property; room by room basis including inventory of customer's items, waste documentation and copy of certificate of reoccupation and waste notices.

RESPIRATORY AND PERSONAL PROTECTION FOR ASBESTOS WORK

General

099 Service Providers and others involved in work involving asbestos or abatement procedures must be fully conversant with the appropriate control measures necessary to protect against exposure to asbestos fibres. There is a legal requirement placed on Service Providers to ensure that their Staff and others in the vicinity are adequately protected from the effects of asbestos.

100 Good occupational hygiene practice requires that all practicable efforts be made to prevent asbestos fibres from entering the air of the workplace. In circumstances where it is impracticable to prevent asbestos from entering the atmosphere, suitable respiratory protective equipment should be worn.

101 An information sheet on approved types of respiratory protection devices is available from the local office of the Health and Safety Executive.

Standard respirator programme

102 It is essential for all contractors required to use respirators in their work to develop and run a comprehensive respiratory protection programme. There are seven elements to a successful programme, which include:

- The administrative system;
- Knowledge and assessment of the risks involved;
- Control processes;
- Correct selection of respiratory protection Equipment (RPEs);
- Staff training and supervision
- Medical assessment in compliance with CAR Regulations; and
- Inspection, fit tests and maintenance and storage of RPEs.

Administrative system

103 Written standard operating instructions must be available. These should provide information on the Service Provider's policy in respect of the issue and use of RPEs. One person should be responsible for the coordination and direction of this policy. Each RPE programme will vary according to the peculiarities of the work being carried out.

Knowledge and assessment of risks involved.

104 The degree of respiratory protection required for asbestos work is determined by:

- The nature of the work;
- The type of asbestos;
- The work methods; and
- Potential for exposure to asbestos.

105 It is essential that a full appraisal of the Work using the above criteria be carried out to assess the likely risk factors and to identify the appropriate safety measures. It may be necessary to undertake environmental background or personnel monitoring to assist with the assessment and this is a responsibility of the Service Provider and the Asbestos Licensed Contractor (removal contractor).

106 Air contaminated with asbestos fibres will be the major hazard to Staff and the most appropriate control methods will need to be considered in the assessment process. Because the greatest risk is from the inhalation of asbestos fibres, stringent protection measures must be used. Therefore, all Staff likely to be exposed to asbestos must wear approved RPEs for the whole period exposed.

Correct selection of respiratory protection Equipment (RPEs)

107 To determine the correct selection of the most appropriate RPE for asbestos work, the following issues must be addressed:

- Fit to the wearer: If a proper fit cannot be achieved with one type, model or size of respirator, another, which does fit, must be provided;
- Face seal: The presence of facial hair (beard, stubble growth, or sideburns), wearing of spectacles, or facial characteristics may affect the face seal adversely. Positive pressure powered equipment with full-face piece copes better with these problems than non-powered devices;
- Freedom of movement: The need for a Staff member to move freely about a job will influence the type of RPE. While airline respirators offer higher protection the restrictions imposed by the airline may be prohibitive;
- Physical and thermal stress: The wearing of RPE can cause severe problems during asbestos removal because of the physical activity required. In addition, this type of work is often carried out in hot environments. The cooling effect of air-supplied respirators will make them more acceptable and condensation on the visor will not be a problem; and
- Other factors: These could include:
    - The need to communicate;
    - Ease of cleaning; and
    - Availability of replacement parts.

Staff training

108 The correct and proper use of RPE must be taught to all users. No person should be required to use respirators without first being given training in correct use, operation, care and maintenance, emergency procedures, cleaning and storage requirements.

Medical assessment

109 Any type of respirator may impose undue stress on some users. Persons required to routinely wear respirators should be given the opportunity of a medical assessment to determine if they are able to safely wear them.

Inspection, maintenance and storage of RPE

110 Proper inspection, maintenance and repair of RPDs are an essential part of the respirator protection programme. Face-pieces should be cleaned, dried and stored properly after each use. Regular checks of the diaphragms, valves and face-piece parts will reveal any defect, which should be repaired. The batteries for powered air RPE will require recharging.

Protective clothing - General

111 Appropriate protective clothing will afford protection to asbestos Staff and prevent spreading contamination or health risk to others. All protective clothing used to carry out restricted work must be disposed of as asbestos waste. During other work involving asbestos protective clothing may be reused but appropriate measures must be taken to ensure cleanliness (see section on laundering).

Types of protective clothing

112 Persons involved in working with asbestos should always wear protective clothing which:

- Is made of material that resists penetration by asbestos fibres, such as nylon or treated synthetic material;
- Covers the body and fits snugly at the neck, wrists and ankles. It should also cover the head by having an attached hood; and

- Is maintained in good condition and if torn or damaged, immediately repaired or replaced.
  NOTE: Because of the impervious nature of this type of clothing the wearer may become affected by heat stress. The Service Provider should ensure that Staff are knowledgeable on the signs and symptoms of heat disorders and the means to prevent illness caused by heat. There are three types of overalls in general use for asbestos work. Each type of overall has its advantages and disadvantages. The use of disposable or single-use overalls for all asbestos work is advisable because laundering is not required. Where the use of alternative types is necessary the full implications of how they will be cleaned or laundered need to be considered.
- Disposable or single-use protective clothing which is generally used for one job and discarded as asbestos waste. These are particularly suitable for all types of asbestos work;
- Overalls made from lightweight synthetic material such as nylon, which is also waterproof, or PVC waterproof clothing should be chosen as an option for the removal of non-friable materials only. The light nylon overall is particularly suitable for large ongoing jobs because they can be washed under a shower when leaving the contaminated area. Laundering is necessary primarily for hygiene. The PVC type overalls can be used in a similar way; however, they are heavy, cumbersome and too hot for longer jobs;

Laundering of asbestos-contaminated clothing

113 The laundering of contaminated overalls presents some difficulties to comply with CAR Regulations Regulation 14

- The transfer and handling of contaminated overalls may put other people at risk from asbestos. For this reason contaminated overalls should never be washed in a home laundry and Staff in a laundry handling asbestos-contaminated clothing must take special precautions;
- While the washing process removes asbestos fibres, the spin-drying cycle deposits the fibres on to the garment again; and
- During the mechanical drying process asbestos fibres are released into the air. International standards require that clothing which has been used in asbestos work be "... laundered in accordance with the following requirements;
  - The clothing is, wherever practicable, laundered at the place at which the work involving asbestos has been carried out; and
  - If it is not practicable to launder the clothing at that place, the clothing is, before being taken to the place where it is to be laundered, damped and placed in a closed container impermeable to asbestos dust and conspicuously marked with the words "ASBESTOS CONTAMINATED CLOTHING"; and
  - Wherever the clothing is laundered, it is laundered in such a manner as to clean the clothing and to suppress the release of asbestos dust into the air; and
  - Every employee to whom the clothing is given for laundering receives, before being given the clothing, instructions on the precautions to be taken to ensure that the clothing is laundered and handled in such a manner as to protect the safety of every employee coming into contact with it during the laundering process; and
  - The clothing is not laundered by an employee at an employee's home."

Footwear

114 Footwear should be adequate for the type of work being undertaken and where possible have no laces.

Gloves

115 If gloves are provided they should be made of impervious material for ease of cleaning. To assist with manual dexterity disposable type gloves may be more acceptable. On health grounds, there are few reasons to require people handling asbestos casually to wear gloves, however, extended contact with asbestos can lead to asbestos corns or "warts".

STORAGE, LABELLING AND DISPOSAL OF ASBESTOS

General

116 This section outlines the steps necessary for the Service Provider to ensure, as far as is practicable, the prevention of contamination by asbestos from any workplace or property; to ensure that asbestos-containing materials are stored, labelled where agreed with the Client's Representative and disposed of correctly.

Storage and disposal of asbestos

117 The Service Provider should take all practicable steps to ensure that asbestos waste products are not received into, stored, distributed or dispatched from any place of work unless in suitably sealed and labelled receptacles. The receptacles should be designed, constructed, maintained and closed so as to prevent any of the contents escaping when subjected to the stresses and strains of normal handling.

118 It is the Service Provider's duty to ensure all dangerous substances are properly packaged and labelled and all asbestos waste shall be sealed in plastic bags (500 gauge thick) and labelled "Asbestos hazard — Wear respirator and protective clothing while handling contents".

In addition bags shall be transported for disposal in UN approved and labelled double layered (red bag on inside clear bag) and have a specified means of closure (PVC tape and swan neck and tape) and are to be placed in a sealed skip when on site and subsequently disposed of in accordance with Hazardous Waste Regulations.

119 Sealed Asbestos skips are only to remain on site for the duration of the Works, and once the Works are complete and 4 stage clearance achieved are to be immediately removed. Sealed Asbestos skips remaining more than 24 hours after achievement of 4 stage clearance will be removed by a Client Party and all costs incurred by the Client will be set-off against the valuation of the Asbestos Works including an administrative fee of 100% of the cost of the skip removal.

120 The Service Provider shall update the Client's Electronic Asbestos Register system after removal of asbestos, putting information against specific locations where asbestos has been removed in each room in each specific property, including uploading details of any pertinent certificates and waste documentation within 10 days of completion of the Order.

Handling

121 The Service Provider should ensure that asbestos waste received into or dispatched from any workplace is packed in sealed plastic bags and FIBC's, the following practices applied:

- Pallet loads should be securely fastened by banding (in order to not cut the bags) and covered;
- Pallet loads should be securely mounted on suitable pallets, which can be moved by hoist, forklift truck or other mechanical handling means without damage. Hooks or other sharp equipment should not be used for handling the bags; and
- A supply of suitable adhesive tape should be made available by the Service Provider to repair any damaged bags. Where the damage cannot be repaired to prevent the release of asbestos during handling, the damaged bag should be placed inside another receptacle, which can be effectively sealed;

122 Asbestos cement sheets and pipes or insulating board should not be broken or cut for disposal in plastic bags. The Service Provider should ensure that these materials are suitably sealed in plastic and transferred to a labelled truck or skip for safe storage prior to being transported to an approved disposal site. The vehicle transporting the waste should be appropriately identified in accordance with the Regulations.

123 The skip or other container should be cleaned thoroughly after use.

124 Manufactured goods containing asbestos, such as boilers, should be sealed or suitably packaged (e.g. by shrink wrapping) to prevent asbestos fibres arising from abrasion during transport.

Disposal at designated landfill of transfer station

125 Asbestos waste may only be deposited at a suitably licensed landfill facility or received by a suitably licensed transfer station prior to onward shipment to a licensed landfill. 3 days' notice must be given to the Environment agency before moving waste and consignment note process as defined in Hazardous Waste Regulations must be followed. Producers /Licensed Waste carriers of asbestos waste should ensure they receive written confirmation of a facilities status to accept such material to ensure compliance with their responsibilities under the Hazardous Waste Regulations.

Reuse of abated asbestos containing products

126 The reuse of abated asbestos containing products, such as corrugated roofing and slates is not permitted.

INSTRUCTION AND TRAINING

General

127 This section applies to all Staff who are exposed to and required to work with asbestos including supervisory and maintenance personnel.

Type and scope of instruction and training required

128 The Service Provider must provide instruction and training to all such Staff (including those with supervisory functions) on the hazards, risks and controls as assessed for their particular work, and satisfy himself that any Asbestos Licensed Contractor appointed by the Service Provider meets the requirements of Regulation 10 CAR Regulations in terms of competence. the Health and Safety Executive guidance L143 and HSG 247 provides a list of requirements for persons who work with asbestos.

129 The Service Provider must as a minimum provide all such Staff, including such temporary Staff with:

- Training and assessment in line with the CAR ACOP L143 AND HSG 247 for the Training of Asbestos Removal Operatives.
- Safe Pass Training: Where Staff or supervisors are required to operate plant or equipment covered by specific training requirements of Regulations, ACOPS or guidelines then such training should also be provided. The Service Provider must maintain, on site, proof that training has been provided in accordance with the above.

Training in maintenance of control equipment

130 The Service Provider must ensure that any person carrying out any maintenance or servicing of exhaust ventilation equipment or other control equipment is competent to carry out the task.

Training in the use of respiratory protective equipment

131 All employees shall be provided with training on the correct use and maintenance of respiratory protective equipment.

MEDICAL MONITORING

General

132 Health and Safety Executive regulations require among other things that service providers monitor the health of their employees in relation to significant hazards and it requires medical examination of employees exposed to significant hazards. The Service Provider shall assure themselves that their Staff have where applicable had medical examinations in compliance with CAR Regulations (every 3 years for NNLW) and (every 2 years for licensed asbestos removal workers).

Initial medical CAR Regulations (Regulation 22)

133 Any Staff directing employees to undertake Asbestos Works must ensure that the employee has:
- A full work history;
- A medical examination, relevant to persons who work with asbestos including specific examination of the chest and other tests that may be appropriate prior to starting employment in restricted work;
- The Service Provider should ensure that the employee has this asbestos medical thereafter bi annually; and
- The cost of the medical examinations shall be the responsibility of the Service Provider.

134 Notwithstanding the above provision, the Health and Safety Executive may direct any person undertaking work involving asbestos to have a medical examination.

135 While the employee remains in the employment of the Service Provider:
- The Service Provider shall ensure that the employee has a medical examination in accordance with the Regulations.
- The cost of the medical examination shall be met by the Service Provider.

Personal medical information

136 The personal medical information, of the employee remains the property of that employee. The Service Provider will receive certification from the medical practitioner stating whether the employee is fit or otherwise for the restricted asbestos work. The employee should be encouraged to share their medical information, where appropriate, with the Service Provider.

137 Where an employee leaves the company, the Service Provider should ensure that the employee is aware of the need to continue with bi annual medical examinations.

138 The Service Provider should retain all medical records relating to asbestos for a period of 40 years.

Medical examinations

139 The asbestos medical examinations shall be performed by qualified medical practitioners with specialist qualifications in occupational or respiratory medicine it is essential that all practitioners have experience in asbestos-related diseases and conditions.

Asbestos Exposure Register

140 Staff who may have been exposed to asbestos should ensure that their names and appropriate details are entered in the Asbestos Exposure Register administered by the Health and Safety Executive.

SPECIALIST EQUIPMENT

Controlled Wetting Equipment

141 Equipment for the controlled wetting of asbestos containing materials is to be in accordance with BS 8520 Part 1, it should effectively wet asbestos –containing materials and suppress asbestos fibres both during and after the asbestos removal process, by multi-point injection of sprayed coatings, insulating board, thermal insulation and coatings on pipes, tanks and vessels, or spraying with low-pressure spray heads of liquid on to insulating boards and other material less than 10mm thick to suppress the release of airborne asbestos.

Negative Pressure Units ("NPU")

142 Portable and/or transportable negative pressure units are to be in accordance with BS 8520-2, they are to incorporate HEPA filters to BS EN1822 for use in the controlled removal of asbestos containing materials. This requirement also applies to negative pressure units designed to create negative pressure within a portable contamination unit facility or working enclosure and two part negative pressure units.

Class H Vacuum Cleaners

143 The operation, cleaning and maintenance of Class H (high hazard) vacuum cleaners is to be in accordance with BS 8520-3, they are to incorporate a filter conforming to BS EN 1822 in the controlled removal of asbestos containing materials.

Client's current manufacturers/suppliers/products

144 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

BRICKWORK AND BLOCKWORK

BRICKWORK AND BLOCKWORK

MATERIALS

Cement

001 Use either normal setting ordinary or rapid hardening or sulphate resisting Portland cement or blast furnace cement. All cement must comply with BS EN 197-1 and be manufactured by a firm with their capability assessed and registered with BSI or other quality certification body acceptable to the Client.

Lime

002 Use Class B hydrated lime, to BS EN 998-1 and BS EN 998-2

Sand

003 Sand for mortar is to be to BSEN 13139 0/2 FP or MP Category 3 unless specified otherwise. Sand for face-work mortar is be from one source, different loads to be mixed if necessary to ensure consistency of colour and texture'

Sand and aggregate Material Property Limits	BS EN 13139 Category for other aggregates and Sand	BS EN 13139 Category for Air cooled blast furnace slag
Acid soluble sulphate content	AS0.2	AS 1.0
Total sulphur	$\leq$ 1% by mass	$\leq$ 2% by mass
Water soluble content	$\leq$ 1% by mass	$\leq$ 1% by mass
Loss on ignition	PFA ONLY$\leq$ 7% by mass	$\leq$ 3% by mass

Cement mortar

004 Ensure all cement mortar used is composed of one part cement and three parts sand. Use this in brickwork built below ground level, copings, chimneys, parapet walls and any other brickwork in severely exposed situations.

005 In other situations unless otherwise Instructed, use only gauged cement mortar composed of:
- one part masonry cement;
- one part lime; and
- six parts sand.

006 Ensure all mortar used is fresh and made only in quantities sufficient to meet the immediate demand. Use mortar within 2 hours of mixing at normal temperatures. Do not revive or re-use any mortar which has been partially set. Measure materials accurately by volume using clean gauge boxes. Proportions of mixes are for dry sand, allow for bulking if sand is damp. Mix materials thoroughly to a consistency suitable for the work and free from lumps, do not over mix mortars containing air entraining admixtures. Keep plant and banker boards clean at all times.

007 Premixed lime:sand:mortar shall be obtained premixed in accordance with BS EN 998-1 and BS EN 998-2 from a competent mortar manufacturer to the satisfaction of the Client, Ordinary portland cement is added on site by volume in accordance with the mix specification.

008 Coloured lime:sand:mortar, where required is to be made using a proprietary coloured ready-mixed lime:sand to BS EN 998-1 and BS EN998-2; colour to be as specified or to match existing. Pigments used in lime:sand mortar are to conform to BS EN 12878.

Ready to Use Retarded Mortars

009 Ready to use retarded mortars shall be in accordance with BS EN 998-2 and Render/Plaster mixes to be in accordance with BS EN 998-1. The Client is provided with CE Marked performance information to Annex ZA before mixing commences.

(i) All mortar storage containers are kept in good condition.
(ii) Storage containers are thoroughly cleaned out between fills.
(iii) Storage containers are clearly marked with mortar mix designation i.e. building/plaster/render, date and time of delivery.
(iv) Under no circumstances may partially full storage containers be 'topped up' with fresh mortar.
(v) The mortar is properly protected from adverse weather conditions, prior to, during and after use.
(vi) On no account should the mortar be re-mixed in a mechanical mixer

Under no circumstances can anything other than minimal amounts of water be added to the mix on site and this only to maintain workability during use i.e., by bricklayer on a spot board.

Absolutely no cement or any other additive may be added to the mix on site.

Care should be taken to ensure that the mortar is used in its 'fresh' state and that no remixing for use takes place after the period of retardation has passed.

All mortar, which has been contaminated in any way, shall be disposed of in such a manner as to render it unusable.

Waterproofing Agents

010 Waterproofing agent is to be to BS EN 934-3, supplied and installed in compliance with a current British Agrément Board certificate or other Quality system approved by the Client. The quantities of agent to be used are to be strictly in accordance with the manufacturer's technical data sheet. The Service Provider is prohibited from using admixtures based on calcium chloride and ethylene glycol.

Bonding Agent

011 Bonding agent is to be Opaque white non-toxic externally plasticised PVA emulsion of high viscosity and manufactured to BS 5270-1. The bonding agent is to be suitable for the exposure conditions and supplied and installed in compliance with a current British Agrément Board certificate or other Quality system approved by the Client.

Air Entraining Admixture

012 Air entraining admixture is to be to BS EN 934-3, supplied and installed in compliance with a current British Agrément Board certificate or other Quality system approved by the Client. The quantities of admixture to be used are to be strictly in accordance with the manufacturer's technical data sheet.

Water Reducing Admixture

013 Water reducing admixture is to be to BS EN 934-3, supplied and installed in compliance with a current British Agrément Board certificate or other Quality system approved by the Client. The quantities of admixture to be used are to be strictly in accordance with the manufacturer's technical data sheet.

Common bricks

014 Use clay common bricks to BS EN 771-1

Location	Bond	Mortar Mix
Superstructure Brickwork above DPC	Stretcher	1:1:6 cement lime mortar
Superstructure Brickwork above DPC	English	1:1:6 cement lime mortar
Substructure Brickwork below DPC	Stretcher	2:1:6 cement lime mortar
Substructure Brickwork below DPC	English	2:1:6 cement lime mortar

015 Use concrete common bricks to BS EN 771-3, with an average compressive strength of 20N/mm2 with no brick from any 10 no tested having a strength less than 16N/mm sq.

Location	Bond	Mortar Mix
Superstructure Brickwork above DPC	Stretcher	1:1:6 cement lime mortar
Superstructure Brickwork above DPC	English	1:1:6 cement lime mortar
Substructure Brickwork below DPC	Stretcher	2:1:6 cement lime mortar
Substructure Brickwork below DPC	English	2:1:6 cement lime mortar
Substructure Brickwork below DPC	Honeycombed	2:1:6 cement lime mortar

016 Use concrete common bricks to BS EN 771-3, with an average compressive strength of 30N/mm2 with no brick from any 10 no tested having a strength less than 24N/mm sq.

Location	Bond	Mortar Mix
Manholes	Stretcher	1:3 cement sand
Manholes	English	1:3 cement sand

Facing and Engineering bricks

017 Ensure facing bricks and engineering bricks are clay and of a size, type and colour to match the existing bricks.

018 Where approved by the Client's Representative, clean and reuse sound facing and engineering bricks taken down as part of repair works.

Air bricks and wall ventilators

019 Use unglazed clay/concrete air bricks of a colour to match the facing bricks.

Cavity wall insulation – Built in Boards

020 Mineral fibre batt built in cavity wall insulation to BS EN 13162 generally made to fill the cavity, with conductivity less than 0.038W/mK, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative.

021 Expanded grey polystyrene injection moulding full fill board cavity wall insulation to BS EN 13163 with 10mm weathering space, and with conductivity less than 0.032W/mK, and compressive strength more than 70kPa at 10% compression, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative.

022 Composite, full-fill. Cavity wall insulation board, with polyisocyanurate foam to BS EN 13165 between foil skins faced with a vacuum formed or injected high density polystyrene moulding with weathering space 5mm nominal, thermal conductivity less than 0.023 W/mK, compressive strength > 70kPa at 10% compression, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative.

023 Foil faced polyurethane/polyisocyanurate (PUR/PIR) foam partial fill cavity insulation board to BS EN 13165, thermal conductivity less than 0.023W/mK, compressive strength more than 120pKa at 10% compression, with a tongued and grooved edge profile, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative.

024 Foil faced phenolic foam partial fill cavity insulation board to BS EN 13166, thermal conductivity less than 0.023 W/mK, compressive strength more than 120pKa at 10% compression, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative.

025 Closed cell polystyrene board wall insulation (for use below ground level) to BS EN 13164, thermal conductivity less than 0.038W/mK, compressive strength more than 300pKa at 10% compression, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative. Boards fixed underground to resist uplift or displacement with flooding.

026 Closed cell foam glass board wall insulation (for use below ground level) to BS EN 13167, thermal conductivity less than 0.038W/mK, Compressive strength more than 300pKa at 10% compression, complete with a current BBA certificate or equivalent current quality system approved by the Client's Representative. Boards fixed underground to resist uplift or displacement with flooding.

Installation Generally

027 Install in compliance with the manufacturer's technical data sheet and the relevant BBA certificate or equivalent quality system approved by the Client's Representative.

Neatly cut and fit insulation securely, with staggered vertical joints and no gaps, and temporarily support in position when necessary. Include for 300mm girth DPM as requires at external corners.

When available use tongues and groove edge profiled boards.

Ensure that board edges are not damaged, and all parts of the inner cavity leaf face are covered.

Protect top edges from mortar droppings and ither debris with a temporary batten.

Place and secure each course of insulation firmly against the inner leaf, before building up the outer leaf above level of previous course of insulation.

Wall ties are to be corrosion proof to suit manufacturer's board fixings including insulation retention clips as necessary and must **not be galvanised mild steel.**

Mastic compound and sealants

028 Sealants are to conform to:
BS EN ISO 11600 low modulus and mould resistant; or
BS EN ISO 11600 low modulus; or
BS 476-22 fire retardant

Before commencing application of sealants check suitability of joints to ensure that:
Joint dimensions are within limits specified for the sealant;
Surfaces are smooth and undamaged;
Joints are to BS 8000-16

Clean surfaces to which sealant is to adhere using methods and materials recommended by the sealant manufacturer's technical data sheet.

Remove all temporary coatings, tapes, loosely adhering material, dust, oil, grease and other contaminants which may affect bond.

Keep joints clean and protect from damage until sealant is applied.

Protect adjacent surfaces with masking tape to prevent staining and protect surfaces which would be difficult to clean if smeared with primer or sealant.

Backing strips, bond breaker and primer are to be of the types recommended by the sealant manufacturer's technical data sheet. Backing strips and/or bond breaker tape are to be inserted into joint leaving no gaps.

Use equipment and methods recommended by the sealant manufacturer's technical data sheet for the application of sealants. Sealants are to be applied within the recommended application life of primer and sealant and the recommended air and substrate temperature ranges.

Sealants are not to be applied to:
damp surfaces (unless recommended otherwise);
surfaces affected by ice or snow;
surfaces during inclement weather;

Joints are not to be heated to dry them or to raise the temperature.

Fill joints completely, leaving no gaps, excluding all air and ensuring firm adhesion of the sealant to required joint surfaces. Tool the sealant to a neat, slightly concave profile unless otherwise specified, and protect till cured.

Wall ties

029 Wall ties are to be stainless steel 225mm to suit cavity and built in as work proceeds;
Type; to BS EN 845-1 and BS EN 1996-2
Material: Austenitic stainless steel conforming to BS EN 10088-3 grade 1.4301 (304)

030 Wall ties are to be stainless steel 225mm to suit cavity and with suitable fixings for any partial fill boards and built in as work proceeds;
Type: to BS EN 845-1 and BS EN 1996-2
Material: Austenitic stainless steel conforming to BS EN 10088-3 grade 1.4301 (304)

031 Wall ties are to be stainless steel 275mm to suit 150mm cavity and with tie mounted insulation retaining clips as recommended by insulation manufacturer and built in as work proceeds;
Type: to BS EN 845-1 and BS EN 1996-2
Material: Austenitic stainless steel conforming to BS EN 10088-3 grade 1.4301 (304) Product to have BBA certification or equivalent.

032 Wall ties are to be stainless steel 275mm to suit 150mm cavity and built in as work proceeds;
Type: to BS EN 845-1 and BS EN 1996-2
Material: Austenitic stainless steel conforming to BS EN 10088-3 grade 1.4301 (304) Product to have BBA certification or equivalent.

033 Wall ties are to be proprietary moulded black polypropylene wall ties 185mm long with a central 75mm x 9mm steel rod incorporating 3 annular collars and with 56mm wide fish-tail ends incorporating keying edges to suit 225mm cavity
Type: to BS EN 845-1;
Material: Plastic/steel;
Supplied and installed in compliance with a BBA certificate or equivalent quality assurance system approved by the Client's Representative.

034 Wall ties are to be mineral fibre resin composite wall ties minimum 225mm and with suitable fixings for any partial fill boards
Material: Mineral fibre resin composite;
Supplied and installed in compliance with a BBA certificate or equivalent quality assurance system approved by the Client's Representative.

035 Wall ties are to be bedded not less than 50mm into bed joint of each leaf, sloping towards the exterior with drip centred on cavity, and evenly spaced at maximum 900mm centre horizontally, staggered in alternate rows and at 450mm centres vertically, provide additional ties within 225mm of sides of openings, at not more than 225mm centres vertically, (to suit blockwork courses).

036 Wall ties are to be stainless steel ties to timber frames are to conform to BS EN 845-1
Material: austenitic stainless steel conforming to BS EN 10088-3;

Fixing: Fix securely to timber studs with 50mm x 11 gauge stainless steel annular shank nails, bed not less than 50mm into bed joint of brick cladding sloping towards the exterior, ties evenly spaced at not more than 800mm centres horizontally, staggered in alternate courses and at 450mm centres vertically, and with suitable fixings for any partial fill insulation boards, provide additional ties within 150mm of sides of openings, at not more than 225mm centres vertically.

037 Spiral stainless steel ties for timber frames are to be austenitic stainless steel conforming to BS EN 10088-3 and installed in accordance with the manufacturer's technical data sheet and the Client's requirements.

038 Brick extension ties are to conform to BS EN 845-1
Material: 22 gauge austenitic stainless steel conforming to BS EN 10088-3;
Fixing: Fixing screws to be 50mm austenitic stainless steel with washers, 155mm austenitic stainless steel, Plugs to be 8mm high density polyamide;
Sealing: Sealing strip to be neoprene resin-impregnated micro-cellular polythene, self-adhesive 10mm x 20mm x 2.4mm;

039 Wall ties spaced at not more than 225mm centres vertically at vertical edges.

Chimney pots and cowls

040 Clay, clay louvered, and clay "H" type chimney pots as Instructed and approved by the Client's Representative are to be to BS EN 13502, bedded and flaunched in cement mortar (1:3) incorporating a waterproofing agent and a bonding agent mixed in accordance with the manufacturer's technical data sheet.

041 Ventilating caps as Instructed and approved by the Client's Representative are to be vitrified clay, set in position in chimney cap with a neat fit joint.

042 Chimney cowls as Instructed and approved by the Client's Representative are to be aluminium, fixed to clay chimney pots in accordance with the manufacturer's technical data sheet.

043 Clay anti-draught terminals as Instructed and approved by the Client's Representative are to be to BS EN 13502, bedded and flaunched in cement mortar (1:3) incorporating a waterproofing agent and a bonding agent mixed in accordance with the manufacturer's technical data sheet.

044 Galvanised steel anti-draught terminals as Instructed and approved by the Client's Representative are to be bedded and flaunched in cement mortar (1:3) incorporating a waterproofing agent and a bonding agent mixed in accordance with the manufacturer's technical data sheet.

Expansion joints

045 Movement joints are to be formed from 60mm x 18mm wide impregnated compressible insulation board, 25mm polyethylene foam strip and 10mm thiosulphide joint sealant pointed to finish slightly behind the brick face or concrete threshold.

Samples of bricks and blocks

046 Use only common, facing and engineering bricks and lightweight concrete blocks that conform to samples that have been approved by the Client's Representative.

Precast concrete components

047 Unless the Client's Representative Instructs otherwise, bed precast concrete components on mortar with a bearing of at least 150mm, packed on slate.

Precast concrete is to be:

Components	Copings, Pier Caps Chimney Capping's Lintels Door Thresholds
Designated Concrete	RC 25/30
Reinforcement	BS 4449
Aggregate Size	20mm
Coarse recycled concrete aggregates (RCA)	Permitted
Chloride Class	C1.0.4
Finish Requirements	Fair face on exposed surfaces

Components	Window Sills,
Designated Concrete	RC 25/30
Reinforcement	BS 4449
Aggregate Size	10mm
Coarse recycled concrete aggregates (RCA)	Permitted
Chloride Class	C1.0.4
Finish Requirements	Fair face on exposed surfaces

Prefabricated steel lintols

048 Unless the Client's Representative Instructs otherwise, bed steel lintols on mortar with a bearing of at least 150mm, packed on slate.

Lintels are to be hot dipped galvanised steel to BS EN 845-2 BSI kite marked, BBA or equivalent certified quality system as approved by the Client's Representative.

Facing Brick Slips

049 Facing brick slips must be clay of a size, type and colour and to a bond to match existing facework to the property; subject to approval of the Client's Representative.

050 Acrylic brick blips must be of a size, type and colour and to a bond to match existing facework to the property; subject to approval of the Client's Representative.

WORKMANSHIP

Brickwork

051 Except where otherwise Instructed, lay new brickwork:
- to a gauge of 34 courses to 2550mm rise; or
- where existing brickwork is of a different gauge, to match the coursing of that brickwork.

052 Flush up solid horizontal and vertical joints with mortar throughout the thicknesses of the wall. Keep bed joints horizontal and quoins and perpends square and vertical. Lay bricks with single frogs with the frogs upwards.

053 Carry up walls in a uniform manner, with no part being raised more than 1 metre above another at one time. Rack back brickwork for jointing up (do not tooth it). Do not use bats except where required to bond.

054 Where the Schedule of Rates refers to "half brick thick", provide half brick thick walls in either metric or imperial sizes, as required for the Works.

Cavity walls

055 Construct cavity walls:
- with a cavity minimum 100mm, maximum 150mm wide between the inner and outer casings;
- bonded together with austenitic stainless steel wall ties:
- spaced according to manufacturer's technical data sheet and to suit cavity width but a maximum of 900mm apart horizontally, each row staggered and 450mm vertically; and
- spaced at a maximum 225mm apart vertically (to suit blockwork courses) within 225mm of vertical edge of opening.

056 Fit ties for batt type insulated cavity walls with an adjustable plastic anchor for securing the insulation in position against the inner skin of the wall.

057 Keep cavities clear of mortar dropping by draw boards across the cavity. Leave access holes at the bottom of cavities and over lintels for cleaning out. Fill them in after this has been done.

058 Close cavities of cavity walls with proprietary insulated cavity closers as Clauses 115 to 119, damaged brickwork closing cavities of hollow walls at sills and jambs of openings is to be repaired with brickwork to match existing, solid for a minimum depth of 100mm, and properly bonded to the surrounding work.

059 Take all precautions whilst undertaking the Works not to lose the integrity of the insulation in existing cavity walls that contain loose fill insulation materials.

Weather and protection

060 Adequately protect bricks on site and keep them dry. Where covers are used to protect bricks, ensure that there is sufficient circulation of air to prevent condensation forming. Ensure bricks are laid dry.

061 Do not carry out bricklaying:
- in driving rain; or
- when the temperature in the open is at or below 5^0 Centigrade.

062 Use plasticisers only with the Client's Representative's approval. Do not use antifreeze compounds.

063 Adequately protect new brickwork from damage by frost or excessive wet weather.

Fair face

064 Face surfaces of brickwork or blockwork described as "built fair face" with common bricks or blocks selected from bulk for even and unmarked faces and square undamaged arrises. Finish them with a neat flush joint as the Works proceed to match the existing brickwork. Protect them from mortar droppings and damage and ensure they are left clean on completion of the Works.

Facework

065 Joint facework as the Works proceed. Finish the vertical and horizontal joints with a convex jointer (bucket handle) or to match the existing framework. Keep the leading edge of damp-proof courses/cavity trays 5mm back from face of wall. Rake back mortar to fully expose edge of damp-proof course/cavity tray.

066 Keep facings free of all mortar splashes, droppings or other blemishes and leave them perfectly clean on completion of the Works.

Damp-proof courses (Polyethylene DPM)

067 Lap damp-proof courses 150mm at all joints and full width at angles and intersections.

Bituminous and silicone waterproofing liquid

068 Ensure surfaces to receive the waterproofing liquid are thoroughly dry and clean.

Pointing

069 Match the pointing of new work to that of adjacent work, or to be flush or bucket handle pointing as Instructed by the Client's Representative.

070 Match pointing closely to the existing pointing in finish, colour and texture.

Carefully rake out existing brickwork joints by hand to form a square recess of 15mm – 20mm depth, remove dust, lightly wet and neatly point in cement lime sand mortar (1:1:6) of a colour to match existing to a neat weather struck profile to match existing in a continuous operation.

Carefully rake out existing stonework joints by hand to form a square recess of 15mm – 20mm depth, remove dust, lightly wet and neatly point in cement lime sand mortar (1:1:6) of a colour to match existing.

Work to chimneys and fires

071 Adequately protect the Customer's finishes, fittings and furnishings from falling debris and soot during Works to chimneys and fires. Take all necessary precautions to protect existing fire appliances from damage. Rectify any damage caused.

072 Ascertain whether any flueways affected by the Works serve a gas appliance. If so, immediately notify the Client's Representative of this in writing, so that appropriate safety precautions can be implemented.

073 Remove all debris from flueways and from behind fires and appliances on completion of the Works.

Cavity Wall Insulation (CWI)

System Guarantees

074 The Service Provider is to provide a 25 year, third party, insurance-backed guarantee to cover the cavity wall assessment, insulation materials, system and installation. For each property insulated, a guarantee certificate should be provided stating the exact address of the Property covered by the guarantee.

075 The guarantee must meet the following criteria:

1 Provide a minimum guarantee of 25 years.
2 Provide assurance that funds are available to honour the guarantee, including in the event the contractor/installer/manufacturer ceases to trade.
3 Cover the full replacement of a failed CWI system, including remedial works, materials and installation.
4 Have a quality assurance framework in place whereby the quality of the system and its installation are independently assessed by a UKAS accredited body.

076 A list of appropriate guarantees can be found on the Ofgem website under their ECO Guidance. Please note this list is not exhaustive and other appropriate guarantees may be available.

077 All costs associated with providing the guarantee are to be borne by the Service Provider and the Service Provider must make the Client's Representative fully aware, in advance and in writing, of any maintenance regime required to uphold the guarantee.

PAS 2030

078 The installation must be undertaken by persons with appropriate skill and experience, approved by the manufacturer and in accordance with PAS 2030.

079 Evidence must be provided that the CWI installation contractor has PAS 2030 certification.

080 A pre-design survey of the dwelling is to be carried out by a competent person in accordance with PAS 2030 to assess its suitability to receive the insulation. The Client's Representative, Service Provider and system designer should be made aware of any remedial works required and, if Work is to proceed, these should be carried out prior to installation.

081 Pre-design survey, method statements and the related requirements of PAS 2030 are to be provided to the Client's Representative prior to installation.

082 Clear records of Work undertaken must be kept and be presentable at the reasonable request of the Client's Representative to allow monitoring of installation Work.

083 On completion of the Work, a "Declaration of Conformity" to PAS 2030 standard shall be provided to the Client's Representative for their records.

Design Considerations

084 The proposed design and installation must not have a negative effect on the ventilation, air quality, humidity and comfort of the Property. When presenting designs, the Service Provider must make recommendations for any further measures required to prevent environmental changes occurring as a result of the insulation works, and to ensure the continued or improved comfort of the Customers. The proposed design must, satisfy or exceed the minimum standards in the Building Regulations.

085 The insulation system designer should:

- Calculate U-values in accordance with:
    - BS EN ISO 6946
    - BRE report BR 443

- Ensure that thermal bridges, air leakage and condensation are avoided or at least kept to a minimum within the acceptable parameters, in accordance with the following methods of calculation and assessment:
    - BS EN ISO 13788 - Hygrothermal performance of building components and building elements. Internal surface temperature to avoid critical surface humidity and interstitial condensation.
    - BS EN ISO 10211 - Thermal bridges in building construction. Heat flows and surface temperatures.
    - BS EN ISO 13789 - Thermal performance of buildings. Transmission and ventilation heat transfer coefficients.
    - BRE BR 262 – Thermal Insulation: avoiding risks.
    - BS 5250 – Code of Practice for the Control of Condensation in Buildings.

- Assess the subject walls for the effects of wind-driven rain and the suitability of the proposed system in accordance with:
    - BS 8104 – Code of Practice for assessing the exposure of walls to wind-driven rain.

Cavity Wall Pre-Installation Inspection

086 Prior to any Works, the Client's Representative must receive evidence from the Service Provider that the Property has been inspected in accordance with, and independently verified by, the BBA Cavity Assessment Surveillance Scheme (CASS), or other UKAS accredited inspection body equal and approved by the Client's Representative. The inspection body must satisfy the requirements of PAS 2030, be independent of any system installer or designer and hold UKAS accreditation to either ISO 17065 or ISO 17020 'Type A'.

The inspection should include an external visual assessment of the elevations, and an internal visual inspection of the dwelling.

A rigid 90 degree optical borescope with attached digital SLR camera or another optical system of comparable image quality should be used to record clear photographs to the Client's Representative's satisfaction. The illumination, depth of field, and camera resolution will be sufficient to clearly identify defects and fibre and expanded polystyrene insulation up to one meter from the camera.

Longer focus images may be in black and white or a single illumination colour wavelength, provided that the materials shown in the images are identified. 10 different sample digital photographs of wall cavities, including mineral or glass fibre and cavity bottom debris, shall be submitted to become contractual image quality benchmarks and should include views of materials 1 meter away from the viewing prism or lens.

THE CWI inspectors may, if they wish, use a thermal imaging camera with an appropriate scale to assist them in deciding where exactly to drill for the boroscope inspection but it should comply with the following pattern:

087 For single storey Properties this will include 3 boroscope readings per elevation.
- One of these will be at least 300mm above the damp proof course
- One will be within 300mm of the wall plate below the roof (For gable walls this should be along or just above the dividing line between the ground floor accommodation and the loft).
- One will be below a window sill (For gable walls where there are no windows, this can be halfway up the wall between the ground and roof space line)

088 For two storey dwellings this will include 4 boroscope readings per elevation.
- One of these will be at least 300mm above the damp proof course
- One will be within 300mm of the wall plate below the roof (For gable walls this should be along or just above the dividing line between the first floor accommodation and the loft).
- One will be at first-floor floor joist level (i.e., between ground and first floor)
- One will be below a second storey window sill (For gable walls where there are no windows, this can be halfway up the wall between the first floor and the loft).

089 Prior to any Work, the Service Provider must produce a Property specific report on their findings to include confirmation of the following;

1 Address, postcode and Client's UPRN of the Property being inspected.
2 The location of boroscope holes, each with a unique reference number, presented on sketch elevations or photographs.
3 Date stamped photographs from boroscope tests with images of similar quality to the benchmark digital images.
4 The construction type and its condition, including the build-up of the walls, the condition of masonry and pointing materials and the thickness of each element.
5 Condition and width of the cavity and wall ties, including the presence of mortar snots, debris etc., and whether or not it is deemed to be a Hard To Treat cavity.
6 Any visible evidence of continuing or developing structural problems, including steel lintel or wall tie corrosion, settlement or subsidence cracking, movement, failures in structural timber.
7 The presence of insulation and its type, e.g., mineral or glass wool (fibre), bonded bead, loose bead, Urea Formaldehyde foam, or insulation board.
8 Condition of insulation, including whether the cavity is filled to the correct density in accordance with the system designer specification.
9 The original injection drill pattern in relation to whether or not it conformed to the system designer specification for the type of insulation.
10 The U-value of the existing construction.
11 The presence of an adequate DPC.
12 The suitability of the cavity to receive CWI in relation to the property location and exposure, in accordance with BS 8104 and BRE Report 262.
13 Any evidence of voids or other problems caused by insulation failure.
14 Where voids or other problems are evident, what are the reasons e.g. insufficient insulation (fibre or bead), settlement of fibre, insufficient glue for bonded beads, boards not properly fitted, etc
15 Locations and severity of any mould, condensation, water penetration or other obvious defects evident internally.
16 Locations and severity of any mould, condensation, water penetration or other obvious defects evident externally.
17 The presence of openable ventilators and adequate mechanical ventilation in relation to condensation/mould.
18 Adequate existing ventilation for any fuel burning appliances located within the property.
19 Any ventilation openings that would require remedial works to ensure they are not compromised during extraction or injection of insulation.
20 The location of flues to ensure they are not compromised during extraction or injection of insulation.
21 Injection drill holes were adequately filled upon completion of the original installation.
22 Boroscope drill holes were adequately filled with sand/cement and to closely match the colour and texture of the existing wall, upon completion of the inspection.
23 Any evidence of ingress of CWI materials in roof space/at services.
24 Relevant feedback from the Customer.

25 Any other information considered relevant e.g. absence of cavity barriers, etc.
26 Conclusions and any recommendations for remedial action to improve or replace insulation if considered appropriate.
27 Any Property constraints that would prohibit the execution of any recommended Works.

Cavity Wall Cleaning

090 Cleaning of cavity walls may only be carried out by a company currently registered with the BBA Cavity Cleaning Company Scheme, or other UKAS accredited body equal and approved by the Client's Representative, that includes for clearing rubble and other material from the cavity in addition to the extraction of insulation.

091 Cleaning may only take place when Instructed by the Client's Representative and is subject to the outcome of the surveillance scheme inspection.

092 Cleaning company must inform the Client's Representative of any remedial Works that are required, following the independently verified cavity inspection.

093 Cleaning company must include for the removal of rubble within the cavity and any other material that may bridge the cavity. The Client's Representative should be informed of any Material that cannot be removed and may compromise the integrity of the cavity.

Cavity Wall Insulation - Injected

094 Mineral fibre of a type currently certified by BBA, or other UKAS accredited certification body equal and approved by the Client's Representative, as suitable for the purpose and exposure. Only to be used to top up existing mineral fibre insulation, subject to the outcome of the surveillance scheme inspection. Thermal conductivity max 0.04W/mK, installed to the recommended density and in accordance with the quality assurance certificate and manufacturer's technical data sheet.

095 Expanded polystyrene beads/granules with grey/metallic additive, bonded by adhesive, and currently certified by the BBA or other UKAS accredited certification body equal and approved by the Client's Representative as suitable for the purpose and exposure. Suitable for both existing and newly constructed cavities, subject to the outcome of the surveillance scheme inspection. Thermal conductivity max 0.033W/mK, installed to the recommended density and in accordance with the quality assurance certificate and manufacturer's technical data sheet.

096 The insulation company is to be registered as a member of the Cavity Insulation Guarantee Agency (CIGA). The installer must be trained and approved by the system designer and carry out the installation in accordance with the:

- surveillance scheme,
- the BBA certificate,
- the certificate holder's instructions, and
- the CIGA requirements to obtain their guarantee.
- any additional requirements of the insurance backed guarantee provider.

The completed installation is to be covered by an insurance backed minimum 25 year guarantee.

097 Injection holes are to be formed neatly to a regular pattern, preferably at the junction of vertical and horizontal mortar joints, and to sizes recommended by the cavity fill manufacturer. Drill additional holes as necessary to ensure a full fill. Avoid damage to damp-proof courses, cavity trays, flues etc., and prevent debris falling into cavity. Form all holes in any one wall before commencing filling of that wall. Fill injection holes, replacing existing material where possible to ensure a close match of colour and texture with the existing surface. Obtain agreement from Client's Representative of finished appearance of first few holes before completing the remainder.

098 During installation, check regularly for leakages of insulation and seal immediately.

099 Following completion of the works, and at the end of each day if the work spans more than one day, check and confirm all ventilation outlets, flues etc have not been compromised by the injection of insulation and remain in working order, ensuring to clear any blockages immediately.

100 Check for and remove any wall insulation that has been blown up through the top of the cavity into the loft space.

101 The Service Provider is to keep a detailed record of the installation including survey results, materials, weather conditions and any unusual features. Records shall be returned digitally to the Client's Representative as a spreadsheet or database in a format compatible with Microsoft Office and named with the Client's UPRN, as approved by the Client's Representative.

102 Copies of all certificates, records, guarantees and other documents shall be submitted to the Client's Representative on completion.

Fire-stopping Works – Proprietary Material

103 Fire-stopping material for use as a gap filling material where cables, non-combustible dusts or pipework services penetrates fire compartment floors and walls shall be a proprietary compound that is to be non-fibrous, non-toxic and to contain no asbestos, phenol's or halogen's, applied as a mortar to the following thicknesses.

Fire Resistance	Minimum Depth of Filling Material
One Hour	50mm
Four Hour	100mm

50mm Thick non-combustible mineral wool slab is to be used as permanent shuttering to fire-stopping compound mortars.

For horizontal barriers the mineral wool slabs are to be friction fitted into the opening and around the penetrating services, so that the compound mortar may be poured on top of the slab to the required thickness, temporary support may be needed until the compound mortar has achieved it setting requirements

For vertical or wall barriers the mineral wool slab should be installed at the centre line of the fire compartment wall by friction fitting around the penetrating services, the vertical slab is then to have the compound mortar applied either side of the slab to a maximum thickness of 25mm.

The fire-stopping mortar is to be applied strictly in accordance with the manufacturer's technical data sheet.

104 Fire-stopping material for use as a gap filling mortar around cable penetrations through fire compartment and separation walls and floors shall be a proprietary non-combustible material manufactured from lightweight aggregates, inorganic hydraulic binders and other fire protective additives which impart rheological properties. It is to be used in situations where the subsequent installation of additional cables through the wall or floor penetration is likely to take place and a flexible filling material would facilitate this event.

The mortar is to be mixed by hand and applied strictly in accordance with the manufacturer's technical data sheet

105 Fire-stopping material for use as fire protection to fire compartment floors and walls penetrated by air conditioning ducts or service pipework shall be a proprietary non-combustible non-fibrous and non-toxic material manufactured from lightweight aggregates, inorganic hydraulic binders and other fire protective additives which impart rheological properties, applied in layers as a mortar to the following thicknesses.

Fire Resistance	Minimum Depth of Filling Material
Four Hour	160mm

Temporary shuttering may be required where the mortar is applied to wall penetrations, if there is likely to be movement in the pipes or ducts, the pipe or duct is to be wrapped in a 5 to 10mm thickness of mineral or ceramic wool.

The compound is to be mixed by hand and applied strictly in accordance with the manufacturer's technical data sheet.

The Service Provider or his approved subcontractor is to have FIRAS certification and to produce certified copies of their registration as and when requested by the Client's Representative.

Fire-stopping – Non Proprietary

106 Fire-stopping material to party walls and similar situations can be either:

Non-combustible mineral wool to BS 3958-5 compressed fit between timber members and fixed with large galvanised nails, cut to profile; or
Non-combustible mineral wool with density ne 80kg/m^3 to BS 3958-5 compressed fit between timber members and fixed with large galvanised nails, cut to profile; or
Non-combustible mineral wool with integral galvanised wire mesh with density ne 80kg/m^3 to BS 3958-3 compressed fit between timber members and fixed with large galvanised nails, cut to profile; or
Asbestos free mineral fibre reinforced board, moisture resistant to BE EN 13501-1 Euro Class A1, bedded in mortar to match walling;

107 Fire-stopping to loft access hatch door shall be asbestos free mineral fibre reinforced board, moisture resistant to BE EN 13501-1 Euro Class A1.

108 Joint sealants are to be intumescent fire resistant mastic to BS 476-20 installed in accordance with the manufacturer's technical data sheet;

109 Ensure that any imperfections of fit between building elements which are required to have fire resistance and/or resist the passage of smoke are completely sealed with non-combustible sealing material e.g. mortar, mineral filler paste or plaster, not plastic foam filler. Where not specified otherwise, tightly pack with mineral fibre.

Removal and Replacement of Failed Wall Tiles

110 Cut out corroded metal ties carefully, causing least possible disturbance to surrounding masonry and remove any associated rust debris.

111 Remedial wall ties shall be manufactured from austenitic stainless steel and be capable of meeting the test criteria for Type 2 wall ties.

Physically Inserted DPC'S to Existing Walls

112 When renewing damp-proof courses, cut out brickwork in short hit and miss lengths not exceeding 1.00m at any one time and prevent structural damage, installation is to form a continuous barrier to rising damp, finished flush with face of wall externally and to lap 150mm (minimum) with damp-proof membrane. Replace brickwork before commencing further lengths.

113 The installation is to form a continuous barrier to rising damp, the undertaking of joint cutting is to undertaken in such a manner as to prevent any structural damage. The damp-proof course is to extend the full width of the wall and any finishes. The damp-proof course is to finish flush with external face of wall, and internally is to lap 150mm (minimum) with damp-proof membrane.

114 Physically inserted damp-proof course system material is extend the full width of wall and finish and to be either:

Polyethylene to BS 6514, weight not less than 1.55kg/m2; or
Bituminous Felt to BS 6398, weight not less than 0.46kg/m2

Insulated Cavity Closers and Insulation to Jambs

115 Insulation to window and door jambs must comprise:

50mm minimum front to back dimension, notional width 100mm, insulation to be securely built in between inner and outer skins at jambs with vertical damp-proof course;

Insulation to provide minimum 30 minutes fire resistance in terms of integrity and 15 minutes in terms of insulation when tested to BS 476 Part 20;

Thermal conductivity to be no greater than 0.038W/mK, insulation to be under compression within cavity and installed in accordance with the manufacturer's technical data sheet and the Building Regulations.

116 Built in insulated cavity closers must comprise proprietary insulated cavity closer to flush reveal, to bridge between inner and outer skins at window and door reveals.

Cavity closers to be covered by a current BBA certificate or equivalent quality assurance certificate acceptable to the Client's Representative;

Rigid PVC-u casing enclosing insulation with double flange to internal and external leaf to provide a key for rendering and plastering;

Thermal conductivity of insulation to be no greater than 0.038W/mK;

Cavity closer to provide minimum 30 minutes fire resistance in terms of integrity and 15 minutes in terms of insulation when tested to BS 476 Part 20;

Installed in compliance with current BBA certificate or equivalent quality system acceptable to the Client's Representative;

Accessories: Manufacturer supplied compatible Polypropylene or PVC-u wall ties built in in accordance with the Manufacturer's technical data sheet.

117 Built in insulated cavity closers must comprise proprietary insulated cavity closer to check reveal, to bridge between inner and outer skins at window and door reveals.

Cavity closers to be covered by a current BBA certificate or equivalent quality assurance certificate acceptable to the Client's Representative;

Rigid PVC-u casing enclosing insulation with single flange to internal leaf to provide a key for plastering;

Thermal conductivity of insulation to be no greater than 0.038W/mK;

Cavity closer to provide minimum 30 minutes fire resistance in terms of integrity and 15 minutes in terms of insulation when tested to BS 476 Part 20.

Installed in compliance with current BBA certificate or equivalent quality system acceptable to the Client's Representative;

Accessories: Manufacturer supplied compatible Polypropylene or PVC-u wall ties built in in accordance with the Manufacturer's technical data sheet.

118 Built in proprietary insulated cavity closer to bridge between inner and outer skins at window sills:

Cavity closers to be covered by a current BBA certificate or equivalent quality assurance certificate acceptable to the Client's Representative;

Rigid PVC-u casing enclosing insulation with double flange to internal and external leaf;

Thermal conductivity of insulation to be no greater than 0.038W/mK;

Cavity closer to provide minimum 30 minutes fire resistance in terms of integrity and 15 minutes in terms of insulation when tested to BS 476 Part 20;

Installed in compliance with current BBA certificate or equivalent quality system acceptable to the Client's Representative.

119 Built in insulated cavity closers must comprise proprietary insulated cavity closer to bridge between inner and outer skins at window heads

Cavity closers to be covered by a current BBA certificate or equivalent quality assurance certificate acceptable to the Client's Representative;

Rigid PVC-u casing enclosing insulation with single flange to internal leaf;

Thermal conductivity of insulation to be no greater than 0.038W/mK;

Cavity closer to provide minimum 30 minutes fire resistance in terms of integrity and 15 minutes in terms of insulation when tested to BS 476 Part 20;

Installed in compliance with current BBA certificate or equivalent quality system acceptable to the Client's Representative

Client's current manufacturers/suppliers/products

120 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand Name	Manufacturer's Details

[complete table as appropriate]

CARPENTRY AND JOINERY

CARPENTRY AND JOINERY

GENERAL

Generally

001 Where necessary cut out for butts/hinges when replacing door or window frames/linings or piecing in new timber.

002 Note that all sawn timber sizes quoted in the Schedule of Rates are nominal sizes.

003 Stain or prime and undercoat all prepared timber all round before fixing, as described in the "Painting and Decorating" Section.

004 Comply with the "Painting and Decorating" Section where Works include items being painted, decorated, stained, touched up or prepared for decoration. Match the finish and type to the existing or surrounding finish as appropriate.

005 Where painted skirtings and architraves are specified, at the Service Provider's option use an MDF equivalent where this is approved by the Client's Representative.

006 Match any purpose made items (when specified) to the existing items as far as possible.

MATERIALS

Timber

007 Use only suitable, sound, well-conditioned, properly seasoned preservative treated whitewood from a source approved by the Client's Representative that is free from any defects making it unsuitable for its intended purpose. All timber to be FSC or PEFC certified or from equivalent independently verifiable sustainable sources.

008 Level and pack all structural timber. Structural timber shall comply with BS 5268: Part 2 and Part 3. The dimensions of a timber floor, ceiling or roof member may be determined by the guidance given in BS EN 1995 (Eurocode 5) span tables for solid timber members in floors, ceilings and roofs for dwellings published by TRADA. Timber for floors and roofs shall comply with BS 8103-2 and BS 5268-3. Strength classes, species, grades and species combinations referred to be as defined in BS EN 1995-1-1.

009 Cross sectional dimensions are to be either basic sawn or regularised sizes as defined in BS EN 1313 -1. Trussed rafter roofs are to be braced to BS 5268: Part 3. Structural timber shall be C16 or C24 grade timber to comply with loadings and spans as set out in the current Approved Document A of the Building Regulations, 2010 (amended 2013). The section sizes shall be in accordance with tolerance class 1 of BS EN 336, or are CLS/ALS processed sizes in accordance with tolerance class 2 of BS EN 336.

Graded Softwood for Structural Use:
- Stress graded to BS EN 14081 or other national equivalent and so marked.
- Strength class to BS EN 1995-1-1.

010 Trussed Rafters generally are to be designed and fabricated to BS EN 1995-1-1, truss members shall be 44mm (minimum) finished thickness, ceiling ties and top chord members shall have 97mm finished depth, all trussed rafters shall be nail plate connected.

011 Softwood for use with leadwork shall be planed, free from wanes, pitch pockets, decay and insect attack except pinhole borers, with a moisture content of not more than 22% at time of covering.

012 Cross section dimensions of timber shown on drawings are nominal sizes unless stated otherwise. reduction to finished sizes of planed/regularized timber to be to BS EN 1313-1.

013 Moisture content of timber at time of erection to be:
- Structural timber 20% + or - 2%, kiln dried.
- Fascias barge boards and the like 18% + or - 2%.

014 Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing. Store timber and components under cover, clear of the ground and with good ventilation. Support on regularly spaced, level bearers on a dry, firm base. Open pile to ensure free movement of air through the stack. Arrange sequence of construction and cover timber as necessary during and after erection to ensure that specified moisture content is not exceeded. Keep trussed rafters vertical during handling and storage

Preservative treatment of timber

015 Treat softwood described as "treated" or "impregnated" before delivery to the Property with either:
- an appropriate preservative under vacuum-pressure with an average net retention of at least 4kg of dry salts per cubic metre; or
- an organic solvent type preservative giving an overall retention of 16Kg of solution per cubic metre of timber.
- Generally - Structural Timber, Fencing and the like:
- Where subsequent cross-cutting or boring of the treated timber cannot be avoided all exposed surfaces shall be liberally swabbed with a proprietary end grain timber preservative to maintain the integrity of the protective system.
- All treated timber shall show only negligible dimensional change or distortion, otherwise it will be rejected.
- The end use of timber must be quoted by the Service Provider to the treatment company.
- A certificate of treatment to cover all timbers processed shall be supplied by the treatment company to the Service Provider.
- A certificate of treatment shall be supplied by the Service Provider for each batch of timber treated.

Fixings

016 Framing anchors are to be galvanised steel, fixed securely using not less than the number of nails recommended by the anchor manufacturer. Nails to be not less than 30mm x 3.75 mm galvanized or sherardized square twist unless recommended otherwise.

017 Truss clips are to be galvanised steel, fixed securely with 32mm x 3.5mm galvanised square twisted nails in every hole.

018 Anchor straps are to be galvanised steel, fixed securely to timber with three 30mm x 3.75mm galvanized nails and to masonry with four 50 mm x 8 gauge galvanised screws evenly spaced.

019 Lateral restraint straps are to be galvanised steel, ensure that cranked end is in tight contact with cavity face of wall inner leaf and is not pointing upwards. Fix noggings and packs beneath straps which span joists/rafters/ties running parallel to wall, noggins and packs to fit tightly and be not less than three quarters of joist/rafter/tie depth. Notch joists so that straps fit flush with surface. Do not notch rafters/ties. Fix straps to joists/rafters/ties with seven 50 mm x 1½ mm gauge galvanised countersunk screws, evenly spread.

020 Bolts and nuts shall be cup square with large washers and nuts, and comply with BS 4190 - Washers shall comply with BS 4320.

021 Expanding bolts shall be Grade A4 stainless steel and shall be of a type to suit the purpose for which they are required, fixed security in position in accordance with manufacturers technical data sheet.

022 Canopy cleats are to be galvanised steel, fixed securely to timber with 50mm x 1½ mm galvanised screws.

023 Retaining strap to be galvanised steel, with site applied bituminous paint coating, and bedded securely in mortar.

024 Expanded metal fixing strip to be galvanised expanded metal lathing to BS EN 13658-1 zinc coated and fixed securely by building into position.

025 Fastenings for materials and components forming part of external construction to be of corrosion resistant material or have a corrosion resistant finish.

026 Fastenings for materials and components, forming part of external construction but not directly exposed to the weather to be of corrosion resistant material or have a corrosion resistant finish, directly exposed to the weather to be of corrosion resistant material.

027 Cartridge operated fixings are not to be used without the permission of the Client's Representative. Tools to be manufactured to BS 4078-2 and Kitemark certified. Fasteners, accessories and consumables to be types recommended by the tool manufacturer. Operatives to be trained and certified as competent by tool manufacturer. Ensure that operatives take full precautions against injury to themselves and others. Shot fixing is to give secure fixing at 750mm centres.

Nails, etc

028 Use sheradised nails for fixing joinery having an external exposed face in accordance with BS 1202-1, punched in below the surface and filled with an approved filler.

Joinery Timber

029 Softwood planed finish joinery timber which will be exposed to view shall be European Redwood minimum density 510kg/m3, class J10 of BS EN 942.

The following defects shall not be permitted: pinholes shown on the surfaces; sloping grain exceeding one in eight; checks, splits and shakes in excess of those permitted by class J10 of BS EN 942; knots, excepting isolated sound tight knots of less than 20mm diameter or no wider than half the width of the section; any evidence of beetle attack or decay. Softwood not exposed to view will be accepted with minor defects with the exception of active beetle attack or decay.

030 Where hardwood is specified, use hardwood to BS EN 942 of one of the following species suitable for the purpose, un-replenish able tropical hardwoods are not to be used

Oak	North American	Density range 590-930 kg/m^3
Beech		Density range 700-900 kg/m^3
Ash	North American	Density range 650-850 kg/m^3
Maple	North American	Density range 600-750 kg/m^3
Cherry	North American	Density range 700-900 kg/m^3
Utile		Density range 650-725 kg/m^3
Mahogany	South American	Density range 500-650 kg/m^3
Mahogany	West African	Density range 500-650 kg/m^3
Dark Red Luan	Philippine	Density range 650-725 kg/m^3
Iroko		Density range 650-725 kg/m^3
Dark Red Meranti		Density range 650-725 kg/m^3

031 Tongued and grooved floorboarding is to comply with BS 1297

032 Ensure the moisture content based products at time of installation: to be no more than:

- internal joinery is no more than 20% (8-12% when timber is in an existing Property which is centrally heated); and
- external joinery is no more than 18%.+ or-2%
- structural timber 20% + or -2%, kiln dried

Plywood, blockboard, particleboard, hardboard etc.,

033 Plywood panel products for structural use shall conform to BS EN 13986 and BS EN 636 for designs to BS EN 1995 plywood may be selected from those listed in BS EN 1995-1-1 or shall have certification from a suitable body such as the Agrément board.

034 Marine plywood shall comply with BS EN 1995-1-1 and BS 1088-1, marine plywood manufactured from selected untreated tropical hardwoods, durability class H, surface grade 11, and with sanded surface finish.

035 Plywood designed to BS EN 1995-1-1 shall be subject to the quality control procedures of one of the organisations listed in that standard, or to the controls listed by the certification body.

036 The specification for plywood shall state the following information where appropriate:
- type
- Standard
- grade
- Species
- nominal thickness
- number of plies
- finish (sanded/unsanded)

037 Plywood exposed to the weather shall have no open defects (e.g. checks, knots, holes, splits) on the exposed face(s) unless it is used only for a temporary application such as hoarding.

038 Prior to receiving a painted finish, plywood shall be adequately sanded.

039 All cut edges that may be subject to weather exposure shall be sealed with a suitable sealant or applied finish; typically these shall be one of the following:
- Special sealing compounds, such as pitch epoxy
- non-setting mastic, where the plywood is set in frames.
- timber beading bonded with suitable adhesives.

040 In construction the following procedures shall be observed:
- lower edges of boards shall be bevelled to promote shedding of water.
- plywood used as infill panels shall be fully painted before installation and/or assembly.
- cavities behind boards shall be adequately ventilated and drained to allow dispersal of moisture.
- clearance shall be allowed at selected joints to allow free drainage of water.
- plywood junctions with masonry shall provide adequate clearance to allow drainage, prevent capillary absorption of water and provide enough space for maintenance of edge sealing.
- the bottom edges of boards shall stand well clear of flashings, roof coverings, sills, and the ground.
- exposed and/or inadequately protected fixings shall be of non-ferrous metals and have adequate corrosion resistance.

041 WBP sanded and unsanded finished plywood is to be in accordance with BS EN 635, appearance classification E or I.

042 Oriented strand boards shall be in accordance with BS EN 300 and supplied in accordance to use:
OSB/1 general purpose no loading boards and boards for interior fitments for use in dry conditions;
OSB/2 load-bearing boards for use in dry conditions;
OSB/3 load-bearing for use in humid conditions;
OSB/4 heavy duty load-bearing boards for use in humid conditions;

043 Particleboards shall be in accordance with BS EN 312 Type 5, for chipboard flooring, use the appropriate waterproof moisture resistant grade suitable for the purpose.

044 Hardboard shall be to BS EN 622-2. Ensure hardboard used to form bath panels has an enamelled surface and Type TE Tempered.

045 Ensure all block-board complies with BS EN 636-1 and to be to a standard and quality approved by the Client's Representative, lamin-board used is five-ply and veneer is of the specified species of timber (but where none is specified, it is an appropriate species of timber).

Priming

046 Prime timber in accordance with the finish coat specification. Use a primer recommended by the manufacturer of the surface coating.

Preservative treatment of timber

047 Treat softwood described as "treated" or "impregnated" before delivery to the Property with either:
- an appropriate preservative under vacuum-pressure with an average net retention of at least 4kg of dry salts per cubic metre; or
- an organic solvent type preservative giving an overall retention of 16Kg of solution per cubic metre of timber.

048 Generally - Structural Timber, Fencing and the like, shall be treated in accordance with Clause 015.
- Where subsequent cross-cutting or boring of the treated timber cannot be avoided all exposed surfaces shall be liberally swabbed with a proprietary and grain timber preservative to maintain the integrity of the protective system. All treated timber shall show only negligible dimensional change or distortion, otherwise it will be rejected. The end use of timber must be quoted by the Service Provider to the treatment company.
- A certificate of treatment to cover all timbers processed shall be supplied by the treatment company to the Service Provider. A certificate of treatment shall be supplied by the Service Provider for each batch of timber treated.

Generally - Joinery Components, Fascias and the like, shall be treated by spirit based double vacuum process and shall be machined to it's final dimensions before treatment and then assembled. All treated timber shall show only negligible dimensional change or distortion, otherwise it will be rejected.

049 Treat ground contact timber before delivery to the Property with an appropriate preservative under vacuum pressure with an average net retention of at least 5.4Kg dry salts per cubic metre of timber.

050 Cut timbers to their final dimensions before impregnation. Where this is not possible, liberally swab any sawn or cut faces or borings with an appropriate preservative from the impregnation plants.

051 After treatment, carefully open-stack the timber in a well ventilated covered space to enable surplus solvent in the preservative to dry out by evaporation. Ensure all treated timber is dry before incorporation in the Works.

052 Allow items of carpentry timber treated with an appropriate preservative a minimum of 3 weeks air drying period following treatment and before fixing. Allow joinery timbers similarly treated a minimum of 6 weeks air drying following treatment and before fixing.

053 Provide a copy of the relevant Preservation Treatment Certificate to the Client's Representative.

Adhesives

054 Ensure adhesives for:
- exterior use are synthetic resin type WBP; and
- interior use are synthetic resin type of moisture resistant durability ("MR").

Timber fillers for rotted woods

055 Ensure timber fillers for rotted softwoods and hardwoods are a complete system appropriate for the type of wood.

Storage of material

056 Protect joinery from the weather during transit. At all times before fixing, both before and after priming, store it under cover and clear of the ground.

Door frames and linings

057 Ensure external door frames without cills have 12.5mm diameter x 100mm long galvanised steel dowels housed into the bottom of each leg leaving 50mm projecting. Ensure the frames for fire resisting doors are of a type approved by the Client's Representative. Ensure frames for half hour doors have 25mm minimum stops.

Doors generally

058 Note that fire door ratings in the Schedule of Rates are shown in hours. Ensure the integrity of the door (including all hinges, ironmongery etc) achieves this when fitted to a frame with or without intumescent strips. Where it is necessary to use hinge packers or pads on fire rated doors, frames or door sets ensure that only intumescent types are used.

059 Ensure all external doors (other than flush doors) are from solid timbers. Do not use veneers or laminations.

Ledged and braced doors

060 Ensure ledged and braced doors consist of 3 No. 150mm x 25mm horizontal ledges with bevelled edges, 125 x 25mm, parallel braces and 100 x 19mm tongued and grooved and V-jointed matching with:

- the braces being obliquely jointed to the ledges with their lower ends adjacent to the hanging side of the door;
- each board being nailed to the ledges and braces using at least 2 No. nails 50mm long at each ledge and one at each brace;
- the ends of ledges being screwed back to the match boarding from inside and stopped in;
- all timber being primed before the door is assembled; and
- the end grain being primed with two coats of aluminium primer.

Framed, ledged and braced doors

061 Ensure framed, ledged and braced doors consist of 100 x 50mm stiles and top rail, 175 x 38mm middle and bottom rails, 100 x 38mm braces and 100 x 12mm tongued and grooved V-matching with:

- the top rail being haunched, morticed and tenoned to the stiles;
- the middle and bottom rails being bare faced, morticed and tenoned to the stiles;
- the top rails grooved to receive the tongues of the tongued and grooved V-jointed matching;
- the braces being stub tenoned into the rails and stiles;
- the tongued and grooved V-jointed matching being secured to the rails and braces by lost head nails hammered in from the faces;
- all joints being jointed with WBP glue to standard and quality approved by the Client's Representative;
- all boarding and timber faces covered being primed before assembly including all rails, grooves and matching;
- the end grain being primed with aluminium primer;
- the frame being securely cramped;
- all mortice and tenon joints being secured with hardwood wedges well driven home; and
- the whole being assembled perfectly square and free from winding.

Flush doors

062 Ensure 35 or 40mm thick internal flush doors consist of a skeleton or honeycomb core, lipped on two stiles with hardwood strips – each lipping should be a minimum of 6mm and to be full thickness of the door.

Hardwood faced doors are to have selected hardwood veneered, MDF or High density chipboard of 3.2mm thickness, Veneer type: Koto, Beech, African Mahogany, Maple, Cheery, Oak or Sapele lippings to match or compliment face veneer, pre-finished factory applied clear lacquer to both faces.

063 Ensure 44mm thick external flush doors are faced on both sides with 6mm external quality resin bonded plywood, for painting or staining to BS EN 927-1 on a solid core. Provide glazing apertures with a rebated, sunk and rounded Utile cover mould and Utile hardwood glazing beads with mitred angles. Ensure the glazing cover piece and beads are no less than that required by the relevant British Standard or equivalent for glazed apertures.

Opening for glass to be 400mm x 600mm high.

Half-glazed flush doors

064 Ensure the opening for glass in doors described as half-glazed:
- extends the full width between stiles; and
- is at least 680mm high.

065 Ensure:
- glazing apertures are provided with a rebated, sunk and rounded Utile cover mould and Utile hardwood glazing beads with angles mitred; and
- the glazing cover piece and beads are no less than that required by the relevant British Standard or equivalent for glazed apertures.

Panel doors

066 Ensure panel doors:
- are jointed with mortice and tenon joints and WBP glue;
- have ply panels that are a minimum of 6mm thick external quality WBP plywood for painting or staining; and
- have the joint between the ply, stiles and rails sealed at the time of assembly with primer.

Fire check flush doors

067 Ensure fire check flush doors are to the fire rating specified in the Schedule of Rates and this Specification.

Windows

068 Provide timber windows with guarantees as table below. Provide timber surrounds for steel windows as approved by the Client's Representative.

Timber Frames	30 year guarantee against fungal attack
Timber Window Manufacturing Defects	10 Year guarantee
Timber Window (Factory Painted External Joinery)	10 Year guarantee (as minimum)
Timber Window (Factory Stained External Joinery	6 Year guarantee (as minimum)
Hardware Components	10 Year guarantee (as minimum)
Double Glazed Units	15 Year guarantee (as minimum)

PVC-u doors and windows

069 Ensure all PVC-u windows and doors are:
- constructed from high impact modified PVC-u; and
- manufactured from base materials guaranteed against decomposition and for colour fastness for a minimum of 25 (twenty five) years.

070 Guarantee the fabrication of all PVC-u frames and sashes against failure of welds, mechanical joints etc., for a minimum of 25 (twenty five) years.

071 Guarantee double glazed units against failure of the unit for a minimum of 15 (fifteen) years.

072 Guarantee hardware components against failure of the unit for a minimum of 10 (ten) years.

073 Protect PVC-u items against damage during the course of fixing.

074 Ensure windows provided can be opened to allow a secure trickle ventilation.

075 Ensure the accurate measurement of the Works and correct any measurement errors. (Tolerances – the overall height and width of an assembled frame shall not differ from the work size by more than +/- 3mm when measured at (20 +/- 5) ˚C, with a maximum difference of 3mm at any point. For assemblies with outer frames having three or more joints per frame member, the deviation shall not be more than 4mm when similarly measured. Frame assemblies shall be such that they can be installed in a square opening with a maximum difference in the diagonal of 4mm).

076 Ensure all window frames show a 50mm-60mm face on the outside of the frame.

077 Construct doors from a profile with a minimum of 100mm width showing face.

078 Ensure doors:
1. are double panelled type 2XG or 2XGG;
2. have the top panel double glazed in toughened glass;
3. have a bottom panel similarly double glazed or PVC-u skinned/foam sandwich with PVC-u frame; and
4. have the panels screwed and wedged.

079 Use door and window furniture suitable for the doors and windows approved by the Client's Representative that meets the following requirements:
5. door locks and furniture comprise:
6. 1½ pairs of heavy duty hinges;
7. cylinder lock;
8. letter plate - white plastic gravity type (front doors only);
9. 1 No. heavy duty multi-point lift lever espagnolette locking system with return lever handle action to horizontal position when locked;
10. lever handles;
11. numerals (front doors only);
12. stormproof cill/threshold with integral weather seals; and
13. rain deflector/weatherboard;
14. turn tilt windows have:
15. a key operated 'tilt barrier' approved by the Client's Representative;
16. child locks, where the windows are fitted on or above the first floor level; and
17. a switch barrier; and
18. casement windows (outward opening) have:
19. friction hinges with espagnolette fittings and locking furniture on all opening windows irrespective of configuration; and
20. child locks, where the windows are on or above the first floor level.

080 Ensure door and window furniture is SAA or brass finished as approved by the Client's Representative or as specified on the Order.

081 Use only PVC-u windows/doors approved by the Client's Representative unless specified on the Order.

Sealant

082 For pointing around window and door frames use sealants:
1) to BS EN ISO 11600 Type B with fungicide;
2) coloured to match existing; and
3) that are suitable for sealing to timber, aluminium and PVC-u windows and doors, as applicable.

083 Silicone sealant to BS EN 11600 Type B with fungicide.

Repointing existing door and window frames with silicone sealant is to be undertaken by cutting away the existing mastic pointing with a sharp knife, cutting away any existing sand/cement pointing, ensuring that the surfaces to be jointed are completely dry and clean, the depth of sealant is to fill all resulting voids.

Combustion air grilles

084 When repairing or renewing items which incorporate combustion air grilles:
- use either the salvaged air grille (if it is in sound condition) or combustion air grilles as approved by the Client's Representative; and
- ensure apertures are maintained in the repair or renewed items.

Fibre cement insulating board

085 Use insulating board that is asbestos free and has a sanded finish.

Boards and panels

086 Do not use cross joints in board coverings.

PVC-u fascias/soffits/cladding and components

087 Ensure PVC-u fascias, soffits, cladding and components are:
- cellular PVC-u with a low density (closed cell) core and homogeneous skin;
- with self coloured, smooth, semi-matt finish;
- of sections and profiles approved by the Client's Representative.

Architraves, reveal linings, window boards and mouldings

088 Ensure replacement items match the existing (which may be of varying profiles and shapes). Where painted softwood skirtings and architraves are specified, at the Service Provider's option use an approved MDF equivalent where approved by the Client's Representative.

089 PVC-u cill board is to be bull nosed or square edged, manufactured from low density cellular (closed cell) core and homogeneous impact resistant skin of PVC-u in accordance with BS 7619 UV stability and UV aged impact, resistance requirements.

Cill board to be maximum 155mm wide and minimum 9mm thick.
Weight: Average density 500 kg/m3.
Tolerance deviations of: +/-12.5% per m, width +/- 1.5mm, thickness +/- 0.5mm.
Flatness: Must not exceed +/- 0.6mm over 100mm. Linear thermal expansion of less than 7mm x 10.5 dgs. C.
Tested in accordance with BS 4370-3 Method 13. Fire Resistance:
Satisfy the requirements of BS 476-7 Class 1 Surface spread of flame and BS 476-6 Index 1 = 15.4 Fire propagation. Colour Fastness: In accordance with BS 7619.
Water Absorption: Less than 1.0% when tested in accordance with BS EN ISO 62.
Appearance: Self-coloured smooth gloss finish. Method of Fixing: As specified by manufacturer. Generally proprietary brand of adhesive or low modulus silicon. Edge Trims: Matching colour. Single part PVC-u trims as per manufacturers details and fixed in accordance with manufacturers' technical data sheet.

Polythene vapour barrier

090 For a polythene vapour barrier use a type of sheet approved by the Client's Representative and fixed with all joints lapped and made with double folds and taped.

Ironmongery

091 Carefully wrap and protect ironmongery until completion of the Works. Either replace with new or re-lacquer any defaced or damaged ironmongery as Instructed by the Client's Representative.

092 Use screws conforming to the relevant BS, and of a suitable gauge and Material for the purpose and to match the article to be fixed.

093 Lubricate locks, etc., with graphite and leave them in perfect working order on completion of the Works. Properly label and deliver up all keys to or as Instructed by the Client's Representative.

094 Use black japanned tee hinges and Suffolk latches.

095 Ensure that letter plates comply with the Royal Mail's minimum size standards in accordance with BS EN 13724. Ensure letter plates provided in fire doors conform to the fire rating of the door.

096 Unless the Order states otherwise provide all ironmongery to new, renewed or replacement timber doors in accordance with the following:

for external front doors:
- 1½ pairs 100mm heavy duty satin stainless steel butt hinges to BS EN 1935;
- 1 No. cylinder security night latch with latch pull, with deadlocking arrangements;
- 1 No. 65 or 75mm 5-lever mortice deadlock and keep;
- 1 set escutcheons;
- 1 No. letter plate - gravity type to BS EN 13724; (fire rated for Fire doors)
- 1 No. security door chain;
- stormproof sill/threshold with integral weather seals;
- rain deflector/weatherboard;
- intumescent seals (fire doors only); and
- door numerals;

for external rear doors:
- 1½ pairs 100mm heavy duty satin stainless steel butt hinges to BS EN 1935;
- 1 No. 100mm 5-lever mortice lock/latch and keep;
- 1 set lever furniture/handles;
- 2 No. mortice security bolts;
- stormproof sill/threshold with integral weather seals;
- rain deflector/weatherboard; and
- Intumescent seals (fire doors only);

for internal doors:
- 1 pair 75mm medium duty mild steel with fixed pin (non removable) butt hinges (1½ pair heavy duty satin stainless steel hinges to BS EN 1935 for fire-check doors);
- 1 No. 65 or 75mm tubular mortice latch and keep;
- 1 set lever furniture/handles; and
- intumescent seals (fire doors only);

for bathroom/wc doors:
- 1 pair 75mm medium duty mild steel with fixed pin (non removable) butt hinges (1½ pair heavy duty satin stainless steel hinges to BS EN 1935 to communal W.C's and bathrooms opening onto a means of escape);
- 1 No. 65 or 75mm mortice bathroom lock/latch and keep with reversible solid brass latch bolt to BS 3621;
- 1 set lever bathroom furniture/handles with snib/indicator, deadbolt operated by turn button with emergency release;
- intumescent seals (fire doors only); and

for external match-boarded doors:
- 1 pair 457mm steel tee hinges;
- 1 No. rim lock and keep; and
- 1 set knob furniture.

097 Ensure that all door hinges, ironmongery and other hardware has a minimum fire rating to match the door, frame or door set on which it is used.

098 Ensure all door furniture is SAA or brass finished as approved by the Client's Representative or as specified on the Order.

Kitchen units/worktops in Repairs

099 Ensure kitchen units are manufactured to meet strength specification level 'H' and have fully repairable carcassing.

100 Ensure worktops are manufactured using laminated moisture resistant chipboard core and are consistent with existing worktops. Ensure all post-formed worktops are constructed using particleboard with minimum 'P5' classification (but if 'P5' is not obtainable construct only square edge and double post-formed worktops using particleboard with minimum 'P3' classification).

101 Ensure metal fittings and screws conforming to BS, used in manufacture are plated against corrosion. Use metal corner gussets as fixing posts.

102 Take all necessary precautions to protect units and worktops from damage. Either make good any damage caused or replace Materials as Instructed by the Client's Representative. Ensure that, when fitted, all doors and drawers operate smoothly.

103 Where existing fixing holes cannot be used for hinges, use a steel cabinet strengthening plate, fixed four times to the unit and hinges fixed with self- tapping screws to the plate.

Chrome supporting leg

104 Ensure the worktop supporting leg is 30mm in diameter chrome plated and fixed to the worktop and floor with retaining plates and screws.

105 Aluminium square edge worktop end trim to BS EN 515, fixing with aluminium screws; bedding in silicone sealant.

106 Aluminium insert junctions to BS EN 515, bedding in silicone sealant.

107 Aluminium and rubber clip on cover beads to standard and quality approved by the Client's Representative, fixing with aluminium screws.

108 Chrome cover fillets of an approved type and manufacture, bedding and twice pointing in silicone sealant.

Handrails etc.,

109 Handrail brackets are to be cast aluminium or mild steel and fixed securely to timber with appropriate screws, finish: as specified.

110 Fixing brackets are to be galvanised steel to comply with BS EN 912, fixed securely to timber frame with three 30mm x 1½ mm galvanised screws.

111 Newel brackets are to be galvanised steel, fixed securely with bolts

112 Aluminium angle bearers are to comply with BS EN 515, 6063tf standard, anodised finish to BS 3987, fixed securely to floor with galvanised steel screws.

WORKMANSHIP

Generally

113 Ensure carpentry work is framed and put together in a substantial and workmanlike manner.

114 Ensure joinery work is accurately set out, framed and executed in accordance with manufacturer's drawings and finished off in a workmanlike manner.

Put together purpose made doors and other framed work immediately upon the general work being commenced, but do not glue and wedge them until the joinery is prepared in readiness for immediate fixing.

115 Finish off machine planning and moulding smooth by hand.

116 Ensure exposed faces of joinery are wrought and all arises slightly rounded.

117 Punch and putty nails and pins in exposed work.

Plugging

118 Note that in this Section 'plug', 'plugged' or 'plugging':
- means fix to concrete, brickwork or blockwork and similar surfaces;
- includes supplying and fixing with proprietary fixings; and
- includes shot fired fixing.

119 For bolted joints, locate holes accurately and drill to diameters as close as practical to the nominal bolt diameter and not more than 2 mm larger, place washers under all bolt heads and nuts which bear directly on timber, - tighten bolts so that washers just bite the surface of the timber and at least one complete thread protrudes from the nut. Check at agreed regular intervals up to practical completion and tighten as necessary to prevent slackening of joints.

120 Ensure that wall plates are positioned and aligned to give the correct span and level for trusses, joists, etc. Wall plate to be fully bedded in fresh mortar in lengths of not less than 3 m with half lap joints. Wall plates shall be treated in accordance with Clause 015.

121 Installing joists generally, position at equal centres not exceeding designed spacing and true to level. Install bowed joists with positive camber. Bed hangers directly on and hard against supporting construction, do not use packs or bed on mortar. Cut joists to leave not more than 6 mm gap between ends of joists and back of hanger, rebate joists to lie flush with underside of hangers, fix joists to galvanised steel hangers with a nail in every hole, hanger size to suit joist, design load and crushing strength of supporting construction.

122 Trimming openings when not specified otherwise, trimmers and trimming joists to be not less than 25 mm wider than general joists.

123 When installing trussed rafters, carefully inspect each truss before erection to ensure compliance with shop drawings and specification, including grades and sizes of members, types, sizes and positions of nail plates, - gaps between ends of members at joints, and full penetration of nails.

Erect trusses plumb, at equal centres not exceeding designed spacing and in accordance with BS EN 1995-1-1. Do not use damaged trusses and do not modify without consent of the Client's Representative. Fix securely with truss clips ensuring that rafters do not bear on wall plates. Do not fix ceiling chords to internal walls until roofing is complete and cisterns installed and filled.

124 Permanent bracing of trussed rafters is to be set out as shown on drawings. Fix bracing and binders to every rafter, strut or tie with not less than two 75mm x 3.35 mm galvanized round wire nails. Any lap joints must be side by side extending over and nailed to at least two truss members. Where a binder crosses a brace, interrupt and plate the binder.

Repairs to Redwood Sills of Timber Windows

125 Cut out decayed timber and carry out repair using 'Dry Flex System' or other equal and approved. All in accordance with 'Window Care Systems' recommendations, approved method of working using correct tools. Maximum dimension of each resin repair as opposed to timber splice to be agreed with the Client's Representative prior to works commencing.

Repairs to Hardwood Sills of Timber Windows:

126 Cut out decayed timber and carry out repair using 'a proprietary timber repair system approved by the Client's Representative. All in accordance with 'Window Care Systems' recommendations, approved method of working using correct tools. Maximum dimension of each resin repair as opposed to timber splice to be agreed with the Client's Representative prior to works commencing.

Repairs to Timber Internal Door Frames:

127 Cut out decayed timber along the grain for a distance of 300mm (min) beyond the last visible sign of attack. The joint of new and existing timber shall be formed by means of 45° - 60° splice. New timber to be jointed to existing by means of galvanised screws or nails and adhesive and plugged and screwed to wall. New timber members shall match profile of existing. ''Dry Flex System'' or other equal and approved may be used as a viable alternative to new timber section. Maximum dimension of each resin repair as opposed to timber splice to be agreed with the Client's Representative prior to works commencing. Dispose of defective timber immediately.

Repairs to Timber External Door and Window Frames:

128 Cut out decayed timber along the grain for a distance of 300mm (min) beyond the last visible sign of attack. The joint of new and existing timber shall be formed by means of 45° - 60° splice. The new timber shall be redwood to BS EN 942, Classes 2 and 3 or hardwood to BS EN 942, double vacuum treated in accordance with BS 8417 and all cut ends shall be dipped in similar preservative fluid before fixing in position. New timber to be jointed to existing by means of galvanised screws or nails and adhesive and plugged and screwed to wall. New timber members shall match profile of existing. ''Dry Flex System'' or other equal and approved may also be used as a viable alternative to new timber section. Maximum dimension of each resin repair as opposed to timber splice to be agreed with the Client's Representative prior to works commencing. Dispose of defective timber immediately.

Repairs to Hardwood Sills of Timber Windows:

129 Cut out decayed timber along the grain for a distance of 300mm (min) beyond the last visible sign of attack. The joint of new and existing timber shall be formed by means of 45° - 60° splice. The new timber shall be hardwood to BS EN 942, Class 1 and all cut ends shall be dipped in similar preservative fluid before fixing in position. New timber to be jointed to existing by means of galvanised screws or nails and plugged and screwed to wall. New timber members shall match profile of existing. ''Dry Flex System'' or other equal and approved may be used as a viable alternative to new timber section. Maximum dimension of each resin repair as opposed to timber splice to be agreed with the Client's Representative prior to works commencing. Dispose of defective timber immediately.

Replacing Structural Members:

130 Cut out decayed/infested timber along the grain for a distance of one metre beyond the last sign of attack. The joint of new and existing timber shall be formed by means of a half lapped joint at least twice the length of the member in depth; the new timbers should make-up the bottom section of the joint if timbers are horizontally placed. For the new timber, use a preservative treated whitewood from a source approved by the Client's Representative. Existing timbers ends exposed by cutting/jointing must be treated with preservative. New timber shall be jointed to existing by means of bolts. Connection to be affected with at least 4 number 12.5mm diameter mild steel bolts with locking nuts and dog washers. New timber members shall match profile of existing. Dispose of defective timber immediately.

Replacing Preservative Treated Structural Members:

131 Cut out decayed/infested timber along the grain for a distance of one metre beyond the last sign of attack. The joint of new and existing timber shall be formed by means of a lapped joint at least twice the depth of the member in length. New timber shall be jointed to existing by means of galvanised bolts. Connection to be effected with at least 4 number 12.5mm diameter mild steel bolts with locking nuts and dog washers. New timber members shall match profile of existing. Dispose of defective timber immediately.

Replacing Treads and Risers:

132 Remove any plasterboard and trimmings as necessary to underside of staircase. Defective treads and risers to staircase are to be removed. Replacement whitewood treads and plywood risers to profile of previous to be housed into string. Wedges and blocks to be adhesive fixed in position. Internal Grade 1-1 plywood risers to be adhesive fixed and screwed to back of treads. All work to be executed from underside. Dispose of defective timber immediately.

Softwood flooring/board flooring

133 Renew floorboards carefully so as to avoid damaging the ceiling below the floor. Remove tongued and grooved boards by carefully sawing through the tongues and forming a heading joint adjacent to a joist. When replacing the boards, provide additional support at the heading joint using timber 50 x 25mm secured to the joist.

134 Where a number of floorboards require renewal, well cramp up the new boards to form tight joints and nail them up with two lost head nails punched and putted per board, per joint. Fix access traps with screws. Take care when fixing the floorboards not to puncture or damage any existing services.

135 Provide all additional support battens, noggins etc., required to support the boards.

Timber door frames and door linings

136 For new door frames and linings, use a minimum of three sets of fixings to each leg, each set comprising two fixings (either timber plugs and nails or proprietary plastic plugs and screws as appropriate to the quality of the fixing background). Where external door frames do not have timber cills, provide galvanised steel dowels in the legs, grouted into the building structure with cement mortar (1:3).

137 Fix existing door frames or linings which have become loose through the frame using proprietary sleeved screw fixing devices approved by the Client's Representative.

138 Sink the heads of fixings below the surface of the frame and the recess and fill them with an approved filler.

Softwood window frames

139 Fix softwood windows and softwood window surrounds in the same way as for fixing door frames and lining legs.

Metal window frames

140 Bed metal windows in a butyl rubber sealant and fix them to wood window surrounds which have been treated to BS EN 351-1 with galvanised or cadmium plated screws or alternatively by stainless steel fixing clamps or brackets and proprietary plastic plugs and approved rust proof screws.

Window/door replacement

141 All replacement windows and doors in repairs and ad-hoc renewals are to be to BS 6375-2: 2009. Undertake window/door replacements that involve removal of the primary frame from the building and associated glazing in accordance with the current Building Regulations, Approved Document L.

Fire rated doors/frames/door-sets – repair, replacement and installation

142 The repair, replacement and/or installation of internal/external fire rated doors, door frames, door-sets and any associated components such as stops, architraves, thresholds, trims, seals, ironmongery and the like must be undertaken only by persons that are properly accredited to do so by having undergone and passed an approved "Fire Door Installation Awareness Course" such as that developed by the British Woodworking Federation (BWF) with the National Open College Network (NOCN), or equivalent.

Sealant

143 Before pointing around existing window and door frames, pick out all loose materials and insert a cellular backing appropriate to the type of sealant in the joint between the frame and wall. Use a sealant as specified, inserted by pressure gun to form a neat uniform beaded finish.

Stud partitions

144 For stud partitions use suitably sized softwood head and sole plates with studs at 400mm centres horizontally and noggins at 1200mm centres vertically. Butt joint quilts and fill the entire void.

Kitchen units

145 All kitchen units in repairs and ad-hoc renewals are to BS 6222-2 and BS EN 1116. Fix base units with proprietary metal or plastic fixing brackets, plastic plugs and screws and the joint between the worktop and wall pointed with a neat bead of anti-mould white silicone sealant.

146 Fix wall units with proprietary metal or plastic fixing brackets, plastic plugs and screws and also support them on full length softwood cleats of not less than 50 x 25mm.

Worktops

147 All worktops in repairs and ad-hoc renewals are to be to BS 6222-2. Fix worktops to base units on metal or plastic brackets with self-tapping screws. Support worktops with a void under by 50 x 25mm softwood cleats securely fixed to any background on at least three sides. If this cannot be achieved, support the sides affected on a flanged tubular steel support fixed to the floor with proprietary plastic plugs and screws and to the worktop with appropriate self-tapping screws. Seal/treat all cut edges to prevent the ingress of moisture, square cut with matching veneer to exposed ends.

Fixing PVC-u doors and windows

148 PVC-u windows and doors in repairs and ad-hoc renewals are to be to BS 7722 and manufactured to BS 7412. Take out the existing door/window and hack off render/plaster as far as necessary to accommodate the window fixing cramps in window reveals. Supply and install support lintels over the new window/door opening. Where the original brickwork is carried over the window/door i.e. soldier course, make good the brickwork as necessary. Remove all rubbish and leave the window/door opening ready to receive the new window/door. Lintels to be in accordance with current Building Regulations, Approved Document A.

149 Fix the PVC-u double glazed window/door with or without a cill directly into the prepared brick reveals using galvanised twist-in-lugs, approved by the Client's Representative, screwed to the reveals using galvanised screws. Seal the windows to the masonry openings with silicone sealant approved by the Client's Representative. Protect the windows during the course of the Works. Fix all windows directly to the inside face of the vertical DPC. Remove all old mastic from the brick face.

150 Where appropriate supply and fix an approved PVC-u cellular core window board, fixed with screw on lugs, fixed to the wall, together with 19mm PVC-u quadrant beading, glued to the window boards and window frame using an appropriate adhesive.

151 Make good to all internal window reveals with backing and finished plaster and leave ready for redecoration.

152 Replace the windows/doors that have been removed with new windows/doors and make them weather-tight before the Staff leave the Property at the end of each Working Day.

Fixings/Adhesives

153 Fixing generally: Use fixing and jointing methods and types, sizes, quantities and spacings of fastenings which are suitable having regard to nature of and compatibility with product/material being fixed and fixed to recommendations of manufacturers of fastenings and manufacturers of components, products or materials being fixed and fixed to materials and loads to be supported. Provide additional noggings/grounds/bearers as necessary to provide adequate fixing and support.

154 Adhesive types: As specified in the relevant section. Surfaces to receive adhesive to be sound, unfrozen, free from dust, grease and any other contamination likely to affect bond. Where necessary, clean surfaces using methods and materials recommended by adhesive manufacturer.

Surfaces to be of sufficient smoothness and evenness to suit gap filling and bonding characteristics of adhesive. Adjust as necessary, ensure that operatives observe manufacturer's and statutory requirements for storage and safe usage of adhesives. Do not use adhesives in unsuitable environmental conditions or beyond the manufacturer's recommended time period. Apply adhesives using recommended spreaders/applicators to ensure correct coverage. Bring surfaces together within recommended time period and apply pressure evenly over full area of contact surfaces to ensure full bonding. Remove surplus adhesive using methods and materials recommended by adhesive manufacturer and without damage to affected surfaces.

155 Fixing Through Finishes: ensure that fastenings and plugs (if used) have ample penetration into the backing.

156 Pelleting: Countersink screw heads 6 mm below timber surface and glue in grain-matched pellets not less than 6 mm thick, cut from matching timber. Finish off flush with face.

Expanding Polyurethane Foam

157 Expanding polyurethane foam must be of an approved fire resistant type complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for its intended use or application to ensure Building Regulations compliance.

Sun Pipes

158 Proprietary Rigid Sun Pipe to Pitched Roof

Generally will supplied and installed to the following specification:

- Pipe material: Rigid aluminium.
- Diameter: 240 – 360 mm
- Tunnel length: Up to 6 m maximum.
- Tunnel reflectance: Greater than 97%.
- Roof terminal: Proprietary polycarbonate dome (opal / UV protected) or 4 mm toughened glass in polyurethane frame.
- Ceiling terminal: Double glazed diffuser.
- Accessories: 30° – 45° proprietary bends as required. (Total number of bends to be kept to a minimum).
- Proprietary extension sections as required.
- Flashing: To suit interlocking concrete roof tiling.
- Installation: In accordance with manufacturers' technical data sheet

159 Proprietary Flexible Sun Pipe to Pitched Roof

Generally will supplied and installed to the following specification:
- Pipe material: Flexible metallized polyester.
- Diameter: 350 – 360 mm
- Tunnel length: Up to 1.5 m maximum.
- Roof terminal: Polycarbonate dome (opal / UV protected).
- Ceiling terminal: Double glazed diffuser.
- Flashing: To suit interlocking concrete roof tiling.
- Installation: In accordance with manufacturers' technical data sheet.

160 Proprietary Rigid Sun Pipe to Flat Roof

Generally will supplied and installed to the following specification:
- Pipe material: Rigid aluminium.
- Diameter: 240 – 360 mm
- Tunnel length: Up to 6 m maximum.
- Tunnel reflectance: Greater than 97%.
- Roof terminal: Proprietary polycarbonate dome (opal / UV protected).
- Ceiling terminal: Double glazed diffuser.
- Accessories: 30° – 45° proprietary bends as required. (Total number of bends to be kept to a minimum).
- Proprietary extension sections as required.
- Flashing: To suit flat roof construction.
- Installation: In accordance with manufacturers' technical data sheet.

161 Proprietary Flexible Sun Pipe to Flat Roof

Generally will supplied and installed to the following specification:
- Pipe material: Flexible metallized polyester.
- Diameter: 350 – 360 mm
- Tunnel length: Up to 0.9 m maximum.
- Roof terminal: Proprietary polycarbonate dome (opal / UV protected).
- Ceiling terminal: Double glazed diffuser.
- Flashing: To suit flat roof construction.
- Installation: In accordance with manufacturers' technical data sheet

Servicing of Timber Window Frames

162 **General servicing requirements for timber window frames**

The degree of servicing required to timber window frames will be decided by the Client's Representative. The servicing should fall into one or other of the following categories.

163 **Condition of the frame and sash**
- The simplest form of servicing would be to ease and adjust the opening sash.
- Severely damaged opening sashes should be replaced as original.
- The fixed frame presents greater problems to repair but 'Window Care Dry Flex System' should be considered as a viable alternative to replacement.
- On completion the bare timber must be coated as original.

164 **Conditions of surface coating**

- Touching up is generally discouraged as weather conditions have an adverse effect on all surface coatings.
- The preferred option is to re-coat all window surfaces as original with light sanding between each coat.

165 **Condition of ironmongery**

- Damaged ironmongery should be replaced with matching or product similar to existing ironmongery and fitted as per manufacturer's technical data sheet
- Back flap or cranked hinges seldom require servicing, however service with light oiling with release oil/lubricant spray
- Friction hinges require light oiling with release oil/lubricant spray during servicing
- Replace all defective hinges as recommended by manufacture.
- Loose casement stays and handles should be re-fixed either by using longer screws or reuse the original screws by plugging the original screw hole.
- Tilt/turn and fully reversible gearing systems should be serviced by a qualified service engineer.
- Trickle vents should be cleaned of all paint, dirt, dust etc. and left in an operational state. Replace parts as necessary.
- Condensation holes/channels were present should be cleaned of all paint, dirt, dust etc. and left in an operational state.
- All existing safety restrictors to be checked for correct operation. Where correct operation is not being achieved, adjustments should be made. If adjustments do not prove adequate replace the restrictor. On finishing the dwelling/property, all opening sashes are to be fitted with a safety restrictor. Each dwelling should be fitted with similar restrictors throughout – thus removing possible confusion in the event of a fire.

166 **Condition of glass and glazing**

- All damaged glass should be carefully removed before the removal of glazing slips or facing putty.
- Cracked glass should be taped to prevent accidents.
- When all glass is removed the rebates should be cleaned and primed with the appropriate primer before re-glazing.
- When slip glazing is used the bottom slip must be bedded in 'Dry Seal Elastic
- Glazing Sealant' to prevent ingress of water.
- Linseed oil putty must NOT be used.

167 **Glazing medium**

'Elastic Glazing Sealant' is the only option for face pointing. Linseed oil putty must NOT be used.

168 **Draught Proofing**

Draught proofing to existing window frames can usually be effected by using one of five different methods:

- Appropriately sized extruded foam with one side self adhesive; this if fitted to the frame rebate/inside face of sash.
- A co-extruded flexible seal with the rigid section nailed to the sash and the flap touching the sash. This component may have a metal rigid section.
- A bulbous extruded seal, again with the flat section nailed to the inside rebate of the frame and the bulbous section touching the sash.
- Replacement nerprim seals (if fitted) to match existing profile and colour.
- Silicon sealing. This method of draught proofing should be avoided and only undertaken after written advice and clarification is received from Policy and Standards.

In all cases some slight difficulty may be experienced when closing the sash and generally adjustment of ironmongery may be necessary.

Servicing of PVC-u Window Frames

General servicing requirements for PVC-U window frames

169 Ventilation and drainage:

All:
- Trickle vents (either in-frame, in-glazing or other)
- Condensation holes/channels (were present)

should be cleaned of all paint, dirt, dust etc. and left in an operational state. Replace parts as necessary.

170 Seals and gaskets:

Check neoprene seals and gaskets for wear/failure and replace seals/gaskets as necessary. Replacement seals to match existing profile and colour.
Clean of all paint, dirt, dust etc. from seals/gaskets and apply a spray coat of silicate lubricant (remove access lubricant).

171 Ironmongery:

Damaged ironmongery should be replaced with matching or product similar to existing ironmongery and fitted as per manufactures instructions.

172 Hinges:

Hinges should be cleaned of all paint, dirt, dust etc. and left in an operational state. Hinge oil/lubricant is to be applied and hinge restraint screws adjusted accordingly. Replace parts as necessary.

173 Safety restrictors:

All existing safety restrictors to be checked for correct operation. Where correct operation is not being achieved, adjustments should be made. If adjustments do not prove adequate replace the restrictor.

On finishing the Property, <u>all</u> opening sashes are to be fitted with a safety restrictor. Each Property should be fitted with similar restrictors throughout – thus removing possible confusion in the event of a fire.

Cleaning PVC-u window frames

174 Sash frames and window frames are to be fully cleaned of all paint, dirt, dust etc. and left in an operational state.

175 Dirty marks on frames can be easily removed by using cleaning materials as indicated on the following table.

Cleaning cloths should be unbleached cotton. Do not use cloths containing synthetic fibres.

Heavy stains and deep scratching can be removed from white profiles only by sanding with a 320/400 grit sanding disc and by polishing using a sisal rotary brush to restore surface finish.

On wood grain surfaces care must be taken when cleaning. Seek manufacturer's advice on damaged wood grain surfaces.

Condition of glass and glazing

176 Check condition of glass;
- All damaged glass should be carefully removed before the removal of glazing slips.
- Cracked glass should be taped to prevent accidents.
- When all glass is removed the rebates should be cleaned

Typical problems and remedial action

177 Incorrect glazing and fixing of frames to masonry are the cause of most maintenance problems.

The following is an indication of typical problems and remedial action.

178 Opening sashes that have dropped during use:

Check hinges for wear/adjustment remove wedge gaskets.
Remove glazing beads internal or external.
Repack glass to manufacturers recommendations.
Refit glazing slips and gaskets.

179 Bowed cills/stiles:

Incorrect packing generally the case. Re-glaze as Clause 163 and secure packers to prevent further movement. Taking care not to block drainage/air circulation channels and/or slots.

180 Sashes not sealing properly or engaging keepers:

Check adjustment hinges and keepers.
Check that the glass is packed at locking points, if not packed carry out work as manufacturer's technical data sheet.
Check also that the glass is packed at the position of frame fixings.
Check gaskets for wear/failure.

181 Broken/cracked glass.

Remove if possible pieces of broken glass before removing glazing beads.
Cracked glass should be taped to avoid accidents, before removing gaskets or glazing beads. Remove gaskets, remove glazing beads.
Carefully remove damaged unit or sheet glass.
Replace and re-glaze as per manufacturer's instruction, taking care to fit packers as recommended.

182 Opening sash adjustment.

All necessary adjustment should be completed after glazing. All hinges should be lightly oiled at periodic intervals. If glazing is completed as per manufacturer's instruction, little or no adjustment will be necessary. However, should adjustment be necessary the following steps should be taken:-

- Check margin of sash to frame.
- Remove centre screw on friction arm.
- Release two outer screws and then reposition the sash.
- Check that the overlap sash to frame is sufficient (5 mm min).
- Retighten the outer screws; replace the centre screw to ensure no further movement of the sash. The friction on the friction stay can be adjusted using the screw on the friction stay fixed member.
- Where adjustable espagnolettes have been fitted the rollers can be adjusted to gain compression of the weather gasket with the use of an Allen key by turning the rollers about their eccentric cams.

Should problems still exist when the sash is closed and the overlap to frame is equal refer to the below table for possible cause.

Upgrading

183 When upgrading from single to double glazing units, consider the strength of the existing hinges with regard to the additional weight of the double glazed unit and replace if required.

NOTE: It is recommended that all servicing work is carried out by a specialist service engineer

CHECK LIST A

PROBLEM	CAUSE	ACTION
Sash hits keeper	- Frame bowed opening to rear	Re-glaze Reposition hinge
Cam hits striker	- Striker in wrong place	Reposition
Handle operation stiff	- Cams not adjusted - Keepers out of line	- Adjust cam - Realign and oil
Draughts	- Bowing members	- Re-glaze - Fit cavity block
	- Overlap incorrect - Both overlaps incorrect	- Reposition - Remake sash
	- Gasket problem	- Repair or replace
Sash moves too easily	Friction screw set incorrectly	Tighten Friction screw
Sash binding	Friction screw set incorrectly Outer frame bowed	Loosen friction screw Repack outer frame

CHECK LIST B

COMTAMINATION	CLEANING METHOD			
	Scrape off and Polish with Dry Cloth	**Clean with water and mild detergent**	**Clean Off with non-abrasive detergent and water**	**Manufacturers specified cleaning agent[1]**
Bitumen			✓	
Pencil		✓		
Emulsion Paint	✓			
Felt Pen		✓		
Inorganic Grease			✓	
Plaster	✓			
Wood stain		✓		
Ball Pen		✓		
Cellulose Paint				✓
Rust				✓
Soot			✓	
Cement Mortar	✓			
Wax Pen			✓	

184 Manufacturers specified cleaning agents should only be used by authorised service providers and with extreme care.

Loft Insulation

185 Mineral Fibre Loft Insulation laid between ceiling ties/joist or over existing quilt shall comprise:

- Mineral fibre insulation to BS EN 13162, manufactured in accordance with BS EN 9001 as certified under BSI kite marked or other certification scheme acceptable to the Client's Representative;
- Installed in accordance with all the provisions of BS 5803-5. The Service Provider should pay particular attention of BS 5803-5 provisions for ventilation to roof space and; avoidance of overheating of electric cables.
- Thermal conductivity of insulation no more than 0.040 W/mK;
- Debris to be removed and any sealing of holes for pipes, lighting drops etc., completed before the installation of the insulation; Insulation to be fitted tightly with closely butted joints, leaving no gaps and extending over wall plates;
- Ensure that eaves ventilation is unobstructed and electric cables are not covered;
- Do not lay insulation directly below water cistern platform(s) – platforms should be elevated above ceiling joist/trusses
- Lay insulation in two layers where necessary;
- Install 800mm long plastic spacers to maintain a continuous 25mm minimum airspace above the insulation at the eaves. These are to be secured by tacked to rafters at both sides with galvanised thick staples or tacks, projecting 100mm (measured horizontally) beyond the wallplates. Insulation should cover the wallplates but shall not to project beyond the end of the spacer (described above)

186 Glass Fibre Loft Insulation laid between ceiling ties/joist or over existing quilt shall comprise:

- Glass fibre insulation to BS EN 13162, manufactured in accordance with BS EN 9001 as certified under BSI kite marked or other certification scheme acceptable to the Client's Representative;
- Installed in accordance with all the provisions of BS 5803-5. The Service Provider should pay particular attention of BS 5803-5 provisions for ventilation to roof space and; avoidance of overheating of electric cables.
- Thermal conductivity of insulation no more than 0.040 W/mK;
- Debris to be removed and any sealing of holes for pipes, lighting drops etc., completed before the installation of the insulation; Insulation to be fitted tightly with closely butted joints, leaving no gaps and extending over wall plates;
- Ensure that eaves ventilation is unobstructed and electric cables are not covered;
- Do not lay insulation directly below water cistern platform(s) – platforms should be elevated above ceiling joist/trusses
- Lay insulation in two layers where necessary;
- Install 800mm long plastic spacers to maintain a continuous 25mm minimum airspace above the insulation at the eaves. These are to be secured by tacked to rafters at both sides with galvanised thick staples or tacks, projecting 100mm (measured horizontally) beyond the wallplates. Insulation should cover the wallplates but shall not to project beyond the end of the spacer (described above)

187 Loose mineral fibre loft insulation suitable for blowing only to BS 5803-2, used to manually fill gaps;

188 Insulated loft access boards shall be supplied and installed as additional loft access boards for inspection/access situated above walls where possible. Boards to be 1210mmx 475mm (minimum) x 18mm OSB Structural/Flooring grade bonded to 70mm high density insulation, strength 150 kPa at 10% compression, conductivity less than 0.041 W/mK fixed with 4 no long galvanised screws at least 20mm into ceiling joists. Generally allow 2 boards per dwelling. Leave existing loft boards in position, insulating underneath where possible.

189 Loft Hatch /Door Insulation and Sealing shall comprise:

- Mineral fibre loft access hatch insulation to BS EN 13162, conductivity less than 0.04W/mK, 200mm thick compressed to 120mm minimum held in place with woven fibreglass fabric and galvanised staples fixed to hatch lid frame, area 0.50m^2 nominal area, provide and install an easily compressible rubber self-adhesive 'P' seal fixed onto the timber hatch surround, refit or provide a hook and eye to prevent uplift;

- Mineral fibre loft access door insulation to BS EN 13162, conductivity less than 0.04W/mK, 200mm thick compressed to 120mm minimum held in place with woven fibreglass fabric and galvanised staples fixed to door frame, area 0.70m^2 nominal area, provide and install an easily compressible rubber self-adhesive 'P' seal fixed onto the timber door surround, where necessary nail a 25mm x 38mm PAR softwood batten at 300mm centres round the door to provide a background for the compressible seal 3.4m maximum, refit or provide a small bright finish bolt to compress seal;

- Phenolic foam loft access hatch insulation to BS EN 13166, conductivity less than 0.023W/mK, 100mm thick, strength more than150kPa at 10% compression fixed to hatch lid frame, area 0.50m^2 nominal area, if the hatch is of combustible material nail 12mm plasterboard over before gluing insulation board over, provide and install an easily compressible rubber self-adhesive 'P' seal fixed onto the timber hatch surround, refit or provide a hook and eye to prevent uplift;

- Phenolic foam loft access door insulation to BS EN 13166, conductivity less than 0.023W/mK, 100mm thick, strength more than150kPa at 10% compression fixed to hatch lid frame, area 0.70m^2 nominal area, if the hatch is of combustible material nail 12mm plasterboard over before gluing insulation board over, provide and install an easily compressible rubber self-adhesive 'P' seal fixed onto the timber hatch surround, where necessary nail a 25mm x 38mm PAR softwood batten at 300mm centres round the door to provide a background for the compressible seal 3.4m maximum, refit or provide a small bright finish bolt to compress seal;

190 Proprietary white factory finished polypropylene insulated drop-down hinged loft access hatch to minimum opening width of 520mm, with insulation having a maximum U value of 0.25W/mK with integral draught and vapour seal in accordance with BS 5250, and secure catch to resist wind uplift, installed in accordance with the manufacturer's technical data sheet.

Insulation Boards

191 Insulation boards shall comprise:

- Expanded white polystyrene board to BS EN 13163, material to have BBA certification or equivalent, conductivity 0.035W/mK or less than, strength more than 100kPa at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary, cut into insulation where this is needed to allow it to bend and rest directly on substrata;

- Expanded grey polystyrene board to BS EN 13163, material to have BBA certification or equivalent, conductivity 0.031W/mK or less than, strength more than 100kPa at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary, cut into insulation where this is needed to allow it to bend and rest directly on substrata;

- Foil faced polyurethane/PIR foam board to BS EN 13165, material to have BBA certification or equivalent, conductivity 0.023 W/mK or less than, strength more than 100kPa at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary, cut into insulation where this is needed to allow it to bend and rest directly on substrata;

- Closed cell extruded polystyrene insulation board to BS EN 13164, material to have BBA certification or equivalent, conductivity 0.035W/mK or less than, strength more than 100kPa at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary, cut into insulation where this is needed to allow it to bend and rest directly on substrata. Where fixed to external walls underground, use suitable adhesive paste to fix, using lines of paste at edges and to form closed shapes no more than 250mm wide/tall, applying pressure until the adhesive sets. Finish the exposed upper edge and its junction with the wall with paste. Use 2 no additional stainless steel screws and 20mm washers and plug fixings per m^2 to prevent uplift with any later failure of the adhesive;

- Foam glass rigid closed cell insulation board to BS EN 13167, material to have BBA certification or equivalent, conductivity 0.041W/mK or less than, strength more than 400 kPa to EN826 Annex A. Where fixed to external walls underground, use suitable adhesive paste to fix, using lines of paste at edges and to form closed shapes no more than 250mm wide/tall, applying pressure until the adhesive sets. Finish the exposed upper edge and its junction with the wall with paste. Use 2 no additional stainless steel screws and 20mm washers and plug fixings per m^2 to prevent uplift with any later failure of the adhesive;

- Foil faced Phenolic foam rigid sheet insulation board to BS EN 13166, material to have BBA certification or equivalent, conductivity 0.023W/mK or less than, strength more than 120kPA at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary.

- Expanded Polystyrene insulation board fixed to studs to BS EN 13163, material to have BBA certification or equivalent, conductivity 0.032W/mK or less than, strength more than 100kPa at 10% compression, cut and fit neatly with tongue uppermost, leaving no gaps, fix sheets to each support at no more than 600mm centres with 12mm diameter flat head galvanised nails at least 12mm longer than thickness of insulation;

- Foil Faced polyurethane/PIR foam insulation board fixed to studs to BS EN 4841-2 faced with plasterboard, material to have BBA certification or equivalent, conductivity 0.023W/mK or less than, strength more than 120 kPa at 10% compression, cut and fit neatly leaving no gaps, fix sheets to each support at no more than 400mm centres with flat head galvanised nails at least 12mm longer than thickness of insulation, fit additional plasterboard so as not to leave vertical faces of insulation board exposed;

- Foil faced rigid sheet polyurethane/PIR foam cavity wall insulation board to BS 4841-1, conductivity 0.023W/mK or less than, strength more than 120 kPa at 10% compression, neatly cut and fit with no gaps and temporarily support in position where necessary, install in compliance with any relevant BBA certificate or equivalent quality system approved by the Client's Representatives;

- Mineral fibre vertical insulation mats to BS EN 13162, manufactured under BE EN 9001 as certified under BSI kite marked or other certification scheme acceptable to the Client's Representative, to vertical studding in un-floored loft areas, complete with galvanised mild steel 50mm mesh x 19swg gauge and used from 600mm rolls, 100mm mineral fibre insulation secured behind galvanised light wire mesh tied back to studs every 400mm horizontally and vertically, fixed with 2mm x20mm galvanised mild steel staples to BS EN 10244-2 at 400mm maximum centres, all installed in accordance with BS 5803-5;

- Mineral fibre vertical insulation mats with integral metal mesh facing to BS 3858-3, manufactured under BE EN 9001 as certified under BSI kite marked or other certification scheme acceptable to the Client's Representative, to vertical studding in un-floored loft areas, tied back to studs every 400mm horizontally and vertically, fixed with 2mm x20mm galvanised mild steel staples to BS EN 10244-2 at 400mm maximum centres, all installed in accordance with BS 5803-5;

- 50mm Foil faced Phenolic foam rigid sheet insulation board to BS EN 13166, material to have BBA certification or equivalent, conductivity 0.023 W/mK or less than, strength more than 120kPa at 10% compression, to vertical studding in un-floored loft areas, nailed in position over studs;

- 25mm Minimum mineral wool insulation with aluminium foil outer layer, maximum thermal conductivity of 0.04W/mK, wrapped around ductwork in unheated roof-space, taped securely in accordance with manufacturer's technical data sheet;

Thermal and Sound Insulation Quilts

192 Thermal Insulation quilts shall comprise:

- Mineral fibre thermal insulation mat quilt to BS 13162, conductivity less than 0.040W/mK, compression fit, no gaps fixed between timber studs;
- Semi-rigid mineral fibre batts to BS 13162, conductivity less than 0.040W/mK, compression fit, no gaps fixed between metal studs;

193 Sound insulation quilts shall comprise:

- 25mm minimum mineral fibre sound absorbing quilt , no facing, minimum density 10kg/m3, fixed to one side of partition, joints butted, gaps < 5mm, securely fixed in place, can be glued or wire reinforced for fixing, head fixing to with galvanised large staples or large headed nails;

Client's current manufacturers/suppliers/products

194 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT EXTERNAL DOORS

REPLACEMENT EXTERNAL DOORS - SURVEYING AND INSTALLATION [TOP TIER]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT EXERNAL DOORS – SURVEYING AND INSTALLATION

General

It should be noted that in order to reduce possible errors/confusion due to conflicting repeat clauses etc. the Replacement External Door specification sections have been sub divided into tiers as per the table below;

Top tier	Middle Tier	Lower Tier
Replacement external doors – surveying and installation etc.	Replacement External, Communal and Flat Entrance Doors – General	GRP External Door sets and Screens
		Fire Door Sets
		Pre-finished Timber External Door sets and Screens
		Aluminium External Doors and Screens
		Replacement Undecorated Timber External Door Sets and Screens

In this manner each completed product will be required to meet the specification of 3 No tier documents.

Example; if work to be undertaken is a GRP External Door, then the 3 No tier documents to be used will be;

- Replacement external doors – surveying and installation etc.
    - Replacement External Communal and Flat Entrance Doors – General
        - GRP External Door sets and Screens

Initial Survey

001 A list of Properties will be given to the Service Provider with access details and the Service Provider is then responsible for arranging access, visiting the Properties, taking measurements and forwarding existing external door dimensions and the Service Provider's proposed style of replacement door to the Client's Representative for approval.

External Doors - Whether the new doors are to be GRP, aluminium or timber replacements is dependent on the condition of any existing external door (if present) and therefore matching new proposals with the existing Property and surrounding Client owned Properties.

002 The drawings are to include 'sketch elevations' of each door showing the position of each proposed door type and to include details of glass type for each door.

003 The proposals are to be approved by the Client's Representative before the Service Provider commences manufacture.

Site Measurements

004 The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing external door in each Property.

005 The dimensions noted on any schedule issued by the Client's Representative are for guidance only and are approximate measurements. The Service Provider is responsible for taking all site sizes and measurements for each and every external door opening, and for manufacturing doors accordingly and to BS 8213-4. (Windows and doors - Code of practice for the survey and installation of windows and external door-sets) and as recommended in the GGF (Glass & Glazing Federation) "Good Practice Guide for the Installation of Replacement Windows and Doors".

This procedure requires a minimum of **8 No measurements** both internally and externally to determine the difference between internal and external reveal sizes. Therefore internal access to the Property must be gained before manufacturing the doors – this will also allow for full Customer consultation and agreement of intended Works. It is the Service Provider's sole responsibility to obtain the Customers approval to receive the Works before manufacturing is commenced.

External doors are in the main fitted from the outside, although the nature of some reveals will permit replacement doors to be fitted from the inside.

The measurement and fitting of doors must in every case respect the existing cover/rebate to the outer frame of the doors by virtue of any "reverse brick detail" or "check reveal" that may pertain to existing Client Property.

006 Where a check reveal is present for weathering purposes, the door manufacturing sizes should be based on achieving a minimum frame overlap of 12 mm on the external leaf. A hole may be drilled thorough the existing frame jamb rebate to establish the check reveal size. A frame may also be built into the check reveal at the head by use of a rebated lintel, and again a minimum frame overlap of 12 mm should be provided where practicable. If an overlap of 12 mm cannot be achieved, this should be discussed with the Client's Representative and an agreement reached regarding the size of the overlap for particular properties. As the Client owns a large stock of Properties, which vary in construction detailing, long term standard agreements to the amount of overlap will not be made with exception to the dimension stated here.

007 The Service Provider's attention is drawn to the fact that similar external doors in similar Property types may vary in size.

The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing external door in each Property. Measurements for each door (and its location) must be clearly identified on any delivery schedule and each door shall have a clear labelling system to reflect this.

008 The use of make up pieces (clip-on's) will not normally be permitted except with the express **written** authority of the Client's Representative. Written authority does not transfer to the entire Contract, if gained; it must be acquired for individual Property and/or phases.

009 Any existing external door opening which will present the Service Provider with a problem in compliance with the Specification, or in manufacture of a door to suit, must be brought to the attention of the Client's Representative before the door is fabricated. The Client's Representative will issue a written Instruction informing the Service Provider of what action is to be taken.

010 The Service Provider must obtain signed consent from the Customer before manufacture of any external door is undertaken. The Service Provider should be aware payment will only be made on completion of the door being installed into the Property.

Guarantees

011 In addition to the Client's rights under the Contract, the Service Provider is to provide the minimum guarantee tabled below against manufacturing defects etc., on all new GRP, aluminium and timber external doors upon completion of the Works. The guarantee is to include for all profiles, joinery, and for the double glazed units.

Manufacturers guarantees in all instances are to be for the years stated below with no exceptions attached (i.e. end user servicing expectations etc.), this will assure the Client that the manufacturer is confident of their own products durability.

PVC-u profiles	25 Years
Timber frames	30 Years guarantee against fungal attack
Timber Door Manufacturing Defects	10 year guarantee
Timber Door (Factory Painted External Joinery)	10 Year guarantee (as minimum)
Timber Door (Factory Stained External Joinery)	6 Year guarantee (as minimum)
Hardware Components	10 Years (minimum)
Double Glazed Units	15Years (minimum)

Doors are to be manufactured under guidelines BS EN ISO 14001 (Environmental Management) and BS EN ISO 9001 (Quality Management Systems) with manufacturing companies holding the relevant accreditation. Manufacturers should promote and maintain an Environmental Policy and be committed to it. They should be able to demonstrate that all operations proactively comply with all applicable environmental laws and regulations.

The manufacturer shall provide a good practice guide relating to aftercare and maintenance of their manufactured doors etc. and its component items. The Service Provider shall ensure that each Customer receives a copy of this.

General Design of External Doors

Doors - Street Properties

012 Each Property case may be different and therefore approval will be required for each Property. In all cases, the proposed new style of external doors will need to comply with Building Regulations and in particular fire egress in terms of all habitable rooms.

Timber External Doors

013 The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing external door in each Property.

General External Door Installation

014 All sidelights are to achieve an 'A' energy rating certificated by the British Fenestration Rating Council (BFRC).

All replacement doors and sidelights must achieve Building Control standard of Maximum U-Value = 1.8 W/m^2K for units with >50% internal face glazed.

U-values of external doors and sidelights glass and frames must meet the Building Regulations and must be BFRC Certified and have an "A" Rated Energy Index. Centre Pane "U Value" of 1.2W/m²K (or better). Thermal Transmittance Whole Window "U Value" of 1.4 W/m²K (or better)

015 All External Doors must pass testing undertaken to PAS 24 and be Secure by Design certified. All certification documents are to be forwarded to the Client's Representative and kept updated – this must include test certificate, report and list of tested ironmongery with product manufactures names, type etc. Evidence of compliance with PAS 24 (Specification for Enhanced security performance requirements for door-sets and windows in the UK) will be a condition of tender.

016 All new external doors and door frames are to match existing size openings in existing positions (i.e. brick reveals to be maintained externally where necessary on all occasions).

017 Before installing the new door frame, the existing structural opening should be checked to ensure its stability and existing lintels checked to ensure their condition soundness. Any large repairs should be reported to the Client's Representative.

018 It is permissible to "chip back" a small area of plaster (typically 25mm) extending full height up the existing reveals and immediately adjacent to the door frame; this will both facilitate removal of existing door frame and installation of replacement door frame.

019 All openings should be cleaned of debris etc., and any minor making good is expected to be carried out as part of the external door replacement works.

020 All metal fixings should be at least as corrosion-resistant as BS EN 1670 Grade 3. 13.5.

Door frames shall be secured in accordance with the recognised "fixing distances" for strap / lug fixings and through-frame fixings as recommended in BS 8213-4.

021 Sills must be properly supported and fixed to ensure there is no likelihood of water penetration.

022 All internal reveals should be made good and plaster or decorations made good to match existing.

023 External sealing should be by means of a cement/sand pointing around the new door frame to conceal larger gaps and then a low modulus white silicone sealant to BS EN 11600. Only silicone sealants recommended by the manufacturer/supplier should be used and not general purpose mastics. All abutments of the door frames should have silicone sealant applied.

024 Prior to installation, the doors are to be supplied with adequate protection against damage caused by slippage, distortion etc. They must be stored under cover in a dry and secure position, stacked vertically, not horizontally.

025 The door frame dimensions must be checked with those of the opening before removal of the existing door frame.

026 A craft knife should be used to score around the perimeter of the existing frame in order to minimise damage to plaster/decoration.

027 External doors and frames to be removed and all existing mastic and debris cleaned away. The Service Provider is to ensure that the work is carried out in a neat and tidy manner, with all rubbish removed to a lockable skip at the end of each working day.

028 The damp proof course is to be checked by the Service Provider to ensure one is present and in good condition. Any defects present are to be brought to the attention of the Client's Representative immediately.

029 The new door frames must be installed in accordance with the manufacturer's requirements, taking into account the construction of the Property. Fixing methods should take into account thermal movement. The method of fixing will generally be either through frame fixing or lug fixing.

030 Door frames must be installed plumb and square without twisting, racking or distortion of any member in accordance with the manufacturer's installation tolerances.

031 The door frame must be centred in the aperture and be positioned so that it does not bridge the damp proof course. The amount by which the new door frame is set back from the outer face of the wall is determined by the requirement to set the internal face as close to the existing internal finishes as possible and by the bridging of the damp proof course.

032 The door frames must be secured so that the corner fixings are a minimum of 150mm and a maximum of 250mm from the corner of the frame and the intermediate fixings at centres no greater than 600mm.

033 Should the manufacturer require more onerous fixing requirements then these must be adhered to. Care should be taken not to overtighten bolts and that packers/shims are not allowed to fall away. Care should also be taken to ensure that water tightness is maintained where lintels have to be drilled for fixing.

034 All screw fixing heads which pass through the profile are to be spot sealed with appropriately coloured or clear silicone sealer or a PVC-u cap.

035 Where electrical, television, telephone wires etc., enter a Property either through a hole in the existing door frame, or adjacent to it, then such services must be routed around the door frame. A split plastic tube of suitable diameter and length for entry into the Property should be slipped over the cable so that connections do not have to be disturbed on the appliances, with the ends of the tube sealed with white silicone sealant on completion of the external door installation.

036 Where any internal plaster work is disturbed when the existing door frames are removed, the Service Provider must make good the plasterwork. PVC-u cover mouldings may be used to a maximum width of 30mm.

037 Internally the door frame must be well caulked and the gap between the reveal finish and the frame flush pointed with a one part white emulsion acrylic painter's caulk.

038 Each sidelight must be permanently marked or labelled in an unobtrusive position (not visible when the opening light is closed) showing details of the manufacturer, the job number of the sidelight and the date of manufacture.

039 The standard for glass units is BS EN 1279 –2 (also part 3 for gas filled types)

040 Special care and attention must be taken to protect and avoid any damage to external doors and frames. Any damaged external door or frame must be replaced with a new external door or frame and it must be at the Client's Representative's sole discretion as to whether a repair to an external door or frame is acceptable.

Safety Laminated Glass

041 All glazing in doors in critical locations as defined by the Building Regulations (i.e. glazing below 1500mm height in doors with a zone of 300mm either side of the door) is to have both skins of glass units glazed with laminated low E glass – assumed to be 2 No. skins of 6.8mm laminated safety glass.

Internal and external panes in sidelights, double glazing units to be laminated glass as default. An exception may be made where a staircase ends or turns immediately inside the doorway – in this instance the internal pane may be toughened (i.e. to reduce impact pressure) – written notification must be given to the Client's Representative. External pane must always be laminated to provide security and satisfy PAS 24.

042 All safety glass is to be permanently marked on both panes with British Standard kite marks, which are to be visible after installation.

043 Both sheets of glass making up the sealed double glazed unit must be safety glass where required by the above descriptions.

044 Details of external doors in critical locations are to be stated in the Service Provider's proposals for each new external door when proposed drawings are forwarded to the Client's Representative for approval.

Glazing - General

045 External doors and sidelights must be manufactured so that glazing or re-glazing on site is possible without the need to remove the outer frame from the structure of the building.

046 All glass and insulated glazed units should be carefully examined for damage, especially at the edges, prior to installation. Defective items must not be used.

047 The two panes of glass in the double glazed unit are to be held apart with warm edge technology, spacer bars to improve thermal efficiency and reduce the possibility of condensation forming around the perimeter of the sealed double glazed unit.

048 The glazing of the doors or sidelights must be carried out immediately after the installation of the frames and casements.

049 On completion of external door installations, all glass to be cleaned internally and externally and left clean and free from blemishes.

050 Any glass with scratches cracks or defects to be replaced by the Service Provider at no charge.

051 All external doors and sidelights to be **INTERNALLY GLAZED** in argon filled sealed units in low Emissivity glass, using pre-formed gaskets inserted during the profile extrusion and secured by knock-in PVC-U glazing beads with mitred corners.

All doors/sidelights will be totally dry-glazed with minimum 12mm wide x 3mm thick double-sided PVC foam closed cell high density security glazing tape on the inside frame rebates. Co-extruded EPDM corded glazing gaskets on the frame are acceptable as an alternative provided that bead security clips are used in conjunction with it.

052 Glass shall be at least the minimum thickness to meet wind load requirements of BS 6262 and BS 6375.

053 Glazing beads are to be able to withstand the design wind loading in accordance with BS 6375: Part 1 and the tests specified in BS EN 12211.

054 Fans are not permitted in sealed units.

055 Details of all glass types are to be stated in the Service Provider's proposals for each new external door or sidelight when proposed drawings are forwarded.

Fire rated doors/frames/door-sets – replacement and installation

056 The replacement and/or installation of internal/external fire rated doors, door frames, door-sets and any associated components such as stops, architraves, thresholds, trims, seals, ironmongery and the like must be undertaken only by persons that are properly accredited to do so by having undergone and passed an approved "Fire Door Installation Awareness Course" such as that developed by the British Woodworking Federation (BWF) with the National Open College Network (NOCN), or equivalent.

Certificate of Test Sidelight/doors

057 All manufacturers of sidelight/doors etc. shall be required to have a "sample" submitted for testing at an accredited testing station. These samples must be inspected against the requirements set out above. All manufacturers are required to have "third party" registration provided by BBA, BSI or equivalent recognised accredited quality licensing authority for the manufacture sidelights/doors etc.

058 A copy of the respective Certificate of Compliance for Secure by Design and PAS 24 must be made available at the time of submitting for inspection, which confirmations that the manufacturer can produce the product to the required standards, along with all testing data. The Service Provider should be aware these certificates may form part of the document handover pack and if not supplied on completion and handover of the Work, will incur a financial penalty.

Delivery to site of sidelights/doors etc.,

059 In each option, primary consideration must be given to current health and safety at work legislation in respect of site practices.

Option 1 – Pre-glazed

Will be valid where the external door manufacturer is commissioned on a supply only basis; the installation, therefore, being undertaken by the Service Provider.

Option 2 – Un-glazed

Will be valid where the external door manufacturer is commissioned on a supply and fit arrangement. This will involve the supply of insulating glass units and pre-formed glazing gaskets to be applied on site in accordance with the manufacturer's technical data sheet.

Critical considerations to be observed:

- All glazing must conform to the recommendations contained in the relevant parts BS 6262 – 5 and BS 8000 - 7. The setting and location block positions, frame to glass and bead to glass gaskets etc. with any glass or insulating glass units must be installed in accordance with the relevant manufacturer's technical data sheet and as per the recommendations in BS 6262 – 5;
- All insulating glass units shall be examined for damage prior to installation; defective units shall not be used;
- Insulating units with "low emissivity coatings" shall be oriented in accordance with the manufacturer's technical data sheet; and
- Where safety glazing forms part of an glazing unit, it remains a legal requirement to ensure that the marking remains visible after installation.

Protection, Transportation, Storage & Pre installation check

060 The Service Provider must ensure the manufacturer/supplier is responsible for ensuring that all sidelights/doors are suitably protected to avoid damage during transportation and storage.

061 Sidelights/doors/glazing units (if applicable) shall not be flat-packed, but stood vertically during transportation.

062 Sidelights/doors/glazing units in storage to be "kept apart" preferably with soft packing to reduce risk of transport/handling damage.

063 The Service Provider must ensure that all sidelights/doors stored on site are housed within a secure weatherproof storage facility on-site until the time of fitting. Pre-finished joinery shall not be stored in direct sunlight.

064 Prior to commencement of installation, the Service Provider should undertake the following checks -

- Consult survey sheets and ensure these are correct and clear;
- All survey measurements are recorded;
- The doors/sidelights supplied; are of the correct fenestration and design and in accordance with the external door schedule approved by the Client's Representative;
- The glass type and pattern are correct;
- External door and glass sizes are compatible;
- All trims, gaskets etc., are correct and fitted correctly; and
- Consult survey sheets to ensure external doors supplied are correctly marked and identified to those Properties being replaced.

Site Approval on delivered

065 Previous to the benchmark Properties being set, a sample Pre-Finished, GRP, Aluminium or Timber external door/sidelight shall be delivered to site by the preferred manufacturer/supplier for inspection and acceptance by the Client's Representative.

066 The manufacturer/supplier in providing the sample for acceptance must demonstrate full compliance with the specification requirements. Evidence of thermal efficiency standards being offered must be available to the Client's Representative for verification.

067 The sample external door/sidelight (upon acceptance) will form the "benchmark external door/sidelight" for the remainder of the project.

068 The Client's Representative shall reserve the right (at any stage) to have any external door/sidelight which is delivered to site, subsequently removed for further inspection/audit and/or independent testing to ensure that the specification requirements are being complied with.

Remove and Install on same Day

069 Existing doors to be removed are most likely to be timber in nature, although a small percentage of properties may have original PVC-u external doors and frames. The Service Provider should make every effort to have all existing external doors and frames recycled and provide waste disposal reports to the Client's Representative.

070 Replacement external doors and frames must be installed on the same day that the original external doors and frames are removed in order to maintain security and weather tightness of the structure. The existing door frames should be removed with care in order to avoid damage to the Property structure and its finishes and without permitting any subsidence of the structure during or after the operation.

When providing more than one replacement external door to a single Property the Works should be undertaken on one set day to reduce the amount of disturbance to the Customer.

071 Any defects that become apparent in the integrity of the structure upon removal of any door frame should be reported to the Client's Representative immediately.

072 If there is a sub-sill or threshold, e.g. Concrete, slate, brick or tile, below the existing door frame it must be left in position unless otherwise specified.

Protection of existing fixtures etc.

073 Allow for protection of floor coverings, furniture and Customer's belongings throughout the duration of the Works.

074 The Service Provider is responsible for moving any furniture, fixtures, Customer's belongings and fittings that may be damaged during the installation of the external doors, prior to commencement of the replacement of any external door and repositioning such items upon completion of the installation to each Property.

075 The Service Provider will be responsible for both internal and external protection. After the removal of the existing door, frame and sidelight the Service Provider is to carefully cut back any internal or external flooring, finishings, cladding, wallpaper and decorations to allow for the installation of the new frames etc. The Service Provider is responsible for making good all structures, finishings and decorations up to 100mm from the face of the frame or sill.

076 The Service Provider must ensure that clean and sufficient dust sheets or protective coverings are used, when carrying out any Works. The Service Provider must ensure he has taken all adequate provisions to ensure that the soiling or damage to floor coverings and needless damage to decorations are avoided. The Service Provider must allow for any cleaning of floor coverings required as a consequence of the Works and this should be reflected in the tender Rates submitted.

077 It is recommended the Service Provider undertakes a Schedule of Condition and agrees this with the Customer prior to undertaking any Works. It is therefore considered prudent to take photographs of any damaged Customer's belongings within the vicinity of the Work prior to commencement and, where appropriate, to obtain a signed disclaimer.

Fixings

078 Screws used for fixing non-reinforced PVC-u sections will be of carbon steel with a suitable corrosion protective coating and feature a double helical thread, spoon point with a countersunk head.

079 Fixings must incorporate a combination square/cross recess drive to provide a non-magnetic stick fit.

080 All screws, nuts, bolts and other fastenings must be of corrosion resistant material, or be treated to give corrosion resistant properties. When subject to the acetic acid salt spray test specified in BS EN ISO 9227 for a period of 144 hours, the corrosion resistance of treated mild steel must be equal to or better than that of stainless steel samples subjected to the same test conditions.

081 All ironmongery, fixtures and fittings must be of materials resistant to, or protected against atmospheric corrosion. Metals in contact with each other must be compatible so as to prevent galvanic corrosion of dissimilar metals by electrolytic action.

082 The use of expanding polyurethane foam is not acceptable as a sole method of fixing any door frame into a structural opening, nor is it acceptable to be used as bedding for the door frame.

Fixing to be as recommended by in BS 8213-4 below is a brief summary, actual fixing recommendation should be taken from BS 8213-4 and its example diagrams:

Secured on all sides (where practicable);
Corner fixings – 150 – 250mm from external corner;
Minimum of 2 fixings per reveal;
If head is fixed with expanding polyurethane foam, then head fixings can be – • Frame width up to 1200mm – no fixings • >1200mm to <2400mm – one central fixing • >2400mm to 3600mm – two equally spaced fixings

083 The use of expanding polyurethane foam is permissible in terms of "foam filling" and as a useful addition to mechanical fixings. When the external door is completed and finished there should be no visual evidence of polyurethane foam either internally or externally.

Installation "packers" should be used to set the door frame onto to allow sealant/mastic to be used as a full fill bedding material. The colour should match the door frame finish.

Foam filling is to be used in all external door installations to provide a closure to possible cold bridge of gaps between the wall and the frame. It is only to be used within the depth of the door frame profile i.e. it should not be used to fill gaps to reveals etc. which are to be plastered. Form filling is only in regard to the following situations –

1) To the head of a door frame, where the presence of pre-cast concrete or steel lintels make it impracticable or pose significant difficulties in achieving the recommended fixing distances	Up to 10mm maximum
2) To the sides of door frame to make up expansion/contraction gap left either side as a result of manufactured size of door frame	

Foam filling must be to the full depth of the frame using only an approved fire resistant expanding polyurethane foam complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance.

084 All components should be supplied by a manufacturer complying with BS EN ISO 9001 accredited quality systems. A certificate passing warranty to the Client is to be issued by the hardware manufacturer on completion of the project.

085 Written confirmation of compliance with all of the above should be given to the Client's Representative in advance of commencement on site and will be a condition of the tender.

Fire barriers

086 In all methods of construction it is important to ensure that the cavities between internal and external skins are protected at openings for external doors from the spread of fire. If these openings are not protected, in the event of a fire, smoke and fire can spread through the cavity, causing danger to occupants in other parts of the Property not immediately affected by the fire. This issue is of particular concern in timber and metal framed buildings. Attention is drawn to the Building Regulations in respect of the requirement for suitable fire barriers to be present in such buildings. Guidance is given in BS 9991, BS 9999, and the current Building Regulations Approved Document B.

087 The method of construction should be identified, and where the building is of timber or metal frame construction, the type of cavity barrier should be established. Where the barrier is a cavity sock or similar, and is likely to become dislodged or damaged by the removal of the existing frames, this should be noted on the survey sheet, and instruction given to the installation team to ensure that the cavity barrier is either repaired or replaced to maintain the original level of fire protection for the Property.

NOTE; Timber and metal frame constructions usually have a moisture barrier included in the area around openings, to resist moisture ingress into the cavity that could affect the timber sheathing or metal studwork." (Extract from BS 8213-4)

Making Good

088 The final covering and treatment of surfaces and their intersections are fundamental to the overall replacement of external doors.

The primary objective of making good damaged areas adjacent to the external doors is to maintain the;

- Weather-tightness; and
- Thermal performance characteristics

As required in and around reveals.

089 This protocol described below applies to all external door replacements and shall be undertaken as the primarily aim to negating the need for any redecoration during/after external door installation.

There will be a number of situations (i.e. age of the Property; thickness of plaster reveals; and to some extent "build issues" associated with system-built dwellings) that it may not be possible to observe all or part of this protocol. Therefore more damage may be required to the reveals and/or the door frame wall to undertake the required door frame replacement. This could result in the need for some redecoration. Where this is likely to occur, firstly the Service Provider is required to notify the Client's Representative at Design stage. If however this is not identified until on-site stage the Service Provider must note the Properties affected and alert the Client's Representative before work commences.

Where full plaster reveals are to be undertaken – i.e. Internal and external making good; this may take place on subsequent days, but the whole operation from start to finish of each door frame must not exceed 3 No. consecutive working days.

090 Plaster-Patching - This process will require a small degree of plaster-patching. This will include the following areas -

- All of the reveals immediately adjacent to door frame etc.;
- Part of the reveals where strap / lug fixings have been employed.

Finishing Trims are to be Cellular extruded PVC-UE trims/beads and must conform to BS 7619 and as the below table;

	Internal Reveal (3 sides)	**External Bead (3 sides)**
Single bull-nosed PVC-UE trim typically 5–7mm maximum thickness	✓	
Trim width must not exceed 100mm		
Quadrant / Bead typically 12x12mm or 18x18mm maximum **OR** Single bull-nosed PVC-UE trim typically 5 – 7mm maximum thickness		✓
Trim width must be in range 20 – 25mm maximum		

091 Trims are not to be used to simply provide or enhance the weather tightness of the door frame or any perimeter joints. Finishing trims shall be used to neaten the interface between frames and opening, they are only to be used in conjunction with the "plaster-patching" / making good situations as stated above. All joints must be left 'neat and tidy' with an acceptable tolerance of +/- 2/3mm on all joints/trim abutments and sealed with sealant of matching colour.

092 Internal finishing trims shall be compatible with the Material of the door frame and must be colour-matched

093 External finishing beads/trims shall satisfy the above criteria and be of an exterior quality Material used in accordance with the manufacturer's technical data sheet. External beading is not required where the external reveal has been re-plastered to match existing.

For the avoidance of doubt, door frames should be measured and fitted as described above and beads/trims should only be fitted to the opposite side of the determined cover/overlap. Only in exceptional cases where reveals are determined as flush will internal and external beads/trims be acceptable.

Fixing of Trims/Beads

094 All internal trims shall be secured in every case to a firm backing (junction of frame and reveal) with a low modulus silicon sealant (as below) and sealed all round.

All external beams/trims shall be secured in every case to a firm backing (junction of the frame and plaster reveal) with the low modulus silicon sealant (as below) and sealed all round.

Sealants

095 Sealants must comply with BS EN 11600 and be low modulus grade

096 Perimeter joints externally and internally around the "as installed" door frame shall be sealed with a low modulus silicone sealant and "smoothed" to provide a good seal.
The sealant shall be appropriate to –

- The frame surface and colour;
- Any substrate material;
- The specific joint size and configuration; and
- Potential joint movement and weather exposure.

Implications – Customer's Blinds etc.,

097 The inclusion of a finishing trim to existing reveals and sill may in certain circumstances create an issue around the re-fitting of Customer's blinds etc. The Service Provider shall pay due regard to the existing sidelight dressing(s) and where finishing trims are required that a "slim-line" version (5mm or less) is used.

Repairing damaged prefinished coatings on site

098 Localised repairs to coatings shall be affected by brush application on site using the same coating Material and build-up as the factory application with no discernible difference upon completion. All repairs shall be carried out in accordance with the joinery manufacturer's technical data sheet, by a competent person and to the satisfaction of the manufacturer and Client's Representative to ensure continuance of the warranty.

Cleaning of External Doors

099 The protective tapes shall be removed from the as installed external doors, frames and sidelights immediately or as soon as practicable after installation and the door (frame and glazing) cleaned with a suitable cleaning agent.

Final Completion Checks

100 Upon final completion of each and every external door installation, the Service Provider is to confirm and check the following:-

- All glazing beads are adequately fitted and in good order;
- All hardware functions and locks operate correctly and are not stiff to use;
- All frames and glass are free from cracks, breaks and scratches etc. All frames and glass are cleaned and all internals of frames are swept clean.;
- All openings are square and operate correctly;
- There is no movement to the door;
- All hinges etc. are clean and operate correctly;
- All making good internally and externally are completed; and
- All trims are clean and sealed;

101 Once all the above items are completed, the Service Provider is to demonstrate the operation of the external door to the Customer and provide the Customer with their own operating instructions for the external doors. In addition, the Service Provider is to provide a Customer Satisfaction Card (to be supplied by the Client's Representative) which the Customer is requested to complete and return by free postage to the Client. In due course the Service Provider will be required to provide any means necessary to allow the Customer to sign Satisfaction Card electronically for uploading to the Client's Asset Management software.

Photographic Evidence – Removal/Installation of Sidelights/Doors

102 The Service Provider is required to take digital photographs of each completed sidelight/door installation.

The photograph should clearly show the completed internal reveals and identified by address and room (i.e. this may be done by placing an address and room labelled clipboard against the external door at the time of taking the photograph – ensure clipboard does not block image of door).

103 The photographs should be retained electronically by the Service Provider and if requested provided on an individual basis to the Client i.e. in the event of any Customers making a claim against the Client.

104 The Service Provider should note that the Client's Representative will from time to time ask for evidence of these photographs and how and where they are stored. The Service Provider is required to retain these images for at least 6 years after the Date of Completion (in accordance with the Client's Retention of Documents Policy and legal timeframe for a Customer to make a claim).

Client's current manufacturers/suppliers/products

105 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT EXTERNAL, COMMUNAL AND FLAT ENTRANCE DOORS – GENERAL [MIDDLE TIER]

REPLACEMENT EXTERNAL, COMMUNAL AND FLAT ENTRANCE DOORS - GENERAL

Secured by Design:

001 This section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' section, which provides details of surveying, sampling, installation, finishing etc. - generally as BS 8213-4 (Windows and Doors – Code of Practice for the survey and installation of windows and external door-sets).

All new external doors must meet the requirements of "Secured by Design" (SBD) certification. External Doors; PAS 24 Doors of Enhanced Security

002 All new external doors complete with frames and factory installed double glazing must be high performance proprietary door sets supplied by a certified SBD manufacturer. Fire doors must have additional testing certification in accordance with BS 476-22 or BS EN 1634 and BS 8214.

003 These may be PVC-u, timber or timber/steel faced, composite door sets complete with a Secured by Design approved locking mechanism.

004 PVC-u external doors, timber composite or steel faced composite doors are suitable for areas where high security or severe exposure rating requires greater durability and a multi point locking mechanism.

005 Sample doors complete with proposed locking mechanisms are to be supplied for the approval of the Client's Representative.

Door Sets

006 The Door sets must meet the performance standards set out in this Specification. The Service Provider must provide to the Client's Representative a copy of the Secure by Design certificate and PAS 24 test certificate along with the list of door components/ironmongery as supplied by a UKAS test house prior to commencement of the Contract.

The door-sets supplied must be to exactly the same specification as those tested.

All timber doors to be to the Client's schedule of standard external doors.

REF	DOOR TYPE
SE.1SG	Single, small, glazed top panel.
3P.1SG/2SP	Three panel door, top panel double glazed with safety glass, two bottom panels with solid hardwood panels
4P.2SG/2SP	Four panel door, top two panels double glazed with safety glass, two bottom panels with solid hardwood panels
5P.2SG/3SP	Five panel door, top two panels double glazed with safety glass, three bottom panels with solid hardwood panels
6P.2SG/4SP	Six panel door, top two panels double glazed with safety glass, two middle and two bottom panels with solid hardwood panels
6P.6SP	Six panel door, top two panels, two middle and two bottom panels all with solid hardwood panels
FL.1SG	Flush door with 1 single panel of double glazed safety glass
LBS	Ledged, braced and sheeted door
FLBS	Framed, ledged, braced and sheeted door

[Amend ref. nos. as appropriate]

Each door-set shall have the name of the manufacturer and date of manufacture clearly stated on one rebate by means of a discrete permanent label to aid future traceability if required.

007 The fitting tolerance must be plus or minus 5mm, it is the Service Provider's responsibility to take all site dimensions for pricing purposes and for fitting purposes.

008 Door sets which are deemed to be outside the fitting tolerances must be remade at no further expenses to the Client.

009 Where existing door sets are removed, the new assembly must be installed and left in full working order before the end of the same day.

010 The manufacturer of the door sets must be stated on the Service Provider's tender and a guarantee must be supplied indicating the life of the components.

011 Door Frames are to be fitted with weather seals of low density cellular core encased in low friction liner which are capable of taking up reasonable seasonal movement in all temperatures and returning to original profile. The weather seals shall be inserted into a plough within the door frame rebate while being **fitted in one piece with lower ends extending to bottom of trapper bar**.

Door Frames to be either:

- white reinforced PVC-u to BS 7412 and BS EN 12608; or
- hardwood complying with BS EN 942 (density range 650-725 kg/m cu) with factory applied coating to match door.

Level Access Thresholds

012 All external door sets (main and secondary entrances including doors leading onto a patio) must have level access thresholds (max 15mm high threshold).

Weather bar should be capable of renewal in-situ i.e. without the need to remove the door frame. The weather bar unit shall have a performance rating to comply with BS 6375.

Door Performance Requirements

013 All the external doors must meet the following minimum performance criteria for weather resistance as defined in BS 6375-1 -Classification for Weather tightness.

Air Permeability	Test Pressure Class 300 Pa Test Method BS EN 1026
Water Tightness	Test Pressure Class 200 Pa Test Method BS EN 1027
Wind Resistance	Test Pressure 2000 Pa Test Method BS EN 12211

014 All doors must be completely draught free when closed. The doors are to meet the **Severe Exposure Rating** category

Side Lights to Living Room External Doors

015 If the glazed opening door is in a living room, the sole means of natural daylight and ventilation must not be from that door.

016 Additional opening side light windows with trickle ventilators and security restriction, must be provided in order to allow ventilation to the room without opening the door all year round.

Double Glazing

017 All double glazing to any external doors and their associated side lights (or, within 400mm of the door lock) must be have at least one pane of laminated glass to comply with Secured by Design.

018 Door and side light glazing must be 24 mm hermetically sealed double glazing units manufactured with laminated glass.

- Front door to be in small panels and be obscured.
- Front door must incorporate facilities to view callers
- Glazing to rear doors to be clear

Door Frames

019 Door Frames to door handle relationship to allow for a min of 50mm from the frame edge to the lever handle. Lock back-set to accommodate this dimension.

020 All frames must have a factory fitted removable weather-strip to frames and weather-strip to the bottom edge of doors.

021 Door frame set back must be 65 mm minimum reveal to external face of wall.

022 New lintels to windows and external doors must be insulated galvanised steel to BS EN 845-2 manufactured by an approved manufacturer and have an Agrément Certificate. End bearings must be a minimum of 150 mm.

023 All external door frames are to have mastic pointing provided all around. Such mastic pointing must be specified to be applied strictly in accordance with the manufacturer's technical data sheet and good practice. The Client has a preference for two part polysulphide mastics in areas that are vulnerable to vandalism.

Door Ironmongery

024 Ironmongery must be provided in full compliance with "Secured by Design". Handles and locks must be easy grip type suitable for use by disabled persons.

025 **The requirements of Secured by Design (SBD) and the approved and tested locking mechanism of the selected SBD Door Licence Holder may override this section.**

026 All external doors must be hung on 3 no stainless steel grade SS202 or coated zinc alloy patent hinges (having stainless steel) pins butt hinges.

Non-adjustable hinges to be fitted to flush doors.

Rebated door set hinges to incorporate lateral adjustment.

Fire door hinges must be CE Marked and tested to BS 476-22 or BS 1634-1. Hinges shall have high corrosion resistance, greater than BS EN 1670 grade 4.

A minimum of 2 no hinge bolts must be fitted to all external access doors providing hinge side enhanced security to PAS 24.

027 Doors to have multi-point lever handle security locking mechanism meeting BS 3261 and tested to PAS 24 and to comply with (and stamped) Secured by Design. Front doors to be provided with a security chain.

028 Multi-point locking espagnolette system to be provided

029 Cylinder and Keys: All cylinders to be nickel plated on brass finish. Cylinders should have a large thumb turn to suit the elderly. All cylinders to be double profile and a minimum five pin tumblers, 1000 differs, anti-bump flush. Minimum of 3 keys supplied with each cylinder.

030 Doors generally fitted with level handles operational both sides of door.

031 Pull Handles and Push Plates: To be provided only where elements of communal accommodation occur.

032 Pull handles must be 230mm x 19mm dia. bolt through fixed and nylon or plastic coated finish. Push plates to be 300 x75 x 1.5mm drilled and countersunk fixed, finishes to match the Pull Handles.

033 Letter Plates: Front doors to Properties are to have a telescopic letter plate with external flap (finish to match door ironmongery) and an inward sprung flap, on the inside of the door.

034 Letter Plates must be draught and fire proofed internally and have a finger hood to prevent access to door locks (minimum distance from door locks 400 mm).

035 Intumescent Liners and Smoke Stopping must be provided to fire doors.

036 Internal flat entrance door off communal corridors must have a fire and acoustic rated letter plate with integral intumescent liners and a smoke stopped internal letter flap. Fire tested to satisfy the requirements of BS 476:22. Acoustic tested to satisfy the requirements of BS EN ISO 10140:1 to 5 to 29db/Rw.

037 Door numerals must be provided to the front entrance door of each Property.

038 Door Stops: All doors are to be provided with floor, wall or skirting mounted rubber stops on a nylon or plastic coated shoe where appropriate to prevent damage to walls or plaster.

039 Door Closers**:** Where required, all self-closing fire doors should have size 2 - 6 adjustable strength and back check function overhead closers.

040 Concealed door closers and hush latches may be used in individual Properties and flats if approved by Building Control.

041 Closers to Frail Elderly flats must be the 'swing-free' type operated by the activation of the fire alarm.

042 Cabling and transformers must be provided to all wheelchair Property external entrance doors for the future installation of 'power operated' door closers.

043 All overhead closers must carry a 10 year guarantee to BS EN 1154.

044 Door Viewer: Front doors to Flats should have a 180 degree chrome plated door viewer fitted at:

- 1500mm above finished floor level for accessible dwellings
- 1050mm above finished floor level for Wheelchair Units

045 Door Bolts: Bolts to double doors, french windows and the like, should be of brass material satin chrome or satin nickel plated. Flush blots should be fixed in the leading edge of the second opening leaf of a pair of doors with a flat plate at the head and an easy clean socket in the floor.

046 Kick Plates: To be provided only where elements of communal accommodation occur.

047 Provide 450mm high coloured plastic kick plates to match the ironmongery on the push side of internal doors in communal and circulation areas and to all flat entrance doors on the corridor side. Flat entrance door kick plate to achieve fire resistance of door set.

048 Wall Protection: For internal communal areas only

049 Provide flame retardant corner protection to all external wall angles to a height of 1000mm using proprietary PVC-u corner protectors.

Composite Doors -Generally

050 It is intended to renew main front doors and frames on all single family Property houses with composite doors installed by the PRP or Pre-finished Timber manufacturer/contractor.

Doors -Generally

051 Generally all front doors to be styled with upper panels double glazed with laminated safety glass sealed units.

Generally all rear doors to be panel door style with upper panel double glazed with laminated safety glass sealed units.

052 Customers to be given the option of cat flaps to be installed to lower panels of rear door.

053 Doors within Conservation Areas will be renewed with a pre-finished timber door

Composite Front Doors to Houses not within Conservation Areas

054 Style and choice of front doors is to be agreed with Customer and Client's Representative on each individual project. The Service Provider is to provide each Customer with a sheet listing and showing the style of doors available and five colours available, and the Customer is to choose and sign the list as to which door they wish, and copy of the signed sheets to be forward to Client's Representative. Door colour should be either be translucent coatings or from a manufacturer's heritage range. Due to on-site issues with expansion etc., dark coloured doors should be avoided.

055 All existing door bells are to be re-fixed

056 Where fanlights are above the doors, the fanlights and frames are to be included as part of the renewal.

057 All glazing doors to be double glazed laminated safety glass sealed obscure units unless otherwise Instructed.

058 All doors to have brass numbers on the outside and brass draught-proof letter boxes.

059 All doors to have brass multipoint lever handles.

060 All doors and locks to meet Secure by Design British Standard and tested to PAS 24 Standard.

Timber Front Doors to Conservation Areas

061 All statutory consents and permissions required to complete the Work to be obtained and/or checks to be made to ensure these are in place before ordering Materials and commencing Corks.

062 All new timber front doors where requested are to be purpose made pre-primed minimum 44mm thick softwood doors, with hardwood painted frame.

063 It is anticipated that most doors will be 4 panel with 2 No. upper panels to be double glazed laminated safety glass sealed obscure units, and 2 No. lower panels to be mouldings to match existing.

064 Brass numbers and brass draught-proof letter boxes are to be as Clause 060 above.

065 All doors to have brass mortice night latch and separate 5 lever deadlocks with finger turn snib internally.

066 Where fanlights are above the doors, the fanlights and frames are to be included as part of the renewal.

Installation

067 The Service Provider is responsible for surveys and installation of the doors at the same time as the windows installations.

068 The Service Provider will be responsible for ensuring the correct installation of each door-set.

069 The door-set shall be placed on a concrete threshold and beeded on a low Modulus Silcon, minimum depth of bed 2mm, maximum depth of bed 4mm. All door-sets shall be installed using heavy duty galvanised perforated metal straps at 150mm from corners and maximum 600mm centres between these fixings.

070 Door-sets may also be fixed using through frame fixings provided that the existing reveals are sound.

Fixings shall be properly countersunk, plugged and head of plug coated to match frame. Split frames (i.e. PVC-u frames) as a result of bad fitting workmanship shall not be accepted and may result in the door-set being entirely replaced at no extra cost to the Client.

071 Expanding polyurethane foam must not be used as a sole method of fixing.

Timber Architraves and Sills

072 To every new timber door and door frame, carefully remove all existing internal architraves and replace to match existing in pre-primed ogee or similar timber, with mitred joints to architraves. All timbers to be finished in gloss paint.

073 All gaps to walls or gaps to joints are to be sealed prior to decorations.

Painting of Timber Sundries

074 To all new timber sill boards, pre-prime, architraves and sill boards before fixing, and then once installed, rub down, fill as necessary and paint 2 No. coats white undercoat and 1 No. gloss white paint, rubbing down between all coats.

075 Include to repaint existing external concrete sills and thresholds externally to the doors and touch up any painted stonework or render around the door frame to match existing, as disturbed during the renewal Works.

Client's current manufacturers/suppliers/products

076 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

GRP EXTERNAL DOOR-SETS AND SCREENS
[LOWER TIER – Client to delete if not applicable]

Specification – Folkestone & Hythe District Council – Fire Safety Works

GRP ENTRANCE DOOR-SETS AND SCREENS

General

001 This section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' and 'Replacement External Doors – General'.

002 This Specification is intended to describe the performance criteria to be obtained for the manufacture, supply and installation of inward opening GRP doors and frames and associated PVC-u windows. Service Provider's must ensure that their proposed system completely satisfies all the relevant standards detailed.

003 This Specification is applicable to ALL Properties and the Service Provider's price must cover the location of all Properties and doors being renewed. Generally Properties will be occupied during the course of the Works.

004 This Specification describes works in detail however not all items of work will be applicable to each Property, nor is work referred to exhaustive. All doors, frames, fanlights and sidelights must pass testing to PAS 24 and must be "Secured By Design" certified. All certification documents are to be forwarded to the Client's Representative and kept updated – this must include the test certificate, report and list of tested ironmongery with product manufacturer's names, types etc. Evidence of compliance with PAS 24 (Specification for Enhanced security requirements for door-sets and windows in the UK) will be a condition of acceptance of completion.

All doors must achieve Building Control standard of Maximum U-Value = 1.8W/m^2K.

005 Only products defined herein shall be used; alternative products will not be acceptable unless agreed with Client's Representative.

Stiles and rails to be engineered timber edge bonded with 1.5mm or high strength engineered double plastic composite. Skins to be GRP transfer moulded and U.V. stable, thickness of skin is determined by the door manufacture and as a result of PAS 24 testing. Bonding agent is to be moisture cure polyurethane adhesive with core of 39mm CFC free fire resistant rigid foam insulation with the correct fire performance rating to comply with the Building Regulations.

Door glazing to be double glazed laminated glass fitted in separate glazing cassette mechanically fixed to sub-frame and internally beaded.

006 The Service Provider is to arrange access with the Customer to carry out a pre-manufacture site survey as recommended by the British Plastics Federation Code of Practice for the Survey of PVC-u Window sets, current edition. This survey will include the provision of a pro-forma questionnaire offering the available options from which the Customers can choose.

The visit will include:

- consulting with the Customer about choices,
- taking measurements sufficient to prepare scale drawings
- scheduling Customer fittings and their condition
- any other site condition that may affect installation

007 Customers are to be given a choice of 5 front door types as table below.

REF	DOOR TYPE
SE.1SG	Single, small, glazed top panel
3P.1SG/2SP	Three panel door, top panel double glazed with safety glass, two bottom panels with solid panels
4P.2SG/2SP	Four panel door, top two panels double glazed with safety glass, two bottom panels with solid panels
5P.2SG/3SP	Five panel door, top two panels double glazed with safety glass, three bottom panels with solid panels
6P.2SG/4SP	Six panel door, top two panels double glazed with safety glass, two middle and two bottom panels with solid panels
6P.6SP	Six panel door, top two panels, two middle and two bottom panels all with solid panels

[Amend ref. nos. as appropriate]

Other choice options are to be:

Element	**Location**	**Options**
Colour	Front/Rear Door	White (RAL 9003)
		Blue (RAL 5004)
		Red (RAL 3002)
		Green (RAL 6009)
Glazing	Front	Obscure - Cotswold
	Rear	Clear only
Ironmongery	Front/Rear	Gold/brass
Surface Finish	Front/Rear	Wood grain effect

008 All screen/door styles must be in accordance with modern casement design where possible, allowing for exceptions where fire egress casements are necessary. Unusual aesthetic arrangements are to be referred to the Client's Representative for decision.

009 All component parts are to be British Standard "Kite marked", or BBA approved or equivalent, verification of which to be supplied on request by the Client's Representative.

010 PAS 24 certification from the Manufacturer and Service Provider must be provided to the Client's Representative before manufacture.

011 The sidelight/screen types are to be as existing in respect of configuration and opening lights. However, sidelight/screens in conservation areas, areas of outstanding natural beauty or historic buildings must be discussed with the Client's Representative for likely planning approval issues.

012 Design drawings are to be prepared by the Service Provider prior to manufacture. A copy is to be supplied to the Client's Representative before manufacture commences.

013 The Service Provider will be required to carry out a pilot installation prior to full commencement of the Work, to ascertain the correct provision and detailing of the installation.

Programme and Security

014 In the case of numerous installations a programme for the Works is to be prepared by the Service Provider and agreed by the Client's Representative, before Work commences.

015 Provide 14 days' notice, and agree the timing of the Works with each Customer. When undertaking Works they need to be carried out as quickly as possible, in order to reinstate all facilities as soon as is possible. Full security, wind and weather tightness must be provided at the end of each working day in each occupied Property to suit the Customer's/Client's needs.

016 The installation of a door and frame, fanlights and sidelights must be carried out in one continuous operation within the working day. The security, wind and weather tightness of the Property must not be compromised at any time.

017 All making good of the structure and fabric must be carried out within one working day following the installation of the door etc., Any making good will not be left outstanding over weekends without the permission of the Customers and the Client's Representative.

018 The Client's Representative is also to be notified of the proposed commencement and completion dates, and proposed date for completion inspection once all the Works are completely finished including any snagging by the Service Provider.

019 The Service Provider is to agree a maximum number of Properties to be worked on at any one time before the Works programme begins (to suit number of Properties/Contract Period available).

020 A Property must be 100% complete prior to commencing on further Properties above the agreed maximum and each completed Property must be signed off by the Customer and the Client's Representative.

Protection

021 Allow for protection of floor coverings, furniture and Customers belongings throughout the duration of the Works. Include for moving furniture, Customers belongings and everything necessary in order to carry out the Works and minimise disturbance to the Customers as far as possible. On completion of the Works place all previously moved furniture and belongings in locations agreed with the Customers. Dust sheets must be used at all times during the Works to prevent any damage.

022 The Service Provider will be responsible to any damage to carpets or Customers belongings therefore it is recommended the Service Provider undertakes a schedule of condition and agree this with the Customer prior to undertaking any Works. It is therefore considered prudent, to take photographs of any damaged Customer's belongings within the vicinity of the Work prior to commencement, and where appropriate to obtain a signed disclaimer.

Stripping Out

023 Carefully remove existing doors, frames, sills, fanlights, sidelights and all associated fixings and prepare existing openings to receive the new installation. Dispose of all unwanted material and recycle were possible.

024 Take care to carefully remove remaining Customer fixtures and store to one side for reinstalling and refix on completion.

025 Carefully remove coatings, panelling, tiles or sheeting of any kind from adjacent walls and ceilings generally back to the plastered surfaces. Make good, repair or replaster to receive new fittings, tiles and decoration.

026 After the removal of the existing door, frame, sill, fanlight and sidelight the Service Provider is to carefully cut back any internal or external flooring, finishing's, cladding, wallpaper and decorations to allow for the installation of the new frames etc. The Service Provider is responsible for making good all structures, finishing's and decorations up to 100mm from the face of the frame or sill.

Replacement Doors - General

027 The Service Provider must ensure that all door-sets and their installation fully satisfy the relevant standards detailed.

028 Manufacture, fabrication and installation should be suitable in all respects for: Low Rise Domestic Structures

029 **Important Note:** Dimensions, if shown, are for guidance only and the Service Provider is responsible for taking all necessary site dimensions to ensure that door-sets are manufactured to fit accurately and properly.

030 No frame extensions or make up pieces are to be used to compensate for incorrectly measured openings.

031 Fire doors are to have been tested (at a UKAS accredited test facility) to BS 476-22 or BS EN 1634 and BS 8214. Fire doors are to have achieved fire resistance integrity in excess of 30 minutes and a door-set classification of FD30S. On completion of installation, the Client's Representative is to be furnished with 2 copies of all documents within clause 032 of the Fire Door–Sets section. Fire door to be individually referenced, marked and tagged by the fire door manufacture, whereby they are keep records of all fire doors supplied and present monthly updates to the Client's Representative with the monthly reports.

Construction of Door and Frame

032 Door leafs shall be constructed with minimum 4mm high gloss through coloured external Skins, manufactured from gel coat to BS 3532, coloured to BS 5252, and one layer of 300gm chopped strand matt and 2 layers of 450gm chopped strand matt to BS EN 14118, fully saturated with high heat distortion isophthalic / DCPD polyester resin conforming to BS 3532 type C. Skins shall fully encapsulate a jointed timber frame manufactured from prepared material kiln dried to BS 4978, and resin laminated CFC free fire resistant rigid polyurethane foam core. The above may be over ruled/enhanced by testing to PAS24 (and fire testing, as above, in the case of fire doors).

033 Door frames shall be of moulded GRP manufacture generally to the same specification as the door leaf and have a non-staining EPDM compression seal gasket and secondary angled blade neoprene stop seal;

034 Door sills, where required for non-wheelchair required access, shall be of moulded GRP manufacture generally to the same specification as the door leaf. They shall be 50mm in height, 150mm in width and designed to accept an approved threshold.

Threshold to Front Doors

035 All external door sets (Main and Secondary Entrances including Doors leading onto a patio) must have level access thresholds (max 15mm high threshold) and a minimum clear opening width of 800mm between the blade and the stop, irrespective of the type of accommodation in order to meet the requirements of Lifetime Homes.

Weather bar should be capable of renewal in-situ – i.e. without the need to remove the door frame. The weather bar unit shall have a performance rating to comply with BS 6375.

Glazing

036 All glazing apertures are to be internally beaded with the double glazed units securely fixed using mechanical means.

037 All doors, fan lights and/or side lights shall be glazed with dual sealed double glazing units with at least one pane of laminated glass to comply with Secured by Design. Safety glass shall comply with BS EN 12600 and BS 6262

Ironmongery

038 Ironmongery must be provided in full compliance with "Secured by Design", Handles and locks must be easy grip type suitable for use by disabled persons.

039 Two door viewers must be provided to all front doors at heights of 1500 and 1050 mm from finished floor level.

040 All external doors must be hung on 1½ pairs of heavy duty butt hinges. Fire door hinges must be CE Marked and tested to BS 476:22 or BS 1634. Hinges shall have high corrosion resistance, greater than BS EN 1670 grade 4.

041 Multi-point locks tested to PAS 24 and to comply with (and stamped) Secured by Design. Front doors to be provided with a security chain.

042 All hardware, where attached to the door-set, shall be fixed with stainless steel screws fully penetrating the timber sub frame. For all installations use screws not rivets and employ maximum retention. Do not over tighten fixings.

043 Allow for fitting of D type handle to internal face of door where identified. Position to be agreed with manufacturer.

Installation of Door-sets

044 The door-sets are to be fixed strictly in accordance with the manufacturer's technical data sheet. Care shall be taken to ensure the doors are handled and stored correctly. Frames are to be packed and wedged into the correct position to ensure a square and flat fit before fixing to the reveals.

045 The door-set is to be fixed with a minimum of eight M10 x 140mm proprietary frame fixings, direct through frame and finished with colour coded plastic not easy removed cover caps.

046 Door frame should be sealed to reveal with low modulus silicone sealant, colour matched to the door frame and neatly executed. A suitable bull nosed cover trim should be used to improve the aesthetic appearance of the joint.

047 All protective coverings on door-sets shall be removed on installation. Removal and cleaning of the frames and doors is the responsibility of the Service Provider.

Sidelights and Fanlights

Profile Manufacture

048 All sidelights, fanlights, door frames etc., profiles are to be obtained from the same approved system manufacturer.

049 All manufacturers must confirm as being registered as either having BS 7412 or BBA (or equivalent) independently. Evidence to be supplied. All manufacturers will be required to have membership of either, the GGF or BPF, evidence to be supplied.

050 The sidelights, fanlights, door frames etc., will be manufactured in accordance with current manuals for GRP sidelights and door frames. The profile will be manufactured to BS EN 12608. Cadmium based stabilisers, and re -work material used in manufacture will not be accepted. The profile will be vent profile manufactured with a euro- groove. All profiles are to be chamfered.

Construction

051 All sidelights, fanlights, door frames etc., shall be of all welded construction. All corner joints, transoms and mullions are to be mitred, and fusion welded. All excess materials are to be neatly trimmed and feature grooved. Mechanically jointed transoms may be considered where there are specific design constraints, but only after approval from the Client's Representative. All feature grooves should be straight and of consistent depth throughout their length.

052 Each sidelight, fanlight, door frame etc., shall be permanently marked in an unobtrusive position (not visible when the opening light is closed) with BS 7412, the weather tightness exposure category and the name or trade mark of the manufacturer.

053 Reinforcement is to be continuous to a minimum of 85% of the length of the frame, and within 5mm of the weld. Screw fixed to the profile at 250 mm max c/c, with a minimum of three fixings. All reinforcement to be to the profile manufacturer's current recommended parameters in either aluminium or galvanised steel.

054 All sidelights, fanlights, door frames etc., will be constructed with the profile manufacturer's current guide lines for pressure equalisation. Face drainage is to be provided, however drainage slots should be a minimum 30mm long and 5mm wide. Internal drainage slots should be offset by a minimum of 50mm from external slots.

055 The sidelights, fanlights, door frames etc., are to be internally beaded as recommended in the current profile manufacturer's manual, and be capable of accepting 24mm hermetically sealed "low emmissivity" glass units.

Installation

056 The correct installation of GRP sidelights and door frames is critical to achieve maximum performance.

Installation shall at all times meet the requirements of BPF/GGF code of practice for the survey and installation of white high impact modified windows (Ref: COP3, parts A&B). The requirement for through frame fixing, cleat fixing and the need for frame extensions will be discussed at appropriate times. The Service Provider should draw these details to the Client's Representative's attention.

057 All sidelights etc., are to be glazed from the inside of the building. Glazing systems shall be designed so that the glass cannot be removed from the outside by the use of a thin blade or other simple tool or tools.

058 All fasteners used for the installation of GRP door frames, sidelights etc and doors, must meet the following specification:-

- Fastener is to be a nylon through frame type with twist proof vanes to ensure mechanical stability and prevent anchor rotation;
- To ensure stress free attachment to the masonry structure and to prevent twisting, racking or distortion of the frame, the anchor body will expand radially along its full length during installation. Fasteners relying on a cone and expanding sleeve are not acceptable due to the increased risk of frame distortion;
- The fastener when installed will be fully concealed within the frame to ensure that the fastener remains tamper proof and secure;
- Maximum distances between fasteners will not be more than 600mm and the minimum distance of fasteners from frame corners, transom or mullion joints will be 150mm; and

059 The Service Provider is to ensure the final securing of fixings are screw tightened (not hammered) to avoid possible splitting of the frame. Any splitting of frames will result in the entire door set having to be removed, re-framed and replaced at the no extra expense to the Client.

Glazing

060 Glazing should be to Building Regulations Approved Document N and to BS 6262, and BS 8000-7. In addition manufacturer's recommendations for positioning of glazing blocks and packers must be adhered to.

061 Glass to all screens and windows will be hermetically sealed double glazed low emissivity units to BS 952-1 and BS 952-2, units to be fitted in accordance with manufacturer's technical data sheet. Glass to be marked with appropriate labelling which will only be removed after handover is completed.

062 Double glazed units are to be manufactured to the following specification 4mm Float Glass - 20mm Argon Gas fill - 4mm low emmissivity glass overall thickness 28mm. Glass thickness and type shall be selected using the recommendations given in BS 6262 to withstand the calculated design wind pressure relative to the size of pane.

063 All glazing to screens and adjacent windows must have at least one pane of laminated safety glass to BS EN 12600 and marked accordingly. Safety glass shall be fitted where required in accordance with Building Regulations Approved Document N.

064 If any panels have any fixtures/fitting etc. attached, they are to contain a ply reinforcement.

065 Obscure glass to be Cotswold pattern or an obscure pattern of level 5 as a minimum.

Hardware Specification for Fanlights and Sidelights

066 Openings in the fanlights/sidelights should in the first instance be avoided, as it presents a higher risk of unauthorised door entry. However it may be deemed necessary to provide the room/inner space with an adequate amount of ventilation (see Building Regulations). In these instances all ironmongery must be as window specification detailed elsewhere. In addition restrictors must be concealed and tamper-proof from outside the property.

067 The fanlight/sidelight hardware package must meet the requirements of PAS 24 "Enhanced security performance requirements for door-sets and windows in the UK. External door-sets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk"

Insulated Panels

068 On full floor to head height frames, lower panels will be coloured insulated panels to match door panelling. Therefore, the panel's overall thickness and Materials to be used will be determined by the doors PAS 24 certification. All panels will achieve a min thermal resistance equal to or better than the glazed area above.

069 All panels to be manufactured to meet all relevant Building Regulations and safety standards with regard to thermal performance, acoustic transmission, and fire protection

Covers, Trims and Mouldings

070 Unless otherwise Instructed all internal heads, jambs, and sills will be finished with a (colour as windows) single bull-nosed PVC-u trim typically 5–7mm maximum thickness of not greater width than 100mm. Scribed, mitred, securely screwed and capped and the edge glued to the frame with a PVC-u cyanoacrylate adhesive to give a neat finish and sealed on all edges using an emulsion acrylic sealant.

071 All PVC-U extrusions, mouldings, trims and profiles to windows will be manufactured and installed so that no colour variation exists to the detriment of the aesthetic value of the windows, doors etc. In accordance with colour fastness test methods included in BS EN 12608.

072 Trims are not to be used to simply provide or enhance the weather tightness of the window or any perimeter joints. Finishing trims shall be used to neaten the interface between frames and opening, they are only to be used in conjunction with the "plaster-patching" / making good situations. As it is likely that cold bridging may occur, filling at reveals, heads and sills must be plastered prior to fitting of all trims.

073 The inclusion of a finishing trim to existing reveals and sill may in certain circumstances create an issue around the re-fitting of Customer's blinds etc. The window installer shall pay due regard to the existing window dressing(s) and where finishing trims are required that a "slim-line" version (5mm or less) is used.

Sealants and Perimeter Pointing

074 All external sealants are to be of low modulus silicone and conform to BS 11600 and used to seal gaps between window/door assembly and brickwork/plasterwork. Colour matched to windows and neatly executed.

075 Internal sealant to be a one part flexible emulsion acrylic sealant. This sealant may be used to fill cracks or gaps around walls and ceilings, and around all finished PVC-u architraves and trims.

Ventilation

076 All openings to be fitted with room ventilation as per window specification detailed elsewhere.

077 If required the Service Provider is to supply and fit a ventilator, which will conform to Gas regulations BS 5440-2, for air supply to gas appliances. This applies to any room containing, or used to vent these types of appliances. Type position and quantity of ventilators to be agreed and verified with the Client's Representative prior to work commencing.

078 An appropriate "**DO NOT OBSTRUCT"** label approved by the Client's Representative indicating boiler rating, must be fitted to all gas ventilators by the manufacturer.

Completion

079 On completion of all Works thoroughly clean all adjacent surfaces affected by the Works.

080 All builders rubbish both internally and externally must be removed during and on completion of the Works.

Client's current manufacturers/suppliers/products

081 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

FIRE DOOR-SETS
[LOWER TIER – Client to delete if not applicable]

FIRE DOOR-SETS

GENERAL REQUIREMENTS ON FIRE DOOR-SETS

Scheme Type	Door Replacement	Colours/Choices
Internal Flat Entrance door-sets	Timber Veneer flush faced FD30s/FD60s door-set in accordance with Fire Safety Regulations 2017 and BS 476 Part 22 Door thickness 44mm and 54mm	Colours to be chosen by Client's Representative and Customers. *Locking system – Client's Representative will Instruct whether to retain the existing *locking system or to replace with a new locking system
Internal Communal door-sets	Timber Veneer FD30s/FD60s door-set in accordance with Fire Safety Regulations 2017 and BS 476 Part 22	Colours to be chosen by Client's Representative and Customers. *Locking system – Client's Representative will Instruct whether to retain the existing *locking system or to replace with a new locking system
Internal Cupboard door-sets	Timber Veneer FD30s/FD60s door-set in accordance with Fire Safety Regulations 2017 and BS 476 Part 22	Colours to be chosen by Client's Representative and Customers. **All new doors MUST match all other existing or proposed new doors throughout the scheme.** Client's Representative will Instruct whether to retain the existing *locking system or to replace with a new locking system
External Flat Entrance door-sets	Composite FD30s/FD60s door-set in accordance with Fire Safety Regulations 2017 and BS 476 Part 22	Colours to be chosen by Client's Representative and Customers. *Locking system – Client's Representative will Instruct whether to retain the existing *locking system or to replace with a new locking system
Combination of Internal & External Flat door-sets	Composite FD30s/FD60s door-set in accordance with Fire Safety Regulations 2017 and BS 476 Part 22	Colours to be chosen by Client's Representative and Customers. *Locking system – Client's Representative will Instruct whether to retain the existing *locking system or to replace with a new locking system

Internal Flat Entrance Door-sets

001 Timber veneer FD30s/FD60s door-set, set within timber or aluminium frames in accordance with Fire Safety Regulations 2017 and BS 476-22 to provide fire resistance ratings of 30 minutes (or better) and 60 minutes (or better) when tested in accordance with BS476-22 or BS EN 1634-1.

All Materials to have achieved Certifire certification to 30/60 minutes fire resistance, or to have been tested in accordance with the appropriate section of BS 476 and all door components must comply with Approved Document B of the Building Regulations. All to be installed in strict accordance with manufacturer's technical data sheet with certificate obtained by the Service Provider at practical completion.

002 Please note: If the existing doors are glazed, the Service Provider must conduct a survey with the Customers to see whether they wish to retain the glazing or have replacement solid doors. Where possible, the Client would like to prevent glass from being installed due to security risks, fire safety and thermal efficiencies.

003 All doors must include the following elements (if not included with the door-set):

Combine 15 x 4mm intumescent /brush smoke seals to both side edges and top edge of door leaf Successfully tested for fire and smoke performance in accordance with both BS 476 Pt 20/22 and also BS EN 1634-1.
Overhead door closing mechanism affixed to the **external** side of the door in accordance with BS EN 1154.
75mm/3" Eurospec Fire rated door numerals in satin anodised aluminium finish.
Average size 285mm x 55mm fire and smoke resistant letter plate with Telescopic intumescent liner and Nylon brush seals fitted to prevent vision through the letterplate and provide draught proofing, complete with a security cowl is available to prevent vision through the letterplate when open, and to inhibit manipulation of locks and bolts. In accordance with BS 9999 and Approved Document B of the Building Regulations.
Complete viewing angle 60 degrees fire rated door viewer with a prism system that allows viewing from up to 2m away. Fire protection is provided by intumescent strip and suitable for 35mm - 62mm thickness doors. One per door, Two to be provided for wheelchair users.
1½ pairs Eurospec Grade 13 ball bearing fire rated hinges manufactured from 304 grade stainless steel, CE marked, designed and tested for 44mm doors.
Locking assembly and door handle ironmongery – Thumb turn on the internal face.
Fire Safety Signage to comply with BS 5499-2 Fire safety signs, notices and graphic symbols and the Health and Safety (Safety Signs and Signals) Regulations 1996 and where applicable conform to EN ISO 7010.

Communal Internal Door-sets

004 Timber veneer FD30s/FD60s door-set with clear fire resisting glazing panels set within timber or aluminium frames in accordance with Fire Safety Regulations 2017 and BS 476-22 to provide fire resistance ratings of 30 minutes (or better) and 60 minutes (or better) when tested in accordance with BS476-22 or BS EN 1634-1.

All Materials to have achieved Certifire certification to 30/60 minutes fire resistance, or to have been tested in accordance with the appropriate section of BS 476. All door components must comply with Approved Document B of the Building Regulations. All to be installed in strict accordance with manufacturers technical data sheet with certificate obtained by Service Provider at practical completion.

005 All doors must include the following elements (if not included with the door-set):

Combine 15 x 4mm intumescent /brush smoke seals to both side edges and top edge of each door leaf Successfully tested for fire and smoke performance in accordance with both BS 476 Part 20/22 and also BSEN 1634-1.
Overhead door closing mechanism affixed to the **external** side of the door in accordance with BS EN 1154.
1½ pair Eurospec Grade 13 ball bearing fire rated hinges manufactured from 304 grade stainless steel, CE marked, designed and tested for 44mm doors to each door leaf.
Fire Safety Signage to comply with BS 5499-2 Fire safety signs, notices and graphic symbols and the Health and Safety (Safety Signs and Signals) Regulations 1996 and where applicable conform to EN ISO 7010.
Eurospec plain or Push/Pull engraved Fire door rated finger plates to each door leaf.
Eurospec D pull Handle - A versatile range of pull handles in various bar diameters and lengths to each door leaf.
Eurospec kicking plate to both faces of each door leaf.
Electromagnetic fire door retainers (hold open devices) can be used to hold a self-closing fire door in the open position with an electrically powered magnet. These devices are usually linked into a building's fire alarm system or are controlled from locally positioned smoke detectors. Or Acoustic fire door retainers fitted at the bottom of fire doors and can lock a fire door in the open position by pushing a plunger down. The acoustic fire door retainers then 'listen' for the sound of smoke alarms. Door release mechanism should conform to BS EN 1155 – Electronically powered hold-open devices.

Internal Cupboard Door-sets (Electric cupboards, meter cupboards, boiler cupboards, storage rooms, cleaning cupboards & Lift rooms etc.).

006 Timber veneer FD30s/FD60s door-set set within timber or aluminium frames in accordance with Fire Safety Regulations 2017 and BS 476-22 to provide fire resistance ratings of 30 minutes (or better) and 60 minutes (or better) when tested in accordance with BS476-22 or BS EN 1634-1.

All Materials to have achieved Certifire certification to 30/60 minutes fire resistance, or to have been tested in accordance with the appropriate section of BS 476. All door components must comply with Approved Document B of the Building Regulations. All to be installed in strict accordance with manufacturers technical data sheet with certificate obtained by Service Provider at practical completion.

007 All doors must include the following elements (if not included with the door-set):

Combined 15 x 4mm intumescent /brush smoke seals to both side edges and top edge of door leaf Successfully tested for fire and smoke performance in accordance with both BS 476 Part 20/22 and also BS EN 1634-1.
Cam action overhead door closing mechanism affixed to the **external** side of the door in accordance with BS EN 1154.
1½ pair Eurospec Grade 13 ball bearing fire rated hinges manufactured from 304 grade stainless steel, CE marked, designed and tested for 44mm doors.
Locking assembly and door handle ironmongery – Thumb turn on the internal face.
Fire Safety Signage to comply with BS 5499-2 Fire safety signs, notices and graphic symbols and the Health and Safety (Safety Signs and Signals) Regulations 1996 and where applicable conform to EN ISO 7010.

External Flat Entrance door-sets

008 Complete FD30S Composite fire door-set set within timber or aluminium frames and flush finished with a fire resistant glass reinforced plastic textured finish. Fire Resistant insulated core which has a leaf thickness of 44mm in accordance with Fire Safety Regulations 2017 and BS 476-22, to provide fire resistance ratings of 30 minutes (or better) when tested in accordance with BS476-22 or BS EN 1634-1.

All Materials to have achieved Certifire certification to 30/60 minutes fire resistance, or to have been tested in accordance with the appropriate section of BS 476 and all door components must comply with Approved Document B of the Building Regulations. All to be installed in strict accordance with manufacturer's written instructions with certificate obtained by Service Provider at practical completion.

009 Please note: If the existing doors are glazed, the Service Provider must conduct a survey with the Customers to see whether they wish to retain the glazing or have replacement solid doors. Where possible, the Client would like to prevent glass from being installed due to security risks, fire safety and thermal efficiencies.

010 All doors must include the following elements (if not included with the door-set):

Combine 15 x 4mm intumescent /brush smoke seals to both side edges and top edge of door leaf Successfully tested for fire and smoke performance in accordance with both BS 476 Part 20/22 and also BSEN 1634-1.
Cam action overhead door closing mechanism affixed to side of the door in accordance with BS EN 1154.
75mm/3" Eurospec Fire rated door numerals in satin anodised aluminium finish.
Average size 285mm x 55mm fire and smoke resistant letter plate with Telescopic intumescent liner and Nylon brush seals fitted to prevent vision through the letterplate and provide draught proofing, complete with a security cowl is available to prevent vision through the letterplate when open, and to inhibit manipulation of locks and bolts. In accordance with BS 9999 and Approved Document B of the Building Regulations.
Complete viewing angle 60 degrees fire rated door viewer with a prism system that allows viewing from up to 2m away. Fire protection is provided by intumescent strip and suitable for 35mm - 62mm thickness doors. One per door, Two to be provided for wheelchair users.
2 pair stainless steel hinges, CE marked, designed and tested for 44mm doors.

Multi-point automatic multi-point locking assembly and lever/lever configuration door handles to suit Euro profile lock cylinder with 3 keys – Thumb turn on the internal face.
Fire Safety Signage to comply with BS 5499-2 Fire safety signs, notices and graphic symbols and the Health and Safety (Safety Signs and Signals) Regulations 1996 and where applicable conform to EN ISO 7010.
Anodised aluminium "low mobility" threshold.
Anodised aluminium weather bar.

Internal and External Flat Entrance Door-sets

011 Complete FD30S **Composite** fire door-set, set within timber or aluminium frames and flush finished with a fire resistant glass reinforced plastic textured finish and Fire Resistant insulated core which has a leaf thickness of 44mm in accordance with Fire Safety Regulations 2017 and BS 476-22 to provide fire resistance ratings of 30 minutes (or better) and 60 minutes (or better) when tested in accordance with BS476-22 or BS EN 1634-1.

All Materials to have achieved Certifire certification to 30/60 minutes fire resistance, or to have been tested in accordance with the appropriate section of BS 476. All door components must comply with Approved Document B of the Building Regulations. All to be installed in strict accordance with manufacturers technical data sheet with certificate obtained by Service Provider at practical completion.

012 Please note: If the existing doors are glazed, the Service Provider must conduct a survey with the Customers to see whether they wish to retain the glazing or have replacement solid doors. Where possible, the Client would like to prevent glass from being installed due to security risks, fire safety and thermal efficiencies.

013 All doors must include the following elements:

Combine 15 x 4mm intumescent /brush smoke seals to both side edges and top edge of door leaf Successfully tested for fire and smoke performance in accordance with both BS 476 Part 20/22 and also BSEN 1634-1.
Cam action overhead door closing mechanism affixed to external side of the door in accordance with BS EN 1154.
75mm/3” Eurospec Fire rated door numerals in satin anodised aluminium finish.
Average size 285mm x 55mm fire and smoke resistant letter plate with Telescopic intumescent liner and Nylon brush seals fitted to prevent vision through the letterplate and provide draught proofing, complete with a security cowl is available to prevent vision through the letterplate when open, and to inhibit manipulation of locks and bolts. In accordance with BS 9999 and Approved Document B of the Building Regulations.
Complete viewing angle 60 degrees fire rated door viewer with a prism system that allows viewing from up to 2m away. Fire protection is provided by intumescent strip and suitable for 35mm - 62mm thickness doors. One per door, Two viewers are to be provided for wheelchair users.
2 pair stainless steel hinges, CE marked, designed and tested for 44mm doors.
Multi-point automatic multi-point locking assembly and lever/lever configuration door handles to suit Euro profile lock cylinder with 3 keys – Thumb turn on the internal face.

Fire Safety Signage to comply with BS 5499-2 Fire safety signs, notices and graphic symbols and the Health and Safety (Safety Signs and Signals) Regulations 1996 and where applicable conform to EN ISO 7010.
Anodised aluminium "low mobility" threshold.
Anodised aluminium weather bar.

014 Fire Door manufacturers and suppliers must provide, as a minimum, evidence of testing relating to the following:
Accreditation to and compliance with:

- UKAS Accredited Fire Testing Laboratory Detailed Report, typically known as a Global Fire Resistance Assessment
- BS 476: Part 22 (Fire Test)
- BS EN 1634 – 1 (Fire Test)

Compliance (as far as reasonably practicable) with Statutory Requirements:

- Building Regulations
- Fire Safety and associated Technical Booklet Guidance
- BS 9991:2011 Fire Safety in the Design, Management and Use of Residential Buildings – Code of Practice

015 Composite fire door-set manufacturers/suppliers, must at all times demonstrate compliance with the standard specification requirements in terms of certification (and validity of same), product compliance etc.

016 The manufacturer/supplier of fire door-sets will be required to submit the following evidence directly to the Client's Representative. This will be held solely by the Client as evidence of accredited fire performance, technical specification and particular features –

- A Global Fire Resistance Performance Assessment Report for the respective composite fire door-set arrangement from a UKAS accredited fire testing laboratory with definitive confirmation that the composite fire door-set when tested to destruction achieves well in excess of the required 30 minutes.

- This to account for a series of glazing options including the addition of glazed top-lights or side-lights within prescribed dimensions. All other components such as hinges, multi-point locking devices, etc., must be fire-rated and hence part of this assessment. The manufacturer/supplier may elect to have a number of the same component, but from different suppliers tested and the outcome reflected in this report.

- A composite fire door-set Installation and Procedure Manual specific to the product. This document is for the sole use of the Service Provider/Installer who warrants through a Certificate of Conformity that the Fire Door-set exhibits no compromise whatsoever.

- Training is undertaken directly by the manufacturer/supplier of the composite fire door-set on their product and installation manual to the Service Provider in the installation of these door-sets.

- A Manufacturer/Supplier Certificate of Conformity to be issued with delivery of each manufactured fire door-set listing the unique job reference and all of the secondary components (fire-rated letter-plate, eye viewer etc.,)

- A Manufacturer/Supplier Fire Door-set Monthly Report that records the composite fire door-sets as manufactured. This to be issued to the Client's Representative in a tabular/PDF format on a monthly basis.

Marking of Fire Door-Sets

017 All fire door-sets supplied to the Client should be clearly and permanently marked with their declared fire resistance at the manufacture stage. This will be in the form of a circular metallic tag. It must bear the manufacturer's name and contact details.

The door-set must, in addition, carry a unique job reference number on the upper RH edge of the door leaf, which, in turn, must relate to the specific Fire Door Certificate issued with the door-set.

Fire-resisting glass where installed as part of the fire door-sets must be identified with an appropriate designation mark. The mark on the glass must be permanent, legible and completely visible after glazing installation. Similarly, this should include as a minimum, the glass manufacturer's name and the product name.

018 **The Specifying of Fire Door-Sets**

Fire Door-sets are to be available in both FD30s and FD60s configurations. The specification for a fire door-set must include a full description of the elements together with the required fire resistance. Typically this should reflect critical issues such as –

- the overall size of the door-set
- the proposed mode of operation
- size and number of any glazed apertures
- details of any hardware
- frame details and material being used
- the presence of any top or side-light glazed panels
- requirement in terms of performance seals

019 **Door Leaves and Frames**

All fire door-sets must be purchased as complete door-sets. This ensures that all of the correct components are fitted and that full assembly instructions are available through the manufacturer.

Door Leaves are to be constructed from composite materials and be "single swing". The "as installed" door-sets must reflect those features contained in the manufacturers **Global Fire Resistance Assessment Report**.

Door frames can be provided (subject to above assessment reports) in hardwood, aluminium or PVC-u. The frame of the door-set should provide support for the door leaf in a "cold state", but also provide adequate support in a fully developed fire. The minimum dimensions for the frame cross- section will be stated in the manufacturer's fire door-set assessment report.

The timber, metal (aluminium) and PVC-u door frames in terms of their density, dimensions and material should not be less than those tested and recorded within the manufacturers **Global Fire Resistance Assessment Report**

020 **Intumescent Fire and Smoke Seals**

The intumescent fire and smoke seals used in the fire door-sets must be of the same formulation, dimensions and configuration as that stated in the manufacturers **Global Fire Resistance Assessment Report.**

These seals must achieve their optimum performance when fitted in the frame of the single leaf, single swing Fire Door-sets. These are normally positioned by the manufacturer at the mid point of the door leaf thickness.

Fire door-sets are required under Building Regulations to restrict the flow of ambient temperature smoke – all Fire Door-sets, therefore, supplied to the Client must be identified by the suffix "s" – for example, FD30s and fitted with smoke seals.

Painting of smoke seals or combined intumescent and smoke seals is not permissible as this may inhibit the door-set from latching correctly.

021 **Glazing Apertures**

Fire door-sets as supplied to the Client may have glazed apertures. The door-sets must be designed to receive glazed apertures and fitted into the fire door-set aperture under the strict control of the manufacturer. Under no circumstances must apertures be cut on site.

The position, number and area of glazed apertures must be the same as that tested as part of the manufacturers **Global Fire Resistance Assessment Report.**

Only completely tested glazing systems must be used and the manufacturer must identify the glass product type, thickness, glazing seals and beads and any fixings. These must be fully supported by the relevant test evidence.

022 **Fire Door-Set Hardware**

Intumescent materials that have been used to achieve a particular performance in the fire test conditions, with the relevant hardware and the door leaf must be reflected in the completed Fire Door-set to maintain the stated fire performance.

It is essential that any element of hardware incorporated as part of the composite fire door-sets provides the required intumescent protection. It is recommended in most cases that the hardware is bedded in an intumescent mastic or intumescent pads to restrict heat transfer to the door edge by means of the metal hardware products.

All hardware/door-set furniture must be fitted in a manner that ensures the fire-resisting properties of the door-set are not compromised.

Intumescent and fire-rated letter plates and fire-rated eye viewers are a particular requirement of fire door-sets. These must be fitted with an intumescent liner and only fitted where they have achieved the appropriate fire resistance period when tested in-situ with the composite fire door-set.

023 **Finish/Decoration to Fire Door-Sets**

Fire door-sets are generally not required to provide a specific spread of flame classification.

All fire door leaves supplied as part of the composite fire door-set are pre- coloured GRP skins that do not require any form of decoration. Similarly those fire door-sets utilising the aluminium framing system require no form of decoration as these are "powder coated".

Where there is a hardwood frame as part of a composite fire door-set, particular care must be taken where there may be future re-decoration. The use of heat or chemical strippers must be avoided at all costs as these are liable to damage intumescent fire and smoke seals incorporated within the frame.

024 **Sample Fire Door-Sets for Approval**

Sample fire door-sets must be delivered to site by the Service Provider/manufacturer/supplier for inspection and acceptance by the Client's Representative.

The Service Provider/manufacturer/supplier in providing the sample for acceptance must demonstrate full compliance with the Specification requirements. Evidence of full compliance with the standard specification requirements and a copy of the relevant test data/**Global Fire Resistance Assessment Report** must be held in advance by Client.

025 **Protection, Transportation, Storage and Pre Installation Check of Fire Door-Sets**

The Service Provider/manufacturer/supplier of the fire door-sets shall be responsible for ensuring they are suitably protected to avoid damage during transportation and subsequent storage.

Fire door-sets shall not be flat-packed, but stood vertically during transportation.

Fire door-sets in storage to be "kept apart" with preferably soft packing.

The Service Provider/manufacturer/supplier of fire door-sets may choose to disengage the over-head door closer for transportation purposes. This is a critical component and part of the fire door-set and must be re-engaged by the Service Provider prior to any installation.

The Service Provider must ensure that all fire door-sets stored on site are housed within a weatherproof on-site storage facility and protected at all times from moisture and temperature extremes. This should preferably be a well ventilated facility.

Prior to commencement of installation, the Service Provider must undertake the following checks:

- Consult the manufacturer/supplier survey sheets and ensure these are correct and clear
- All definitive survey measurements are recorded
- The fire door-sets as supplied are of the correct fenestration and design
- All hardware components are intact and engaged (where required)

026 All Fire Door-sets are generally measured in accordance with **BS 8213:2007** and as recommended on the **GGF (Glass & Glazing Federation) Code of Practice (March 2006)**. Fire Door-sets will in the main be fitted from the inside, although the nature of some reveals will permit these to be fitted from the outside. The measurement and fitting of fire door-sets must in every case respect the existing cover/rebate to the outer frame of the fire door-sets by virtue of the "reverse brick detail" or "check reveal".

027 **Compatibility of Fire Door-set Framing with Surrounding Structure**

The type of the surrounding structure and / or the wall or partition into which the fire door-set is being installed will have been determined by the fire resistance testing and within the **Global Fire Resistance Assessment** Report. Reference must be made to the manufacturer / supplier for each common area and verified by test evidence.

028 **Installation of Fire Door-sets**

- Installation Generally
    - All fire door-sets to be installed must pay due regard to the following –
        - Fire door-set manufacturer/supplier Installation technical data sheets
        - Installation of fire door-sets
        - Compatibility of door-set arrangement (and in particular, the door frame) with the surrounding structure
        - Sealing between the door-set and the surrounding structure
        - Clearance gaps
        - Under-door (threshold gaps)

Where the fire door-sets are installed by a Service Provider, the following protocol must operate:

- The Service Provider must identify "skilled Installers" to the Client's Representative who will be employed in their installation;
- The Service Provider must organise with the fire door-set manufacturer/supplier, specific training on all aspects of the door-set and importantly the installation technical data sheet;
- The manufacturer/supplier of the fire door-sets must maintain a record of all training given and must be made available for inspection by the Client's Representative, as and when required.
- The manufacturer/supplier of the fire door-sets will issue "all persons attending" with a bespoke certificate as proof that training in their respective product has taken place.

The Service Provider's installers must install the fire door-sets in strict accordance with the installation technical data sheets and ensure that there is adequate sealing with the surrounding structure and that damage is limited (or avoided) with any flame retardant coatings.

Under no circumstances must the fire door-set arrangement (as supplied) be compromised in the fitting/installation process. This includes making on-site adjustments to key fire-rated components such as "building hardware" with intumescent fire protection.

In all cases the fire door-set manufacturer/supplier is at liberty to undertake random checks to ensure that their fire door-set arrangement has not been compromised in any way. Where a manufacturer/supplier is of the opinion that any of their fire door-sets have been compromised, this must be referred immediately to the Client's Representative for action.

Installation Criteria:

- Fire door-sets must be installed plumb and square within the structural aperture, without twist, racking or distortion of any member and in accordance with the manufacturer/supplier recommended and permissible tolerances so as to operate correctly after installation;
- It is critical that the manufacturer/suppliers correct and preferred method of installation is fully complied with to ensure that the door-set, when fixed into the wall, will achieve the required fire rating designated for the respective door opening;
- In order to maintain the fire resistance of the compartment walling when fitted with a fire door-set arrangement, the junction between the two elements must be adequately sealed.
- The sealing of these junctions must be in strict accordance with the manufacturer / supplier Installation technical data sheets.
- The composite fire door leaf must be hung to give an equal gap across the heads and down both jambs. To ensure good fire performance and under fire test conditions; this may be in the order of 2 – 4mm;
- The combined intumescent fire and smoke seals (as required and fitted) must allow the door-set to operate without causing significant "frictional issues", and the gap must remain within the "as tested" tolerances;
- The under door/threshold gaps should be pre-determined by the fire door-set manufacturer/supplier and be in accordance with their Installation technical data sheet for the particular fire door-set;
- When fitted, the fixed or threshold arrangements or the drop- down seal variant should give an "even contact" with the floor, but not create/exhibit significant "frictional issues" that could interfere with the closing action/latching of the fire door-set

029 **Methods of Fixing for Fire Door-sets**

- **Fixing Fire Door-sets Generally**
    - Fixings for fire door-sets must be strictly in accordance with the manufacturer/supplier Installation technical data sheets;
    - Fixing methods and distances together with their respective methodology must also be strictly complied in terms of the manufacturer/supplier Installation technical data sheets;
- **Use of Expanding Polyurethane Foam**
    - The use of expanding polyurethane foam is not acceptable as a sole method of fixing any fire door-set into a structural opening;
    - Where the installation of the fire door-set with the adjacent wall substrate may require an element of expanding polyurethane foam, this "foam filling" must be referred initially to the manufacturer/supplier for verification/approval. Where the manufacturer/supplier Installation technical data sheet permit this or make reference to its use, this must be applied strictly in accordance with that stated;
    - Where expanding polyurethane foam is used, subject to manufacturer's recommendations, it must not be used to fill gaps exceeding 10mm wide;
    - Foam filling must be to the full depth of the frame using only an approved fire resistant expanding polyurethane foam complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance

030 Finishing Off and Making Good

The final covering and treatment of adjacent surfaces, substrates, and their intersections are key in the overall fire door-set installation process.

The primary objectives of making good any damaged areas adjacent to the fire door-sets is to:

- Maintain the fire resistance of a fire-resisting or compartment wall
- Ensure the junction between the two elements are adequately and appropriately sealed
- Maintain the required Surface Spread of Flame Classification (Class 0) linked to the Flame Retardant Coatings
- Plaster-Patching
    - A small degree of plaster-patching will be required from the installation process. This will in all probability relate to reveals immediately adjacent to fire door-set.

- Finishing Trims
    - In a small number of cases, the gap between the door frame and the wall frame may be masked by an architrave both internally and externally. In the main, it is expected that the door frame will be fixed directly to the substrate.
    - Where the former occurs, this should be referred initially to the fire door-set manufacturer/supplier for verification that this type of surrounding structure was determined by the fire resistance test. Additional protection can be facilitated as below.

- Frame to Wall Junction & Adjacent Flame Retardant Paint Coatings
    - Where the surface of the adjacent walling is identified as being plastered over to back of the frame, then there is no real problem with the exception of disturbance to any applied wall applied paint applications – in many cases, these paint applications will be multiple coatings and potentially in a flame retardant paint.
    - Where there is disturbance of such surface linings, the Service Provider must refer to his paint suppliers for advice and sampling (if required). It is recognised that wall linings disturbed and in a fully developed fire can compromise the common area.
    - Where architraves / adjacent panels are present, these should be removed to check that no voids exist between the frame and the adjoining structure.
    - If the above scenario is found, the fire door-set manufacturer/supplier should be consulted as stated. As a form of additional protection, the void(s) should be filled with plaster, intumescent material or tightly packed rock-wool. The method of packing will depend on the size of the void – guidance on filling voids satisfactorily is stated in Section 9.4 of BS 8214 Tables 2 and 3
    - Where fire Door-sets are installed and any damage of the adjacent wall surfaces sustained, then a visual inspection should take place and identification made of the "applied paint" – it is expected, for example, within common areas that any of the following paint applications may exist:
        - Flame Retardant Paint
        - Emulsion
        - Solvent-based Gloss
        - Solvent-based Egg-shell
        - Textured Coatings
    - If there is any element of doubt as to the above application, then referral should made to his paint manufacturer for technical advice. This is particularly critical if the topmost paint layering is of a flame retardant paint.
    - There are fire hazards associated with multi-layer paint coatings
    - The common area paint linings and forming part of compartment walling must ultimately achieve a Class 0 Surface Spread of Flame classification. That is readily achievable normally through an "upgrade process" and specification involving flame retardant paints from the Service Provider's paint manufacturer.

031 Fire Door-set Inspection Checklist

A **FIRE DOOR-SET INSPECTION CHECKLIST** requires to be completed where any fire door-set is installed as part of this Contract.

Each Fire Door-set **must** be individually, independently inspected by a UKAS accredited fire door installation inspector in relation to all issues listed. This information will be critical in maintaining a "level of fire resistance" within the common areas.

The Inspection Checklist is to give the Client an assurance that the door-set has been independently observed and inspected as installed and that any deficiencies based on the checklist issues have been noted and recorded. The inspector is required to record and advise the Service Provider of any such deficiencies.

The inspection, recording and completion of this Checklist is the responsibility and cost of the Service Provider. Photographs may be used where necessary as evidence of any significant deficiencies.

It is the Service Provider's responsibility to ensure that any deficiencies identified are remedied without delay.

The Service Provider upon completion of any remedial works must sign and issue the Service Provider's Certificate of Conformity for each Fire Door-set.

032 Protocol – Certification of Fire Door-Sets

Certification Generally

Fire Door-sets as supplied to the Client must be "certified" as fit for purpose and capable of achieving the fire resistance and integrity as stated.

The Service Provider and the fire door set manufacturers/supplier must demonstrate compliance with this Specification**.**

Manufacturer/Supplier Certification and Compliance

- **Any Manufacturer/Supplier of Fire Door-sets are required to undertake the following:**
    - Tag every Fire Door-set with a round metallic tag affixed to the door leaf with security screws; this must state "FD30s or FD60s" and the respective Manufacturer's name and contact number.
    - The upper RHS of the Fire Door leaf must bear the unique manufacture job reference assigned to the respective Flat/Maisonette address or communal location – this must relate directly to the MANUFACTURER/SUPPLIER CERTICATE OF CONFORMITY and also be logged to the MONTHLY FIRE DOOR-SET REPORT
    - The MANUFACTURER/SUPPLIER CERTIFICATE OF CONFORMITY must be made available with every Fire Door-set and record the following details:
        - Project/Scheme name & corresponding Project No.
        - Door-set Manufacturer/Supplier details
        - Manufacturer/Supplier job reference
        - Contractor supply details
        - Completed Certificate of Conformity Statement
        - Product Supplied Address
        - Product Details
    - The relevant Certificate of Conformity template is included below:
    - A MANUFACTURER/SUPPLIER MONTHLY FIRE DOOR-SET REPORT format and content to be approved by the Client's Representative must be submitted to the Client's Representative on a monthly basis fully completed as confirmation of all fire door- set locations as supplied in the preceding month. This report must cross-reference with all of the Certificates of Conformity issued.

Installer Certification and Compliance

The Service Provider required to undertake the following:

- Undertake all remedial works/deficiencies as identified on the Fire Door-set inspector checklist, format and content to be agreed with the Client's Representative.
- Warrant that the Fire Door-set as installed has been supplied from a fire door-set manufacturer who holds a current and valid Global Fire Resistance Assessment Report; in addition, the Service Provider is to warrant that the fire door-set Installation (and any identified deficiencies have been undertaken in strict compliance with the manufacturer/supplier installation technical data sheets and with the Client's Specification and that no compromise of any fire safety component exists.

The relevant INSTALLER CERTIFICATE OF CONFORMITY template is to be provided by the Client to the Service Provider.

Client's current manufacturers/suppliers/products

033 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

PRE-FINISHED TIMBER EXTERNAL DOOR SETS AND SCREENS
[LOWER TIER – Client to delete if not applicable]

PRE-FINISHED TIMBER EXTERNAL DOOR SETS AND SCREENS

Timber Doors

001 This Section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' and 'Replacement External Doors – General'.

002 All new pre-finished timber doors shall be purpose made pre-treated timber double glazed doors, manufactured to BS 644.

003 Where required lower panels shall be laminated safety glass or 25mm hardwood raised and fielded panels as appropriate. **Plywood panels shall not be accepted.**

004 Hardwood or aluminium glazing beads incorporating an integral EDPM corded lipped gasket shall be fitted to the external face. **The bead type and colour shall be agreed with the Client's Representative.**

005 All aluminium glazing beads shall be secured with bead retention clips as standard. Pre-finished hardwood glazing beads shall be fixed either by secret nailing using stainless steel or copper pins or by stainless steel large headed pins. When pinning with stainless steel large headed pins care shall be taken to ensure that splitting, head indentation of the glazing bead or breaking of the paint surface by the head does not occur. Bead retention clips may also be used for the securing of hardwood glazing beads.

006 All pre-finished door-sets shall be delivered to site totally completed including full coating system, this shall be either opaque or translucent, solvent based or water borne, fully glazed and with all furniture fitted leaving only the need to fix into the prepared opening on site. Note: Projecting furniture i.e. handles, may be supplied unfitted to avoid damage during transit.

007 All workmanship to be to BS.1186-2.

008 Timber for use in all doors shall be selected hardwood and in the density range of 650kg/m cu. Doors may be flush fitting or rebated over frame.

009 Flush fitting doors shall have a minimum thickness of 44mm.

010 Rebated doors shall have a minimum thickness of 57 mm.

011 Timber for doorframes shall be selected hardwood and in the density range of 650kg/m cu.

012 All external edges shall have a radius of not less than 1.5mm and not greater than 3.00mm in accordance with Paint Manufacturers technical data sheet.

Note: It is acceptable for this detail to 'run through' all joint lines.

013 Surface waves caused by machining or excessive sanding will not be accepted.

014 All frames, mullions, transoms etc., to be to quality standard of BS 1186-2.

015 Timber doors to be set in rebated hardwood frames, and 2XG style pre-primed timber doors with upper panel double glazed with laminated safety glass sealed units.

016 Weatherboards to doors are to be included.

Client's current manufacturers/suppliers/products

017 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

ALUMINIUM EXTERNAL DOORS AND SCREENS
[LOWER TIER – Client to delete if not applicable]

ALUMINIUM EXTERNAL DOORS AND SCREENS

Generally

001 This Section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' and 'Replacement External Doors – General'.

002 The Works comprise all the necessary Design Work for and the supply and installation of aluminium external doors and screens, with double glazed units to communal staircases and landings.

Design Standards

003 The door system is to comply with the following British Standards:

BS 952-1	Glass for glazing – Classification
BS EN 755	Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Mechanical properties
BS 4873	Aluminium alloy windows and doorsets Specification
BS 5516-1 and 2	Patent glazing and sloping glazing for buildings. Code of practice for design and installation of sloping and vertical patent glazing
BS 9991	Fire safety in the design, management and use of residential buildings. Code of practice
BS 6206	Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings
BS 6262-5	Glazing for buildings. Code of practice for safety related to human impact
BS 6375-1	Performance of windows and doors. Classification for weathertightness and guidance on selection and specification
BS 6375-2	Performance of windows and doors. Classification for operation and strength characteristics and guidance on selection and specification
BS 6496	Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and preformed sections for external architectural purposes, and for the finish on aluminium alloy extrusions, sheet and preformed sections coated with powder organic coatings
BS EN ISO 9227	Corrosion tests in artificial atmospheres. Salt spray tests
BS 8213-1	Windows doors and rooflights. Design for safety in use and during cleaning of windows, including door-height windows and roof windows. Code of practice
BS 8213-4	Windows and doors. Code of practice for the survey and installation of windows and external doorsets.
GGF 6.6.2	Specification for improved security single hinged residential doorsets.

004 The installation is to comply with all the relevant requirements of Building Regulations Approved Documents.

005 All door openings are to be suitable for wheelchair access in accordance with the Building Regulations Approved Document M (Access to and use of buildings). This means that, with the door open, the clear opening width between the jamb of the frame and the hanging style of the door is to be not less than 800mm.

Materials

006 All framing and swing doors system must be constructed from aluminium 100% recycled and suitable for fire route exits.

007 Screws and internal components must be either stainless steel, A2 cadmium plated steel or other corrosion resistant material.

008 Glazing beads must be aluminium "snap on" type requiring no screws. Dry glazing must be with self-locking plasticised PVC-u gaskets.

Construction

009 Framing assembled from pre-finished lengths of aluminium profile, which are square cut. All horizontal members are secured to verticals by screwing into four integral screw splines. All joints to be sealed against the entry of water. Mid rails into framing are to be secured with frame to rail cleats.

010 Door leaf assembled from finished lengths of aluminium profile, which is square cut. Door rails secured to stiles with pre-machined cleats. All joints to be sealed against entry of water. All external-glazing beads must be secured by mechanical means and tamper proof. Stiles to have double weather-stripping as standard.

Ironmongery

011 Fire exit doors (opening out) (to comply with BS EN 1125 (Building Hardware. Panic exit devices operated by a horizontal bar, for use on escape routes. Requirements and test methods.))

1 No. Flush Fitting Panic Latch.
1 No. Pull handle in matching polyester RAL coating to outside.
1 No. Door closer.
1 No. Modular escape nightlatch with 70mm backset with suited lock.
1 No. High Security Electric Strike faceplate
Minimum 3 No. finger guard silver anodised butt hinges.

012 Main entrance door:

1 No. Pull handles in matching polyester RAL coating.
1 No. Flush Fitting Panic Latch.
1 No. Low energy swing door operator.
1 No. Modular escape nightlatch with 70mm backset with suited lock.
1 No. High Security Electric Strike faceplate
Minimum 3 no. finger guard silver anodised butt hinges.

Screen Inserts

013 System screen inserts must consist of an outer frame and ventilator frame mitred and mechanically jointed using prepared extruded aluminium corner cleats and stainless steel corner chevrons. All joints must be sealed against the entry of water. Infills are secured by snap in beads internally or externally. Integral mullions/transoms are secured by driving screws into extruded screw ports. Structural coupling mullions and transoms are available to construct larger composite window units. Always refer to the System manufacturer's technical data sheets for limitations on frame and vent size.

Colour Finish

014 All exposed sections of aluminium extrusion are to be powder coated. Unless otherwise specified all powders must comply with the requirements of BS 6496 and conducted under BS EN ISO 9002 control conditions. Powder coating application and stoving on aluminium must be carried out in accordance with BS 6496.

015 The powder coating must have a Class 1 surface spread of flame rating to BS 476-7.

016 The selected coating must comply with the British Board of Agrément Certificate or equivalent. Colour to be high gloss white.

017 All doors are to be permanently marked in an unobtrusive position (not viable when the opening door is closed) with the name and trademark of the system supplier and fabricator.

018 Units are to be installed by a specialist Subcontractor approved under the terms of the Contract. After installation and glazing, units are to be checked and adjusted as required.

Glass

019 Hermetically sealed 24mm double glazed units with clear glass.

Main entrance door to scheme

020 Electric swing opener to be installed by a specialist Subcontractor approved under the terms of the Contract.

021 The Service Provider is to liaise with his Subcontractor for the door entry/warden call system to work on door entry system with regard to the following operations:

- Disconnection system before existing door is removed; and
- Connection system after installation of new door is installed to allow Customers and central control to open the door remotely.

Proximity Swipe

022 External doors to be fitted with a proximity swipe system with capability of reading up to 70 key fobs also to be supplied.

Master Keying

023 All new locks are to pass the same key suited to the schemes master suite.

024 Copies of keys are to be issued in the first instance to the Client's Representative.

Installation

Aluminium

025 Installation of fenestration systems must be performed by a Subcontractor approved by the Client's Representative in accordance with shop drawings and pointed with a fire grade silicone/mastic sealant, all as approved by the Client's Representative. After installation and glazing the Service Provider must check and adjust, if required, all items furnished under this section.

Glass

026 All glazing to be carried out in accordance with the requirements of the Building Regulations. Glass to comply with BS 952-1.

027 Safety glass to comply with BS EN 12600 with regard to impact performance and the marking of glass to indicate type and classification, and with BS 6262 and subsequent amendments with regard to minimum thickness' for certain pane sizes.

Protection and Cleaning

028 The Service Provider must be responsible for any damage to the Materials under this section of the Specification incurred by him during installation and must leave the Work in a clean condition. The Service Provider must be responsible for the protection of these Materials from damage by other trades and must be responsible for the final cleaning of the Work.

Fasteners and Fixings

029 All aluminium units are to be installed in accordance with the manufacturer's installation technical data sheets.

030 Openings should be checked against available drawings or a site survey for correctness and openings should be square and plumb.

031 Fixings grounds at head, sill and jamb must be capable of carrying all imposed and dead loads in a stable condition, i.e. there should be no spalling, fissures or general debris.

032 Expanding polyurethane foam must not be used as a sole method of fixing.

Approved Fabricators

033 If the Service Provider is not an approved powder coated door and screen manufacturer/contractor, he must sub-contract the work to a fabricator who is capable of being approved by the Client's Representative.

034 When submitting his tender, the Service Provider must give full details of the proposed system, ironmongery, glazing method etc.

Client's current manufacturers/suppliers/products

035 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT UNDECORATED TIMBER EXTERNAL DOOR SETS AND SCREENS
[LOWER TIER – Client to delete if not applicable]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT UNDECORATED TIMBER EXTERNAL DOOR SETS AND SCREENS

Timber Doors

001 This Section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' and 'Replacement External Doors – General'.

002 All new undecorated timber doors shall be factory primed, purpose made pre-treated timber double glazed doors, manufactured to BS 644.

003 Where required lower panels shall be laminated safety glass or 25mm hardwood raised and fielded panels as appropriate. **Plywood panels shall not be accepted.**

004 Hardwood or aluminium glazing beads incorporating an integral EDPM corded lipped gasket shall be fitted to the external face. **The bead type and colour shall be agreed with the Client's Representative.**

005 All aluminium glazing beads shall be secured with bead retention clips as standard. Factory primed hardwood glazing beads shall be fixed either by secret nailing using stainless steel or copper pins or by stainless steel large headed pins. When pinning with stainless steel large headed pins care shall be taken to ensure that splitting, head indentation of the glazing bead or breaking of the paint surface by the head does not occur. Where this does occur, the indentation shall be filled with approved filler, rubbed down smooth and touched in with approved primer. Bead retention clips may also be used for the securing of hardwood glazing beads.

006 All pre-finished door-sets shall be delivered to site totally completed including factory applied primer or base coat stain, this shall be either opaque or translucent, solvent based or water borne, fully glazed and with all furniture fitted leaving only the need to fix into the prepared opening on site and insitu decoration Note: Projecting furniture i.e. handles, may be supplied unfitted to avoid damage during transit.

007 All workmanship to be to BS.1186-2.

008 Timber for use in all doors shall be selected hardwood and in the density range of 650kg/m cu. Doors may be flush fitting or rebated over frame.

009 Flush fitting doors shall have a minimum thickness of 44mm.

010 Rebated doors shall have a minimum thickness of 57 mm.

011 Timber for doorframes shall be selected hardwood and in the density range of 650kg/m cu.

012 All external edges shall have a radius of not less than 1.5mm and not greater than 3.00mm in accordance with Paint Manufacturers technical data sheet.

Note: It is acceptable for this detail to 'run through' all joint lines.

013 Surface waves caused by machining or excessive sanding will not be accepted.

014 All frames, mullions, transoms etc., to be to quality standard of BS 1186-2.

015 Timber doors to be set in rebated hardwood frames, and 2XG style pre-primed timber doors with upper panel double glazed with laminated safety glass sealed units.

016 Weatherboards to doors are to be included.

Decoration of timber door sets and screens

017 All new timber external door sets and screens are to be built in prior to full decorations being applied.

Make good any exposed/damaged surfaces with approved filler. Rub down and leave smooth before applying 1 No. coat of approved primer on base coat stain for bare wood and filled areas.

Paint 2 No. coats of white undercoat and 1 No. coat of white gloss pain or 2 No./3 No. coats of stain top coat (as recommended by manufacturer), to all surfaces, rubbing down between all coats.

Client's current manufacturers/suppliers/products

018 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT WINDOWS

REPLACEMENT WINDOWS - SURVEYING AND INSTALLATION
[TOP TIER]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT WINDOWS - SURVEYING AND INSTALLATION

General

It should be noted that in order to reduce possible errors/confusion due to conflicting repeat clauses etc. the Replacement Window specification sections have been sub divided into tiers as per the table below;

Top tier	Middle Tier	Lower Tier
Replacement windows – surveying and installation etc.	Replacement Windows – General	Replacement PVC-u Windows
		Replacement Pre-finished Timber Windows
		Replacement Undecorated Timber WIndows

In this manner each completed product will be required to meet the specification of 3 No tier documents.

Example; if work to be undertaken is a Replacement PVC-u window, then the 3 No tier documents to be used will be;

- Replacement windows – surveying and installation etc.
    - Replacement Windows – General
        - Replacement PVC-u Windows

Initial Survey

001 A list of Properties will be given to the Service Provider with access details and the Service Provider is then responsible for arranging access, visiting the Properties, taking measurements and forwarding existing window dimensions and the Service Provider's proposed style of replacement windows to the Client's Representative for approval.

Windows - Whether the new windows are to be PVC-u or timber replacements is dependent on the condition of any existing double glazed window (if present) and therefore matching new proposals with the existing Property and surrounding Client owned Properties.

002 The drawings are to include 'sketch elevations' of each window showing the position of each proposed window type and to include details of opening casements and glass type for each window.

003 The proposals are to be approved by the Client's Representative before the Service Provider commences manufacture.

Site Measurements

004 The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing window in each Property.

005 The dimensions noted on any schedule issued by the Client's Representative are for guidance only and are approximate measurements. The Service Provider is responsible for taking all site sizes and measurements for each and every window opening, and for manufacturing windows accordingly and to BS 8213-4. (Windows and doors - Code of practice for the survey and installation of windows and external door-sets) and as recommended in the GGF (Glass & Glazing Federation) "Good Practice Guide for the Installation of Replacement Windows and Doors".

This procedure requires a minimum of **8 No measurements** both internally and externally to determine the difference between internal and external reveal sizes. Therefore internal access to the Property must be gained before manufacturing the windows – this will also allow for full Customer consultation and agreement of intended Works. It is the Service Provider's sole responsibility to obtain the Customers approval to receive the Works before manufacturing is commenced.

Windows are in the main fitted from the inside, although the nature of some reveals will permit replacement windows to be fitted from the outside.

The measurement and fitting of windows must in every case respect the existing cover / rebate to the outer frame of the windows by virtue of any "reverse brick detail" or "check reveal" that may pertain to existing Client Property.

006 Where a check reveal is present for weathering purposes, the window manufacturing sizes should be based on achieving a minimum frame overlap of 12 mm on the external leaf. A hole may be drilled thorough the existing frame jamb rebate to establish the check reveal size. A frame may also be built into the check reveal at the head by use of a rebated lintel, and again a minimum frame overlap of 12 mm should be provided where practicable. If an overlap of 12 mm cannot be achieved, this should be discussed with the Client's Representative and an agreement reached regarding the size of the overlap for particular properties. As the Client owns a large stock of Properties, which vary in construction detailing, long term standard agreements to the amount of overlap will not be made with exception to the dimension stated here.

007 The Service Provider's attention is drawn to the fact that similar windows in similar Property types may vary in size.

The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing window in each Property. Measurements for each window (and its location) must be clearly identified on any delivery schedule and each window shall have a clear labelling system to reflect this.

008 The use of make up pieces (clip-on's) will not normally be permitted except with the express **written** authority of the Client's Representative. Written authority does not transfer to the entire Contract, if gained; it must be acquired for individual Property and/or phases.

009 Any existing window opening which will present the Service Provider with a problem in compliance with the Specification, or in manufacture of a window to suit, must be brought to the attention of the Client's Representative before the window is fabricated. The Client's Representative will issue a written Instruction informing the Service Provider of what action is to be taken.

010 The Service Provider must obtain signed consent from the Customer before manufacture of window is undertaken. The Service Provider should be aware payment will only be made on completion of the window being installed into the Property.

Guarantees

011 In addition to the Client's rights under the Contract, the Service Provider is to provide the minimum guarantee tabled below against manufacturing defects etc., on all new PVC-u and timber windows upon completion of the Works. The guarantee is to include for all profiles, joinery, and for the double glazed units.

Manufacturers guarantees in all instances are to be for the years stated below with no exceptions attached (i.e. end user servicing expectations etc.), this will assure the Client that the manufacturer is confident of their own products durability.

PVC-u profiles	25 Years
Timber frames	30 Years guarantee against fungal attack
Timber Window Manufacturing Defects	10 year guarantee
Timber Window (Factory Painted External Joinery)	10 Year guarantee (as minimum)
Timber Window (Factory Stained External Joinery)	6 Year guarantee (as minimum)
Hardware Components	10 Years (minimum)
Double Glazed Units	15Years (minimum)

Windows are to be manufactured under guidelines BS EN ISO 14001 (Environmental Management) and BS EN ISO 9001 (Quality Management Systems) with manufacturing companies holding the relevant accreditation. Manufacturers should promote and maintain an Environmental Policy and be committed to it. They should be able to demonstrate that all operations proactively comply with all applicable environmental laws and regulations.

The manufacturer shall provide a good practice guide relating to aftercare and maintenance of their manufactured window/sidelight etc. and its component items. The Service Provider shall ensure that each Customer receives a copy of this.

General Design of Windows

Windows - Street Properties

012 Generally the Design of windows to be replaced with storm-proof casements projecting top and side swing hinge (see Appendix A in Replacement Windows - General).

013 However, each Property case may be different and therefore approval will be required for each Property. In all cases, the proposed new style of windows will need to comply with Building Regulations and in particular fire egress in terms of all habitable rooms.

Timber Windows

014 The Service Provider is responsible for ascertaining the correct dimensions and sizes of every existing window in each Property.

Emergency Egress Windows

015 Every habitable room shall have at least one opening which shall comply with the Building Regulations Emergency Egress Windows, having an unobstructed openable area that is at least 0.33m2 and at least 450mm high x 450mm wide with the bottom of the openable area not less than 800mm and not more than 1100mm above the floor. Egress hinges should be included, where necessary.

General Window Installation

016 All Windows and sidelights are to achieve an 'A' energy rating certificated by the British Fenestration Rating Council (BFRC).

All replacement sidelights must achieve Building Control standard of Maximum U-Value = 1.8 W/m^2K for units with >50% internal face glazed.

U-values of windows glass and frames must meet the Building Regulations and must be BFRC Certified and have an "A" Rated Energy Index. Centre Pane "U Value" of 1.2W/m^2K (or better). Thermal Transmittance Whole Window "U Value" of 1.4 W/m^2K (or better)

017 All windows are to have "child restriction" to limit the uncontrolled opening of the window.

018 All windows must pass testing undertaken to PAS 24 and be Secure by Design certified. All certification documents are to be forwarded to the Client's Representative and kept updated – this must include test certificate, report and list of tested ironmongery with product manufactures names, type etc. Evidence of compliance with PAS 24 (Specification for Enhanced security performance requirements for door-sets and windows in the UK) will be a condition of tender.

019 All new windows are to match existing size openings in existing positions (i.e. brick reveals to be maintained externally where necessary on all occasions).

020 Before installing the new window, the existing structural opening should be checked to ensure its stability and existing lintels checked to ensure their condition soundness. Any large repairs should be reported to the Client's Representative.

021 It is permissible to "chip back" a small area of plaster (typically 25mm) extending full height up the existing reveals and immediately adjacent to the windows; this will both facilitate removal of existing window and installation of replacement window.

022 All openings should be cleaned of debris etc., and any minor making good is expected to be carried out as part of the window replacement works.

023 All metal fixings should be at least as corrosion-resistant as BS EN 1670 Grade 3. 13.5.

Windows shall be secured in accordance with the recognised "fixing distances" for strap / lug fixings and through-frame fixings as recommended in BS 8213-4.

024 Sills must be properly supported and fixed to ensure there is no likelihood of water penetration.

025 All internal reveals should be made good and plaster or decorations made good to match existing.

026 External sealing should be by means of a cement/sand pointing around the new window frame to conceal larger gaps and then a low modulus white silicone sealant to BS EN 11600. Only silicone sealants recommended by the manufacturer/supplier should be used and not general purpose mastics. All abutments of the windows should have silicone sealant applied.

027 Prior to installation the windows are to be supplied with adequate protection against damage caused by slippage, distortion etc. They must be stored under cover in a dry and secure position, stacked vertically, not horizontally.

028 The window dimensions must be checked with those of the opening before removal of the existing window.

029 A craft knife should be used to score around the perimeter of the existing frame in order to minimise damage to plaster/decoration.

030 Windows to be removed and all existing mastic and debris cleaned away. The Service Provider is to ensure that the work is carried out in a neat and tidy manner, with all rubbish removed to a lockable skip at the end of each working day.

031 The damp proof course is to be checked by the Service Provider to ensure one is present and in good condition. Any defects present are to be brought to the attention of the Client's Representative immediately.

032 The new windows must be installed in accordance with the manufacturer's requirements, taking into account the construction of the Property. Fixing methods should take into account thermal movement. The method of fixing will generally be either through frame fixing or lug fixing.

033 Windows must be installed plumb and square without twisting, racking or distortion of any member in accordance with the manufacturer's installation tolerances.

034 The outer frame of the window must be centred in the aperture and be positioned so that it does not bridge the damp proof course. The amount by which the new window is set back from the outer face of the wall is determined by the requirement to set the internal face as close to the existing internal finishes as possible and by the bridging of the damp proof course.

035 The window frames must be secured so that the corner fixings are a minimum of 150mm and a maximum of 250mm from the corner of the frame and the intermediate fixings at centres no greater than 600mm.

036 No fixing must be closer than 150mm to a transom or mullion centre line. Should the manufacturer require more onerous fixing requirements then these must be adhered to. Care should be taken not to overtighten bolts and that packers/shims are not allowed to fall away. Care should also be taken to ensure that water tightness is maintained where lintels have to be drilled for fixing.

037 All screw fixing heads which pass through the profile are to be spot sealed with appropriately coloured or clear silicone sealer or a PVC-u cap.

038 Where electrical, television, telephone wires etc., enter a Property either through a hole in the existing window, or adjacent to it, then such services must be routed around the PVC-u window frame. A split plastic tube of suitable diameter and length for entry into the Property should be slipped over the cable so that connections do not have to be disturbed on the appliances, with the ends of the tube sealed with white silicone sealant on completion of the window installation.

039 Where any internal plaster work is disturbed when the existing windows are removed, the Service Provider must make good the plasterwork. PVC-u cover mouldings may be used to a maximum width of 30mm.

040 Bathrooms/WC windows must have obscured glazed window panes internally and one clear pane externally forming the double glazed units.

041 The Service Provider is to include for removing existing internal window sills and renewing with suitably sized PVC-u window sills and any extensions to window frames required to raise height of window openings to 800mm from finished floor level internally if required.

042 Internally the PVC-u frame must be well caulked and the gap between the reveal finish and the frame flush pointed with a one part white emulsion acrylic painter's caulk.

043 The Service Provider must provide a matching cover bead at the junction of the internal window board or tile sill and the PVC-u window frame to all windows.

044 Each window must be permanently marked or labelled in an unobtrusive position (not visible when the opening light is closed) showing details of the manufacturer, the job number of the window and the date of manufacture.

045 The standard for glass units is BS EN 1279 –2 (also part 3 for gas filled types).

046 Special care and attention must be taken to protect and avoid any damage to windows. Any damaged window must be replaced with a new window, and it must be at the Client's Representative's sole discretion as to whether a repair to a window is acceptable.

Safety Laminated Glass

047 All glazing in windows in critical locations as defined by the Building Regulations (i.e. glazing below 800mm internal sill heights in windows is to have both skins of glass units glazed with laminated low E glass – assumed to be 2 No. skins of 6.8mm laminated safety glass.

Internal and external panes in sidelights, double glazing units to be laminated glass as default. An exception may be made where a staircase ends or turns immediately inside the doorway – in this instance the internal pane may be toughened (i.e. to reduce impact pressure) – written notification must be given to the Client's Representative. External pane must always be laminated to provide security and satisfy PAS 24.

048 All safety glass is to be permanently marked on both panes with British Standard kite marks, which are to be visible after installation.

049 Both sheets of glass making up the sealed double glazed unit must be safety glass where required by the above descriptions.

050 Details of windows in critical locations are to be stated in the Service Provider's proposals for each new window when proposed drawings are forwarded to the Client's Representative for approval.

Glazing - General

051 Windows must be manufactured so that glazing or re-glazing on site is possible without the need to remove the outer frame from the structure of the building.

052 All glass and insulated glazed units should be carefully examined for damage, especially at the edges, prior to installation. Defective items must not be used.

053 The two panes of glass in the double glazed unit are to be held apart with warm edge technology, spacer bars to improve thermal efficiency and reduce the possibility of condensation forming around the perimeter of the sealed double glazed unit.

054 The glazing of the windows must be carried out immediately after the installation of the frames and casements

055 On completion of window installations, all glass to be cleaned internally and externally and left clean and free from blemishes.

056 Any glass with scratches cracks or defects to be replaced by the Service Provider at no charge.

057 All windows to be **INTERNALLY GLAZED** in argon filled sealed units in low Emissivity glass, using pre-formed gaskets inserted during the profile extrusion and secured by knock-in PVC-U glazing beads with mitred corners

058 All windows/sidelights will be totally dry-glazed with minimum 12mm wide x 3mm thick double-sided PVC foam closed cell high density security glazing tape on the inside frame rebates. Co-extruded EPDM corded glazing gaskets on the frame are acceptable as an alternative provided that bead security clips are used in conjunction with it.

059 All glazing to be clear glass except bathrooms and WC's which are to be obscure Cotswold style glass or pattern group 5.

060 Glass shall be at least the minimum thickness to meet wind load requirements of BS 6262 and BS 6375.

061 Glazing beads are to be able to withstand the design wind loading in accordance with BS 6375-1 and the tests specified in BS EN 12211.

062 Note: All timber sliding sash windows to have sash cords and lead weights to box frames to counteract the glazing weights

063 Fans are not permitted in sealed units.

064 Details of all glass types are to be stated in the Service Provider's proposals for each new window when proposed drawings are forwarded.

Certificate of Test Window/Sidelight

065 All manufacturers of window/sidelight etc. shall be required to have a "sample" submitted for testing at an accredited testing station. These samples must be inspected against the requirements set out above. All manufacturers are required to have "third party" registration provided by BBA, BSI or equivalent recognised accredited quality licensing authority for the manufacture windows/sidelights etc.

066 A copy of the respective Certificate of Compliance for Secure by Design and PAS 24 must be made available at the time of submitting for inspection, which confirmations that the manufacturer can produce the product to the required standards, along with all testing data. The Service Provider should be aware these certificates may form part of the document handover pack and if not supplied on completion and handover of the Work, will incur a financial penalty.

Delivery to site of windows/sidelights etc.,

067 In each option, primary consideration must be given to current health and safety at work legislation in respect of site practices.

Option 1 – Pre-glazed

Will be valid where the window manufacturer is commissioned on a supply only basis; the installation, therefore, being undertaken by the Service Provider.

Option 2 – Un-glazed

Will be valid where the window manufacturer is commissioned on a supply and fit arrangement. This will involve the supply of insulating glass units and pre-formed glazing gaskets to be applied on site in accordance with the manufacturer's technical data sheet.

Critical considerations to be observed:

- All glazing must conform to the recommendations contained in the relevant parts BS 6262–5 and BS 8000-7. The setting and location block positions, frame to glass and bead to glass gaskets etc. with any glass or insulating glass units must be installed in accordance with the relevant manufacturer's technical data sheet and as per the recommendations in BS 6262–5;
- All insulating glass units shall be examined for damage prior to installation; defective units shall not be used;
- Insulating units with "low emissivity coatings" shall be oriented in accordance with the manufacturer's technical data sheet; and
- Where safety glazing forms part of an glazing unit, it remains a legal requirement to ensure that the marking remains visible after installation.

Protection, Transportation, Storage & Pre installation check

068 The Service Provider must ensure the manufacturer/supplier is responsible for ensuring that all windows/sidelights are suitably protected to avoid damage during transportation and storage.

069 Windows/sidelights/glazing units (if applicable) shall not be flat-packed, but stood vertically during transportation

070 Windows/sidelights/glazing units in storage to be "kept apart" preferably with soft packing to reduce risk of transport/handling damage.

071 The Service Provider must ensure that all windows/sidelights stored on site are housed within a secure weatherproof storage facility on-site until the time of fitting. Pre-finished joinery shall not be stored in direct sunlight.

072 Prior to commencement of installation, the Service Provider should undertake the following checks -

- Consult survey sheets and ensure these are correct and clear;
- All survey measurements are recorded
- The windows/doors/sidelights supplied; are of the correct fenestration and design and in accordance with the window schedule approved by the Client's Representative;
- The glass type and pattern are correct;
- Window and glass sizes are compatible;
- All trims, gaskets etc., are correct and fitted correctly; and
- Consult survey sheets to ensure windows supplied are correctly marked and identified to those Properties being replaced.

Site Approval on delivered

073 Previous to the benchmark Properties being set, a sample Pre-Finished Timber window / sidelight shall be delivered to site by the preferred manufacturer/supplier for inspection and acceptance by the Client's Representative.

074 The manufacturer/supplier in providing the sample for acceptance must demonstrate full compliance with the specification requirements. Evidence of thermal efficiency standards being offered must be available to the Client's Representative for verification.

075 The sample window (upon acceptance) will form the "benchmark window" for the remainder of the project.

076 The Client's Representative shall reserve the right (at any stage) to have any window which is delivered to site, subsequently removed for further inspection/audit and/or independent testing to ensure that the specification requirements are being complied with.

Remove and Install on same Day

077 Existing doors to be removed are most likely to be timber in nature, although a small percentage of properties may have original PVC-u windows. The Service Provider should make every effort to have all existing windows recycled and provide waste disposal reports to the Client's Representative.

078 Replacement windows must be installed on the same day that the original windows are removed in order to maintain security and weather tightness of the structure. The existing windows should be removed with care in order to avoid damage to the Property structure and its finishes and without permitting any subsidence of the structure during or after the operation.

When providing numerous replacement windows to a single Property the Works should be undertaken on one set day to reduce the amount of disturbance to the Customer.

079 Any defects that become apparent in the integrity of the structure upon removal of any window should be reported to the Client's Representative immediately.

080 If there is a sub-sill or threshold, e.g. Concrete, slate, brick or tile, below the existing window frame it must be left in position unless otherwise specified.

Protection of Existing Fixtures etc.

081 Allow for protection of floor coverings, furniture and Customer's belongings throughout the duration of the Works.

082 The Service Provider is responsible for moving any furniture, fixtures and fittings that may be damaged during the installation of the windows/doors, prior to commencement of the replacement of any window/door and repositioning such items upon completion of the installation to each Property.

083 The Service Provider will be responsible for both internal and external protection. After the removal of the existing window/sidelight the Service Provider is to carefully cut back any internal or external flooring, finishings, cladding, wallpaper and decorations to allow for the installation of the new frames etc. The Service Provider is responsible for making good all structures, finishings and decorations up to 100mm from the face of the frame or sill.

084 The Service Provider must ensure that clean and sufficient dust sheets or protective coverings are used, when carrying out any Works. The Service Provider must ensure he has taken all adequate provisions to ensure that the soiling or damage to floor coverings and needless damage to decorations are avoided. The Service Provider must allow for any cleaning of floor coverings required as a consequence of the Works and this should be reflected in the tender Rates submitted.

085 It is recommended the Service Provider undertakes a Schedule of Condition and agrees this with the Customer prior to undertaking any Works. It is therefore considered prudent to take photographs of any damaged Customer's belongings within the vicinity of the Work prior to commencement and, where appropriate, to obtain a signed disclaimer.

Fixings

086 Screws used for fixing non-reinforced PVC-u sections will be of carbon steel with a suitable corrosion protective coating and feature a double helical thread, spoon point with a countersunk head.

087 Fixings must incorporate a combination square/cross recess drive to provide a non-magnetic stick fit.

088 Fixings for friction stay applications will be supplied with a special low profile pan head to prevent fastener head interfering with the friction stay.

089 All screws, nuts, bolts and other fastenings must be of corrosion resistant material, or be treated to give corrosion resistant properties. When subject to the acetic acid salt spray test specified in BS EN ISO 9227 for a period of 144 hours, the corrosion resistance of treated mild steel must be equal to or better than that of stainless steel samples subjected to the same test conditions.

090 All ironmongery, fixtures and fittings must be of materials resistant to, or protected against atmospheric corrosion. Metals in contact with each other must be compatible so as to prevent galvanic corrosion of dissimilar metals by electrolytic action.

091 The use of expanding polyurethane foam is not acceptable as a sole method of fixing any window into a structural opening, nor is it acceptable to be used as bedding for the window.

Fixing to be as recommended by in BS 8213-4 below is a brief summary, actual fixing recommendation should be taken from BS 8213-4 and its example diagrams:

Secured on all sides (where practicable);
Corner fixings – 150 – 250mm from external corner;
No fixings less than 150mm from centre line of a mullion or transom;
Minimum of 2 fixings per reveal;
If head is fixed with expanding polyurethane foam, then head fixings can be – • Frame width up to 1200mm – no fixings • >1200mm to <2400mm – one central fixing • >2400mm to 3600mm – two equally spaced fixings

092 The use of expanding polyurethane foam is permissible in terms of "foam filling" and as a useful addition to mechanical fixings. When the window is completed and finished there should be no visual evidence of polyurethane foam either internally or externally.

Installation "packers" should be used to set the window frame onto to allow sealant/mastic to be used as a full fill bedding material. The colour should match the window finish.

Foam filling is to be used in all windows installations to provide a closure to possible cold bridge of gaps between the wall and the frame. It is only to be used within the depth of the window frame profile i.e. it should not be used to fill gaps to reveals etc. which are to be plastered. Form filling is only in regard to the following situations –

1) To the head of a window, where the presence of pre-cast concrete or steel lintels make it impracticable or pose significant difficulties in achieving the recommended fixing distances	Up to 10mm maximum
2) To the sides of frame to make up expansion/contraction gap left either side as a result of manufactured size of window	

Foam filling must be to the full depth of the frame using only an approved fire resistant expanding polyurethane foam complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance.

093 All components should be supplied by a manufacturer complying with BS EN ISO 9001 accredited quality systems. A certificate passing warranty to the Client is to be issued by the hardware manufacturer on completion of the project.

094 Written confirmation of compliance with all of the above should be given to the Client's Representative in advance of commencement on site and will be a condition of the tender.

Fire barriers

095 In all methods of construction it is important to ensure that the cavities between internal and external skins are protected at openings for windows from the spread of fire. If these openings are not protected, in the event of a fire, smoke and fire can spread through the cavity, causing danger to occupants in other parts of the Property not immediately affected by the fire. This issue is of particular concern in timber and metal framed buildings. Attention is drawn to the Building Regulations in respect of the requirement for suitable fire barriers to be present in such buildings. Guidance is given in BS 9991, BS 9999, and the current Building Regulations Approved Document B.

096 The method of construction should be identified, and where the building is of timber or metal frame construction, the type of cavity barrier should be established. Where the barrier is a cavity sock or similar, and is likely to become dislodged or damaged by the removal of the existing frames, this should be noted on the survey sheet, and instruction given to the installation team to ensure that the cavity barrier is either repaired or replaced to maintain the original level of fire protection for the Property.

NOTE; Timber and metal frame constructions usually have a moisture barrier included in the area around openings, to resist moisture ingress into the cavity that could affect the timber sheathing or metal studwork." (Extract from BS 8213-4)

Making Good

097 The final covering and treatment of surfaces and their intersections are fundamental to the overall replacement of windows:

The primary objective of making good damaged areas adjacent to the windows is to maintain the;

- Weather-tightness; and
- Thermal performance characteristics

As required in and around reveals.

098 This protocol described below applies to all window replacements and shall be undertaken as the primarily aim to negating the need for any redecoration during/after window installation.

There will be a number of situations (i.e. age of the Property; thickness of plaster reveals; and to some extent "build issues" associated with system-built dwellings) that it may not be possible to observe all or part of this protocol. Therefore more damage may be required to the reveals and/or the window/wall to undertake the required window replacement. This could result in the need for some redecoration. Where this is likely to occur, firstly the Service Provider is required to notify the Client's Representative at Design stage. If however this is not identified until on-site stage the Service Provider must note the Properties affected and alert the Client's Representative before work commences.

Where full plaster reveals are to be undertaken – i.e. Internal and external making good; this may take place on subsequent days, but the whole operation from start to finish of each window must not exceed 3 No. consecutive working days.

099 Plaster-Patching - This process will require a small degree of plaster-patching. This will include the following areas -

- All of the reveals immediately adjacent to window frame etc.;
- Part of the reveals where strap/lug fixings have been employed.

Finishing Trims are to be Cellular extruded PVC-UE trims/beads and must conform to BS 7619 and as the below table;

	Internal Reveal (3 sides)	**External Bead (3 sides)**	**Internal Sill Board**
Single bull-nosed PVC-UE trim typically 5–7mm maximum thickness	✓		
Trim width must not exceed 100mm			
Quadrant / Bead typically 12x12mm or 18x18mm maximum **OR** Single bull-nosed PVC-UE trim typically 5 – 7mm maximum thickness		✓	
Trim width must be in range 20 – 25mm maximum			
PVC-UE Cloaked Trim typically 10–12mm in thickness in every case over-cladding the existing timber sill			✓
Removal of existing sill boards is not permissible as substantial damage is normally inflicted on window wall within rooms			

100 Trims are not to be used to simply provide or enhance the weather tightness of the window or any perimeter joints. Finishing trims shall be used to neaten the interface between frames and opening, they are only to be used in conjunction with the "plaster-patching"/making good situations as stated above. All joints must be left 'neat and tidy' with an acceptable tolerance of +/- 2/3mm on all joints/trim abutments and sealed with sealant of matching colour.

101 Internal finishing trims shall be compatible with the material of the window frame and must be colour-matched.

102 External finishing beads/trims shall satisfy the above criteria and be of an exterior quality material used in accordance with the manufacturer's technical data sheet. External beading is not required where the external reveal has been re-plastered to match existing.

For the avoidance of doubt, windows should be measured and fitted as described above and beads/trims should only be fitted to the opposite side of the determined cover/overlap. Only in exceptional cases where reveals are determined as flush will internal and external beads/trims be acceptable.

Fixing of Trims/Beads

103 All internal trims shall be secured in every case to a firm backing (junction of frame and reveal/existing sill) with a low modulus silicon sealant (as below) and sealed all round.

All external beams/trims shall be secured in every case to a firm backing (junction of the frame and plaster reveal) with the low modulus silicon sealant (as below) and sealed all round.

Sealants

104 Sealants must comply with BS EN 11600 and be low modulus grade

105 Perimeter joints externally and internally around the "as installed" window shall be sealed with a low modulus silicone sealant and "smoothed" to provide a good seal.
The sealant shall be appropriate to –

- The frame surface and colour;
- Any substrate material;
- The specific joint size and configuration; and
- Potential joint movement and weather exposure.

Implications – Customer's Blinds etc.,

106 The inclusion of a finishing trim to existing reveals and sill may in certain circumstances create an issue around the re-fitting of Customer's blinds etc. The Service Provider shall pay due regard to the existing window dressing(s) and where finishing trims are required that a "slim-line" version (5mm or less) is used.

Repairing damaged prefinished coatings on site

107 Localised repairs to coatings shall be affected by brush application on site using the same coating Material and build-up as the factory application with no discernible difference upon completion. All repairs shall be carried out in accordance with the joinery manufacturer's technical data sheet, by a competent person and to the satisfaction of the manufacturer and Client's Representative to ensure continuance of the warranty.

Cleaning of Windows

108 The protective tapes shall be removed from the as installed windows immediately or as soon as practicable after installation and the window (frame and glazing) cleaned with a suitable cleaning agent.

Final Completion Checks

109 Upon final completion of each and every window installation, the Service Provider is to confirm and check the following:-

- All glazing beads are adequately fitted and in good order;
- All hardware functions and locks operate correctly and are not stiff to use;
- All frames and glass are free from cracks, breaks and scratches etc. All frames and glass are cleaned and all internals of frames are swept clean.;
- All openings are square and operate correctly;
- There is no movement to the window;
- All restrictors, vents and hinges etc. are clean and operate correctly;
- All making good internally and externally is completed; and
- All trims are clean and sealed;

110 Once all the above items are completed, the Service Provider is to demonstrate the operation of the window to the Customer and provide the Customer with their own operating instructions for the windows. In addition, the Service Provider is to provide a Customer Satisfaction Card (to be supplied by the Client's Representative) which the Customer is requested to complete and return by free postage to the Client. In due course the Service Provider will be required to provide any means necessary to allow the Customer to sign Satisfaction Card electronically for uploading to the Client's Asset Management software.

Photographic Evidence – Removal/Installation of Windows/Sidelights

111 The Service Provider is required to take digital photographs of each completed window/sidelight installation.

The photograph should clearly show the completed internal reveals and identified by address and room (i.e. this may be done by placing an address and room labelled clipboard against the window at the time of taking the photograph – ensure clipboard does not block image of window).

112 The photographs should be retained electronically by the Service Provider and if requested provided on an individual basis to the Client i.e. in the event of any Customers making a claim against the Client.

113 The Service Provider should note that the Client's Representative will from time to time ask for evidence of these photographs and how and where they are stored. The Service Provider is required to retain these images for at least 6 years after the Date of Completion (in accordance with the Client's Retention of Documents Policy and legal timeframe for a Customer to make a claim).

Client's current manufacturers/suppliers/products

114 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT WINDOWS – GENERAL
[MIDDLE TIER]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT WINDOWS – GENERAL

General

001 This section is to be read in conjunction with the 'Replacement Windows and External doors – Surveying and Installation' section, which provides details of surveying, sampling, installation, finishing etc. – generally as per BS 8213-4 (Windows and doors - Code of practice for the survey and installation of windows and external door-sets).

002 All Windows and sidelights to achieve an 'A' energy rating certificated by the British Fenestration Rating Council (BFRC).

Design of Windows

003 On door-sets with sidelight panels, the mullion should have sufficient stiffness to ensure rigidity when the door is closed against it.

004 Existing windows may be housed within an existing concrete surround. These concrete surrounds have virtually no insulation value, lack air-tightness and contribute significantly to "cold bridging". Some will also have spalling of the concrete which may have exposed the reinforcement bars and causing the bars to rust.

As a long term strategy where concrete surrounds are encountered the Client requires **them be removed**. In all cases this will involve provision of a new sill and repair works. Facing brick constructed Properties may require render bands around the external window reveals.

Cutting off of extruding element of concrete surround and render patching **will not be allowed** as it does not remove the cold bridging issue. This will be constituted a "structural alteration" under Building Regulations and hence will require a Building Control application.

Windows Openings

005 All windows to be fitted with opening restrictors and as far as practical Egress Easy Clean Hinges.

006 All hinge components such as bottom track, link bars and rivets to be manufactured from Austenitic stainless steel to BS EN ISO 10088-2 Grade 1.4301 and fitted in accordance with manufacturer's technical data sheet limitations and recommendations. All associated hardware should be approved to PAS 24 and meet BS EN 1670 Class 4 corrosion resistance.

007 The protective tapes shall be removed from the windows immediately or as soon as practicable after installation and the window cleaned with a suitable cleaning agent.

008 Easy clean facility to allow the window to slide along the hinge track so as to be cleaned from inside the building to BS 8213-1. After cleaning, the hinge should allow the window to self-relocate and return to its original position and mode of operation simply by closing the casement.

009 All hinges should be BBA Approved or equivalent and to include a thermoplastic end point and die cast end cap with self-lubricating surface finish featuring a roof to minimise the build-up of debris.

010 Windows, after a considered and noted risk assessment, can be fitted with a clearly visible and intuitive to release restrictor.

011 The release mechanism must self-relocate in one action on closure of the vent. All components, rivets and pins should withstand a force of 600N to comply with BS 6375-2, Performance of windows and doors. Classification for operation and strength characteristics and guidance on selection and specification and BS 8213-1 - Design for Safety in Use and During Cleaning of Windows.

012 Restrictor to be tested to comply with BS 6375-2 to withstand a force of 600N when opened at the restricted position and fitted to provide a maximum opening of 100mm in the restricted position. Restrictor to be manufactured from stainless steel to BS EN ISO 10088-2 Grade 1.4301 tested to meet the requirements of BS 7412 and to meet BS EN 1670 Class 4 corrosion resistance.

013 Written confirmation of compliance with all of the above should be given to the Client's Representative in advance of commencement on site.

Weather Performance and Seals

014 All new windows must be approved to BS 6375-1 (Performance of windows and doors. Classification for weather tightness and guidance on selection and specification) to the below levels and will achieve a Class A for mechanical testing to BS 6375-2 (Performance of windows and doors. Classification for operation and strength characteristics and guidance on selection and specification):-

(a) Air permeability – 600 Pascals minimum
(b) Water tightness – 300 Pascals minimum
(c) Wind resistance according to the design wind loading but not less than 2400 pascals.

All framing including mullions, transoms and couplers shall be capable of withstanding the design wind loadings calculated in accordance with BS EN 1991-1-4:

015 Weather stripping and glazing gasket Material must not have a detrimental effect on the plastic profile.

016 Weather strips for PVC-u windows to be co-extruded weldable seals and white gaskets approved to BS 7412 and BS 4255 to increase the weather tightness of the windows.

017 The weather-stripping must be capable of being renewed without disturbing the glazing system and without removing the outer frame from the structure.

018 The weather-stripping must be continuous around the frame.

019 Weather strip seals and draught excluders between all timber sashes to be included for all windows.

020 Glazing gaskets must be thermoplastic elastomer (TPE) and must be pre- inserted into the profiles.

Window Ventilation

021 All window units are to be provided with trickle ventilators to provide 8000mm2 areas to each habitable room and 4000mm2 areas to kitchen, bathroom, WC and utility rooms.

022 The ventilator is to be fitted with an insect mesh in accordance with the requirements of BS 5440-2 and BS 7372-1. Trickle ventilators must be manufactured from either aluminium section with powder coated finish to match window colour, or high impact modified PVC-u.

All ventilators are required to have their 'equivalent areas' from testing clearly marked on the device. The fitting of cording or rod devices to ventilators, ensuring ease of use by the Customer, to be in accordance with the latest guidance in the Building Regulations Approved Documents. For new build applications ventilation requirements must be calculated from the tables in the Building Regulations Approved Documents.

023 The Service Provider is to ensure that all window Designs to habitable rooms have a window opening area of no less than 5% of the floor area. The Service Provider must bring to the attention of the Client's Representative any window Designs included in this Specification that he believes does not meet this criterion, before the manufacture of any windows.

024 The type of trickle ventilator to be fitted is to be "glazed in". Due to the Client's requirement that all PVC-u window frames must be fully reinforced (i.e. metal inserted into all profile members) "through frame" design is not permitted on PVC-u windows.

025 Front timber windows in Conservation Areas will not normally require trickle ventilators to be installed as this would be against planning policies.

Child Restrictors

026 Child restrictors are to be fitted to all windows with openings on all floors. The restrictors must not allow opening the window more than 100mm without using the restrictor switch.

027 Type of restrictors to the PVC-u windows are to be integral/in-built to hinge or push type fitted within frames on all casements outward openings and the PVC-u switch built into the top sashes on PVC-u sliding sash windows.

028 Types of restrictors for timber windows are to be agreed between Service Provider and Client's Representative prior to installation of windows – examples of types required would be Sash Stop and Limiter to sliding sash windows, and integral/in-built to hinge or button restrictor within the window frame to outward opening casements.

Window Furniture

029 Window furniture to openable sashes to be positioned in the centre line of the frame unless indicated otherwise.

030 Push button handles to be fitted to all window openings. As all windows are to be egress, key operated locks are NOT to be fitted

031 Details of window furniture are to be provided by Service Provider and approved by Client's Representative.

032 All handles to casement windows to be lever handles operating a multi-point espagnolette shoot bolt locking system with auto lock button cylinder lock. PVC-u window handles to be white powder coated aluminium and timber windows to be brass effect.

033 All side hung casement windows to be fitted with egress hinges with the lower hinge being integral push button restrictor mechanism for two handed full opening operation.

034 Top hung casements to be easy clean hinges of sufficient size to allow easy cleaning from the inside and integral push button restrictor mechanism.

035 There must be a correct correlation of hinge/friction stay capability with maximum vent weight and vent sizes i.e. sash sizes must be no larger than the hinge manufactures product table recommendations.

036 All timber sliding sash windows to be fitted with the following furniture:
- Brass Brighton Type fasteners to each window
- 2 No. D brass sash pulls to each upper sash and 2 No. sash lifts to each lower sash
- Brass sash stop and limiter window locks both sides of each window, to allow window ventilation opening of 100mm with security
- Brass dual locking screws to meeting rails of sashes

037 Hardware with provision for adjustment must be accessible for adjustment after the window has been installed. Hardware used to open/close the window must be replaceable without removing the outer frame from the structure.

038 All components should be supplied by a manufacturer complying with BS EN ISO 9001 accredited quality system.

039 Ironmongery product manufactures limitations must be strictly observed within the terms of their conditions of supply. It is the responsibility of the fabricator/purchaser to ensure that the performance of the window complies with the relevant standards and specification requirements for the particular window and that the correct product is chosen for the weight and design of each window system. The Ironmongery manufactures product information to be provided to the Client's Representative as required.

040 Window hardware wherever applicable must be supplied from a manufacturer holding a product licence under the auspices of the Home Office "Secured By Design" initiative with the aim of fulfilling the obligations placed on the housing provider to ensure a reasonable level of security to the occupants as outlined in Section 17 of the Crime and Disorder Act 1998.

041 Written confirmation of compliance with all of the above should be given to the Client's Representative in advance of commencement on site.

Locking Mechanism

042 All windows to be fitted with a Locking Mechanism that must be BBA accredited or equivalent and have been tested to the equivalent of PAS 24 security test or a Secured by Design Licensed Product

043 Locking mechanism to have an enhanced grade zinc alloy gearbox and mushroom-headed cams and shoot bolts. Where twin cam type is used, shoot bolts are not required. Minimum corrosion resistance: BS EN 1670 Class 3. Fully adjustable "Twin Cam" high performance "no crop" security locking system. Operate with up to four pairs of mushroom cams travelling towards each other locking into a double-sided security keep. Fully adjustable cams ± 1mm. keeps with a night latch locking facility.

044 All window hardware should meet BS EN 1670 Class 4 corrosion resistance.

045 All components should be capable of sustaining a minimum of 25,000 opening cycles and 1,000 full reversables under 50kg operational load without demonstrating any significant deterioration or deformation that would inhibit its function and have a Mechanical Guarantee/Warranty required (as a minimum) - 10 years.

Implications – Customer's Blinds etc

046 The inclusion of a finishing trim to existing reveals and sill may in certain circumstances create an issue around the re-fitting of Customer's blinds etc. The window manufacture shall pay due regard to the existing window dressing(s) taking note of where finishing trims are required that a "slim-line" version (5mm or less) is used for sizing of window and ensuring correct allowances to ensure sash opening.

Cleanability of Window

047 All windows must be cleanable from the inside and the design of openings and fixed units is to meet the access standards recommended in BS 8213: Parts 1-3 and Code of Practice 154.

048 New PVC-u sliding sash windows must be capable of tilt inwards to allow for cleaning and to have secure brackets fitted within the frames to hold each sash in position when tilted inwards for cleaning.

Client's current manufacturers/suppliers/products

049 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

Specification – Folkestone & Hythe District Council – Fire Safety Works

Appendix A

Choosing window type to applicable Stock

Table 1 Choosing window type to applicable Stock

STOCK APPLICABLE TO:			**STORM-PROOF CASEMENTS** Projecting Top & Side Swing Hinge	**FLUSH CASEMENTS** Projecting Top & Side Swing Hinge	**FULLY REVERSIBLE WINDOWS*** Hotel Hinge – Top Swing	**FULLY REVERSIBLE WINDOWS** Fully Reversible Hinge
	No of storeys	**Property Type**				
LOW RISE STOCK (1 – 3 Storey)	**1**	Bungalows	✓	✓		
	2	Houses	✓	✓		
	2	Flats	✓	✓		
	3	Houses	✓	✓		
MEDIUM RISE STOCK (3 – 5 Storeys)	**3**	Flat Blocks		✓	✓*	
	3	Flat over Maisonette		✓	✓*	
	3	Maisonette over Flat		✓	✓*	
	4	Flat Blocks			✓*	
	4	Flat over Maisonette Blocks			✓*	
	4	Maisonette over Maisonette			✓*	
	5	Flat Blocks			✓*	
HIGH RISE STOCK (6 – 20 Storeys)	**6-20**	Multi-Storey Flat Blocks				✓
* Floors 1 & 2 will be FLUSH CASEMENTS to reflect the same "fenestration" as the Fully Reversible Window - Floors 3 - 5 will be FULLY REVERSIBLE (Hotel Hinge)						

REPLACEMENT PVC-u WINDOWS
[LOWER TIER – Client to delete if not applicable]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT PVC-U WINDOWS

MATERIALS AND MANUFACTURE

PVC-u Windows

001 This section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Surveying and Installation' and 'Replacement Windows – General'.

002 All new PVC-u windows shall be purpose made BBA approved or equivalent, fully welded and fully reinforced PVC-u to BS 7412, BS EN 12608, PAS 24 and Secured by Design certified.

003 The windows fabricator/contractor is to be a licensed kite marked manufacturer to BS 7412, and all products to be covered by BS EN ISO 9001 and an 'A' energy rating certificated by the British Fenestration Rating Council (BFRC).

PVC-u Window Installations Specific

004 To all windows where timber sliding sash windows are to be removed and replaced with PVC-u windows, the Service Provider is to include for new windows to have pressure treated timbers around the windows wrapped in damp proof course to infill the old window sash boxes. The timber packers to then be covered with PVC-u clip on liners, and small gaps (up to 10mm) filled with fire resistant expanding polyurethane in-situ foam with closed cell structure between 65% and 75% complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance.

005 Under no circumstances are the old box frame cavities to be filled with expanding polyurethane foam only. Plaster is then to be made good and new plaster covered with wider PVC-u architraves to reduce damage to wall decorations.

006 The use of 'make-up' pieces (clip on's) as means of standardising manufacturing sizes should not be used under any circumstances without the prior approval of the Client's Representative. In only special circumstances will approval be given, and then the make-up size should not exceed 15mm either side or head.

PVC-u Windows Section Profiles and Reinforcement

007 Extruded window profiles shall only be those itemised on the window manufacturer/contractor's kite marked licence and the type testing carried out by a third party testing house to BS 7412.

008 The Material from which the extruded four chambers profile sections are made shall consist of white high impact modified un-plasticised poly vinyl chloride with a class 1 surface spread of flame resistance to the requirement of BS 476.

Manufactured and extruded hollow PVC-u profiles to BS EN 12608. PVC-U Material shall have a multi-chambered design (5 chambers minimum) for enhanced thermal efficiency.

009 All joints to be welded joints with a grooved finish.

010 Reinforcement to be installed to all casement and frame members.

011 Reinforcement is to be fixed with self-tapping stainless steel screws to BS EN ISO 3506-1 and 2 or, sheradised coated steel screws at 300mm centres so that the reinforcement does not move or rattle when the window is in use.

012 Reinforcement must be made of hot dipped coated steel reinforcement to comply with BS EN 10346 or Aluminium reinforcement to comply with BS EN 485-2; BS EN 515 or BS EN 755-9 (as laid down in BS 7412) or hot dipped prime galvanised steel complying with BS EN ISO 1461, BS EN 10132 and BS EN ISO 9015.

013 The profile must be extruded from un-plasticised polyvinyl chloride (PVC-u) therefore recyclable at the end of its life. Only those additives and pigments may be used that are needed for the manufacture of the compound and its subsequent conversion into sound, durable extrusions of good surface finish and mechanical strength, as assessed by the requirements of this specification.

014 The PVC-u Material frame, that the profiles are to be made from, must conform to the specification given in Table 1. The tests must be carried out on pressed plaques prepared from milled sheet*, under standard conditions as specified in BS EN ISO 1163-2. (* with the exception of the impact tests which are carried out on samples cut from the face sides of extruded profile.)

015 Profile wall thickness to be classified in accordance with the requirements of BS EN 12608 (Unplasticised polyvinylchloride (PVC-u) profiles for the fabrication of windows and doors. Classification, requirements and test methods).

016 The colour of the profile must be uniform and the colour of the profiles in a system must be uniform. The finish of the windows is to be white to 40% Gloss (RAL 9003 equivalent). The profile must be free from foreign bodies, cracks or sink marks when viewed by normal corrected vision at 90 degrees to the surface and at a distance of 1 metre in normal diffused north light.

017 The profiles must be straight such that the longitudinal axis of the profile as measured on the face surfaces may deviate from the straight line by no more than 1mm/metre.

018 Tolerances on external dimensions (from BS EN 12608)

External dimension	Tolerance
Depth (D) ≤ 80	+/- 0.3
> 80	+/- 0.5
Overall width (W)	+/- 0.5

019 No rework/regrind material is to be used in any section, which will be subjected to any weathering. Rework/regrind material will only be allowed in internal glazing bead extrusions.

Construction

020 All corners and intersection joints between frames, mullions and transoms must be welded.

021 The excess material created by the welding process must be removed by a grooving or flush surface method. In either case, the method used must not weaken the profile or the joint, and must retain sufficient wall thickness.

022 Only where Instructed by the Client's Representative must windows be provided with external projecting PVC-u sills. The sill must be from the same manufacturer as the PVC-u windows.

023 These sills must be properly supported, and hollow sill sections must have end caps to ensure that no water penetration occurs at the end of the sills. The sill and window frame must be jointed in accordance with the manufacturer's technical data sheet to ensure water and weather tight joint.

024 Insulated infill panels to window frames must be provided where Instructed by the Client's Representative and fixed with internal glazing beads.

025 The panels must consist of an inner core of high density thermal insulation (min 0.033W/m2K) and outer layers of coloured plastic coated steel skins (skins to be a min of 0.5mm think). The colour of the panels, must be approved by the Client's Representative, prior to the Service Provider ordering the panels.

026 The finished window must be free from all sharp edges, burrs and the like that might be a hazard to the user.

Performance Requirements

027 All windows are to comply with BS 7412 and BS EN 12608.

028 The Service Provider must be able to provide test reports prepared by a UKAS accredited testing house to confirm that the windows meet the criteria. The Client's Representative reserves the right to have any window provided for the Contract tested to check its compliance with these performance requirements.

029 The new BS EN test methods are more demanding than the old. One major factor is the introduction of a final 'safety test' on windows. A 2000 Pa exposure rated window would have to withstand a 'safety' test where gusts of 3000 Pa are applied (both positive and negative pressure)

Architraves and sills

030 To every new PVC-u window and door, carefully remove all existing internal architraves and sill boards and replace to match existing in white PVC-u **with mitred joints** to architraves.

031 All trims are to be sealed with white silicon to the window frame and sealed to decorations.

032 Sill boards to have rounded nosing finish and sealed to undersides with white silicon and provided with end caps.

033 Include for PVC-u quadrant piece around casement windows to internal recesses.

034 To all windows where timber sliding sash windows are to be removed and replaced with PVC-u windows, the Service Provider is to include for PVC-u liners to inner reveals to form square reveals for new PVC-u windows and cover with wider 150mm PVC-u architraves to minimise disturbance.

Drainage

035 The windows must include a self-drainage system by means of slots/ holes which must under no circumstances drain through chambers incorporating reinforcement. All drainage slots/ holes must be neatly cut out with no lips to allow free drainage of water from the frames to the outside of the building.

036 Matching PVC-u caps must be provided to cover all visible external drainage slots. Care must be taken to ensure that glazing blocks or spacers do not obstruct drainage from the glazing rebate.

Client's current manufacturers/suppliers/products

037 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

TABLE1 MINIMUM PROPERTIES OF PVC-u MATERIAL TO BE USED FOR FABRICATION OF WINDOW		
MATERIAL PROPERTY	**TEST METHOD**	**REQUIREMENT**
Vicat Softening Point	BS 2782-1: Part 1: Method 120B	$78^0C \pm 2^0C$
Apparent modulus of Elasticity (flexural)	BS ISO 6721-10 Method 335A. Rate 5mm/min	2500 MPa
Impact Strength	BS ISO 6721-10: Method 359	$20KJ/m^2$ minimum
% change impact strength after accelerated ageing		70% minimum
Notch impact strength	BS ISO 6721-10: Method 359A	$12KJ/m^2$ minimum
Low temperature impact	A 300mm profile sample supported at 200mm centres. Condition at one hour – 10^0C. Strike flat surface with rounded 1kg weight from 1 metre.	
Colour retention after artificial accelerated weathering	BS 2782: Part 5: Method 540D and Method 540G. Sample to be exposed to total irradiation of $8GJ/m^2$ in wet/dry cycle.	
Colour retention after natural weathering for a period of 60 months	DIN 3386	Maximum colour change allowed is that rated 3, using BS 1006: Part A03
Heat reversion	200mm of profile tested. Mark profile 1cm from each end and age at 100^0C for one hour. Cool and re-measure distance between marks. Compare before and after ageing and express as % change.	No visible signs of deterioration Maximum reversion allowed – 2%
Profile delamination post heat ageing	200mm of profile tested. Subject sample to 30 minutes at 150^0C. Visually inspect	No bubbles, cracks or delamination should be found
Heat Stability	BS 2782: Part 1: Method 130A	Not less than 85 minutes
Flame Resistance Weld factor	BS 476 Part 7 Samples of profile are butt welded together at 180 degrees. Cut sample from joined faces according to requirements of the now withdrawn BS 2782-Part 3: Method 320C so that weld line is in centre. Five samples are tensile tested to the requirements of the now withdrawn BS 2782-3: Method 320 at a rate of 5mm/min. Five samples of un-welded section are tested in comparison. Sample condition at 20^0C for 1 hour Weld factor – Maximum stress valve welded. Maximum stress control sample. Profile cut at 45 degrees and welded to give 90 degree corner. Condition at 20^0C for 1 hour. Load applied to deform on leg of corner piece.	Class 1
Corner Weld Strength	BS EN ISO 868 or DIN53505 – Shore hardness Table D	Deformation of horizontal member should be minimum 5mm with no breakage of the corner weld line.
Hardness		77-79

Notes on tables above Please refer to BS EN 12608 for details of test methods and standards currently adopted.

REPLACEMENT PRE-FINISHED TIMBER WINDOWS
[LOWER TIER – Client to delete if not applicable]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT PRE-FINISHED TIMBER WINDOWS

Timber Windows

001 This section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Survey and Installation' and 'Replacement Windows – General'.

002 All new pre-finished timber windows shall be purpose made pre-treated timber double glazed windows manufactured to BS 644 and PAS 24.

003 All Timber Window manufacturers shall produce timber windows and the ranges required to the highest standards, all of which have been approved by the British Woodworking Federation's (BWF) Timber Window Accreditation Scheme (TWAS) and hold a "third party" registration by BBA or equivalent.

004 All timber for constructing windows should be in accordance with BS EN 942 (Timber in Joinery) and sustainably obtained as per European Union Timber Regulation (EUTR).

005 All softwood joinery to be subject to preservation treatment by spirit based double vacuum pressure impregnation in compliance with BS 8417 (Preservation of wood). The moisture content of the timber sections shall be in the range of 14 – 16% before assembly and the application of any preservative treatment or coatings

Timber Window Installations Specific

006 Where no 'check' reveal is present install the new window frame wrapped in an approved damp proof course. Where 'checked' reveal is present the window is to be placed directly behind the DPC located behind the external skin.

The "as installed" windows shall in every case operate correctly.

Avoid (as far as reasonably practicable) unnecessary damage to the internal plastered reveals irrespective of how they may be finished (i.e. paint/wallpaper/ tiling etc.,). fixing methods will be directly affected by the condition of any cavity closer.

The new frame shall maintain the recommended movement gap (typically 5mm) each side; once the frame is fixed, this gap (up to maximum 10mm) can be "foam filled" to the full depth of the frame using an approved fire resistant expanding polyurethane foam complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance. Fixings should be at least as corrosion-resistant as BS EN 1670 Grade 3. Windows shall be secured in accordance with the recognised "fixing distances" for strap / lug fixings and through-frame fixings as recommended in BS 8213-4;

Timber Window Styles

Dwelling Type	Window Type
Low rise stock (1-3) storeys- Bungalows, houses, flats	Storm proof casement (projecting top and side hung hinge) Flush casement. (projecting top and side swing hinge)
Medium rise stock (3-5) storeys- Flats block, flats over maisonettes (opposite), maisonettes. Over maisonettes	Flush casement. (Projecting top & side swing hinge) Fully reversible windows- (hotel hinge top swing) Floors 1 & 2 will be FLUSH CASEMENTS to reflect the same "fenestration" as the fully reversible window Floors 3-5 will be FULLY REVERSABLE (Hotel Hinge)
High rise stock (6-20) storeys- Multi storey flats	Fully reversible hinge.

007 All new timber windows are to be purpose made pre-treated.

008 All new windows to be double-glazed and must have features to match existing, e.g. vertical beadings, curved sashes, cover mouldings and horn details etc.

009 All new windows to be pre-finished prior to delivery and installation on site.

010 All external sills to new windows to be pre-approved by the Client's Representative.

Timber Windows Architraves and Sills

011 To every new timber window, carefully remove all existing internal architraves and sill boards and replace to match existing surrounds, with mitred joints to architraves.

012 All gaps to walls or gaps to joints are to be sealed prior to decorations.

013 Sill boards to have rounded bull nose timber finish.

Painting of Timber Windows

014 All new timber windows/sidelights etc., shall be delivered to site with the full coating system. All external edges of timber windows shall have a radius of not less than 1.5mm and not greater than 3.0mm in accordance with any Paint Manufacturer's Technical data sheet. This detail is acceptable through all joint lines.

015 Where required, pre-prime and paint all new architraves before fixing, and then once installed, rub down, fill as necessary and paint 2 No. coats white undercoat and 1 No. gloss white paint, rubbing down between all coats.

016 The Tendered rates include to repaint existing external concrete sills externally to the windows and touch up any painted stonework or render around the windows to match existing, as disturbed during the window renewal works.

Drainage

017 The windows must include a self-drainage system by means of slots/ holes which must under no circumstances drain through chambers incorporating reinforcement. All drainage slots/ holes must be neatly cut out with no lips to allow free drainage of water from the frames to the outside of the building.

Client's current manufacturers/suppliers/products

018 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

REPLACEMENT UNDECORATED TIMBER WINDOWS
[LOWER TIER – Client to delete if not applicable]

Specification – Folkestone & Hythe District Council – Fire Safety Works

REPLACEMENT UNDECORATED TIMBER WINDOWS

Timber Windows

001 This section is to be read in conjunction with the general specification for 'Replacement Windows and External Doors – Survey and Installation' and 'Replacement Windows – General'.

002 All new undecorated timber windows shall be factory primed, purpose made pre-treated timber double glazed windows manufactured to BS 644 and PAS 24.

003 All Timber Window manufacturers shall produce timber windows and the ranges required to the highest standards, all of which have been approved by the British Woodworking Federation's (BWF) Timber Window Accreditation Scheme (TWAS) and hold a "third party" registration by BBA or equivalent.

004 All timber for constructing windows should be in accordance with BS EN 942 Timber in Joinery and sustainably obtained as per European Union Timber Regulation (EUTR).

005 All softwood joinery to be subject to preservation treatment by spirit based double vacuum pressure impregnation in compliance with BS 8417 (Preservation of Wood). The moisture content of the timber sections shall be in the range of 14 – 16% before assembly and the application of any preservative treatment or coatings.

Timber Window Installations Specific

006 Where no 'check' reveal is present install the new window frame wrapped in an approved damp proof course. Where 'checked' reveal is present the window is to be placed directly behind the DPC located behind the external skin.

The "as installed" windows shall in every case operate correctly.

Avoid (as far as reasonably practicable) unnecessary damage to the internal plastered reveals irrespective of how they may be finished (i.e. paint/wallpaper/tiling etc.,). fixing methods will be directly affected by the condition of any cavity closer.

The new frame shall maintain the recommended movement gap (typically 5mm) each side; once the frame is fixed, this gap (up to maximum 10mm) can be "foam filled" to the full depth of the frame using an approved fire resistant expanding polyurethane foam complying with BS 476 Parts 20 and 22, BS EN 1634-1, BS EN 1366-4 and be of the correct fire performance rating for Building Regulations compliance. Fixings should be at least as corrosion-resistant as BS EN 1670 Grade 3. Windows shall be secured in accordance with the recognised "fixing distances" for strap / lug fixings and through-frame fixings as recommended in BS 8213-4;

Timber Window Styles

Dwelling Type	Window Type
Low rise stock (1-3) storeys- Bungalows, houses, flats	Storm proof casement (projecting top and side hung hinge) Flush casement. (projecting top and side swing hinge)
Medium rise stock (3-5) storeys- Flats block, flats over maisonettes (opposite), maisonettes. Over maisonettes	Flush casement. (Projecting top & side swing hinge) Fully reversible windows- (hotel hinge top swing) Floors 1 & 2 will be FLUSH CASEMENTS to reflect the same "fenestration" as the fully reversible window Floors 3-5 will be FULLY REVERSABLE (Hotel Hinge)
High rise stock (6-20) storeys- Multi storey flats	Fully reversible hinge.

007 All new timber windows are to be purpose made pre-treated.

008 All new windows to be double-glazed and must have features to match existing, e.g. vertical beadings, curved sashes, cover mouldings and horn details etc.

009 All new windows to be factory pre-primed prior to delivery and installation on site.

010 All external sills to new windows to be pre-approved by the Client's Representative.

Timber Windows Architraves and Sills

011 To every new timber window, carefully remove all existing internal architraves and Sill boards and replace to match existing surrounds, with mitred joints to architraves.

012 All gaps to walls or gaps to joints are to be sealed prior to decorations.

013 Sill boards to have rounded bull nose timber finish.

Painting of Timber Windows

014 All new timber windows/sidelights etc., shall be delivered to site factory primed. All external edges of timber windows shall have a radius of not less than 1.5mm and not greater than 3.0mm in accordance with any Paint Manufacturer's Technical data sheet. This detail is acceptable through all joint lines.

015 All new timber windows/sidelights etc. are to be built in prior to full decoration being applied. Make good any exposed/damaged surfaces with approved wood filler. Rub down and leave smooth before applying 1 No. coat of approved primer to bare wood and filled areas. Paint 2 No. coats of white undercoat and 1 No. coat of white gloss paint to all surfaces, rubbing down between all coats.

016 Where required, pre-prime and paint all new architraves before fixing, and then once installed, rub down, fill as necessary and paint 2 No. coats white undercoat and 1 No. gloss white paint, rubbing down between all coats.

017 The Tendered rates include to repaint existing external concrete sills externally to the windows and touch up any painted stonework or render around the windows to match existing, as disturbed during the window renewal works.

Drainage

018 The windows must include a self-drainage system by means of slots/ holes which must under no circumstances drain through chambers incorporating reinforcement. All drainage slots/ holes must be neatly cut out with no lips to allow free drainage of water from the frames to the outside of the building.

Client's current manufacturers/suppliers/products

019 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

METALWORK

METALWORK

MATERIALS

Generally

001 Grades of metals, section dimensions and properties are to be to the appropriate British Standards. When not specified, select grades and sections are to be appropriate for the purpose.

Prefinished metal products may be used if methods of fabrication do not damage or alter appearance of the finish, and the finish is adequately protected.

Fasteners and fixings are to be to the appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

Mild Steel

002 Ensure steel used is free from imperfections. Before fixing, remove all rust, mill scale, welding slag and flux residue from iron and steel surfaces by wire brushing, scraping, hammering and/or flame cleaning.

003 Hot rolled structural steel long and flat products (excluding structural hollow sections and tubes) are to be to BS EN 10025-1.

004 Fine grain steels, including special steels are to be to BS EN 10025-3 and -4.

005 Steels with improved atmospheric corrosion resistance are to be to BS EN 10025-5.

006 High yield strength steel plate and wide flats are to be to BS EN 10025-6

Galvanised coatings

007 Apply galvanised coatings to BS EN ISO 1461.

008 Powder Coatings unless specified otherwise, comply with all relevant requirements and recommendations of BS EN 12206-1 for aluminium alloy backgrounds; BS EN 13438 for galvanized steel backgrounds; British Coatings Federation: Code of safe practice - Application of powder coatings by electrostatic spraying.

Garage door repairs

009 Ensure fittings and furniture for metal 'up and over' garage doors generally match the existing fittings.

WORKMANSHIP

General repairs

010 Cut out defective metal balusters and replace with new, including all welded joints. Prime where damaged and leave ready to receive decorative finish.

011 Cut out defective ironmongery and replace with new, including any welding that may be necessary. Prime where damaged and leave them ready to receive the finish.

012 Make good damaged welds including removing the remains of the weld, wire brushing, hacking the surface and re-welding. Prime where damaged and leave it ready to receive the finish, in accordance with the details in the "Painting and Decorating" section.

013 Remove a defective arch bar by:
- cutting it out from brickwork;
- providing temporary supports;
- replacing with a new primed mild steel bar; and
- making good the brickwork with a finish to match the existing finish.

Fabrication

014 Ensure compliance with any stated design and performance requirements. Ensure sections and dimensions are in accordance with relevant British Standards. Do not permit contact between dissimilar metals. Mitre corner junctions of identical sections. Use tack welds only for temporary attachment. Make joints with parent material fully bonded throughout with no inclusions, holes, porosity or cracks. Prevent weld splatter falling on surfaces that will be self-finished and visible in completed work. Remove traces of flux residue, slag and weld splatter.

Avoid contact between dissimilar metals in components.

The finished components are to be rigid and free from distortion, cracks, burrs and sharp arrises, moving parts to be free moving without binding, and corner junctions of identical sections are to be mitred.

Cold formed work is to have accurate profiling with straight arises.

Surfaces of metals to receive adhesives are be degreased, abraded mechanically or chemically etched and rimed to suit the adhesive being applied,

015 Steel is to be welded to BS EN 1011-1.

016 Stainless steel is to be welded to BS EN 1011-1 using double butt welds, backing bars, jigging and other methods to remove distortion.

017 Aluminium alloys are to be welded to BS EN 1011-4.

018 Brazing is to be to BS EN 14324 with butt joints finished smooth and level with adjacent surfaces.

019 All sharp arrises are to be removed from any welding or brazing to prevent hazards.

Welding

020 Welding procedures:
- Method and standard: Metal arc welding to BS EN 1011-1 and -2;
- Welding Procedure Specification (WPS): Not required.

Preparation:
- Joint preparation: Clean thoroughly.
- Surfaces of materials that will be self-finished and visible in the completed work: protect from weld splatter.

Jointing:
- Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks;
- Dissimilar metals: Not applicable;
- Strength requirements: Welds to achieve design loads;
- Heat straightening: Service Provider to submit proposals;
- Complex assemblies: Agree priority for welding members to minimize distortion caused by subsequent welds;
- Tack welds: Use only for temporary attachment;
- Jigs: Provide to support and restrain members during welding;
- Filler plates: Service Provider to submit proposals;
- Lap joints: Minimum 5 x metal thickness or 25 mm, whichever is greater;
- Weld terminations: Clean and sound.

Finishing:

Welded and Brazed Joints visible in Complete Work:
- Standard: To BS EN ISO 8501-3. - Preparation grade:P1.
- Butt joints: Smooth, and flush with adjacent surfaces.
- Fillet joints: Neat. • Grinding: Grind smooth where indicated on drawings.

Preparation for Application of Coatings
- General: Complete fabrication, and drill fixing holes before applying coatings.
- Paint, grease, flux, rust, burrs and sharp arrises: Remove

Balustrades

021 Isolated balustrades shall be mild steel hot dipped after manufacture to BS EN 10025-1, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint, handrails are to be continuous and smooth to avoid key clamp style fixings;

022 Isolated external balustrades for ramp access to adaptations, steps and stepped ramps shall be 48.3mm circular hollow section mild steel, hot dip galvanised after manufacture to BS EN 10025-1, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint, handrails are to be continuous and smooth to avoid key clamp style fixings;

Mesh Infill to Handrails

023 Proprietary mild steel to BS EN 10025-1 galvanised diamond pattern mesh netting fixed to existing galvanised steel tubular handrails, guarding to provide a minimum horizontal force/metre run of 0.74 kN/m, galvanised after fabrication, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint;

024 Proprietary mild steel to BS EN 10025-1 galvanised diamond pattern mesh netting fixed to new galvanised steel tubular handrails, guarding to provide a minimum horizontal force/metre run of 0.74 kN/m, galvanised after fabrication, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint;

Vertical Railings to Galvanised Tubular Handrails

025 Mild steel to BS EN 10025-1 hot dipped galvanised after manufacture vertical railings to new or existing galvanised tubular handrails galvanised after fabrication, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint;

Isolated Wall Mounted External Handrails

026 48.3mm diameter circular hollow section mild steel to BS EN 10025-1 hot dipped galvanised after manufacture isolated wall mounted external handrails galvanised after fabrication, all welding /fabrication of components shall be complete prior to galvanising, bolted site connections only will be accepted, no site welding is permitted, damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint;

PVC-u Handrail Cover

027 Moulded PVC-u section to suit 50mm x 8mm core rail and installed in accordance with the manufacturer's technical data sheet;

Fixings Generally

028 Methods of fixing and fastenings to be as specified using fixing and jointing methods and types, sizes, quantities and spacing of fastenings which are suitable having regard to:

- Do not modify, cut, notch or make holes in structural members except as shown on any applicable drawings or as approved.
- All welding/fabrication of components shall be complete prior to galvanising.
- Do not site wild connections. Bolted site connections only will be accepted.
- Damaged sections of galvanising and exposed bare metal shall be liberally painted with proprietary cold galvanising paint.

Nature of and compatibility with product/material being fixed and fixed to.
Recommendations of manufacturers of fastenings and manufacturers of components, products or materials being fixed and fixed to.
Materials and loads to be supported.
Conditions expected in use.

Completion

029 Upon completion of the installation works, the Service Provider is to provide the Client's Representative with the manufacturer's maintenance instructions and technical data sheets, guarantees, warranties, test certificates, record schedules and log books.

030 Remove all temporary protective coverings and carry out any cleaning and post installation maintenance in accordance with the manufacturer's technical data sheets.

Client's current manufacturers/suppliers/products

031 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

PLASTERWORK AND OTHER FLOOR, WALL AND CEILING FINISHES

PLASTERWORK AND OTHER FLOOR, WALL AND CEILING FINISHES

MATERIALS

Cement

001 Use either normal setting ordinary or rapid hardening or sulphate resisting Portland cement or blast furnace cement. All cement must comply with BS EN 197-1 and be manufactured by a firm with their capability assessed and registered with BSI or other quality certification body acceptable to the Client's Representative.

Lime

002 Use Class B hydrated lime, to BS EN 998-1 and BS EN 998-2.

Sand

003 Sand for mortar is to be to BSEN 13139 0/2 FP or MP Category 3 unless specified otherwise. Sand for facework mortar is be from one source, different laods to be mixed if necessary to ensure consistency of colour and texture'.

Sand and aggregate Material Property Limits	BS EN 13139 Category for other aggregates and Sand	BS EN 13139 Category for Air cooled blast furnace slag
Acid soluble sulphate content	AS0.2	AS 1.0
Total sulphur	$\leq$ 1% by mass	$\leq$ 2% by mass
Water soluble content	$\leq$ 1% by mass	$\leq$ 1% by mass
Loss on ignition	PFA ONLY$\leq$ 7% by mass	$\leq$ 3% by mass

Where mixes contain lime, the lime:sand mortar shall be obtained premixed from a competent mortar manufacturer to the satisfaction of the Client's Representative. Ordinary Portland cement is added on site by volume in accordance with the mix specification.

Coloured mortar, where required, to be made using a proprietary coloured ready-mixed lime:sand to BS EN 998-1 and BS EN 998-2; colour as shown on drawings.

Building paper

004 Building paper is to be water resistant breather type. Starting from the bottom, fix with clout nails or staples in horizontal lengths, with 100mm laps.

Membranes

005 WORKMANSHIP GENERALLY:
Apply Materials carefully to provide a completely waterproof, continuous membrane. Laps to be not less than 300mm. Ensure that surfaces to be covered are clean, dry, smooth and free from voids, sharp protrusions and frost. Protect finished sheeting adequately to prevent puncturing during following work. Cover sheeting with permanent overlying construction as soon as possible. Immediately prior to covering, check for damage and repair as necessary. Where services pass through sheeting, make junctions completely watertight by forming collars to pipes. Identify position of adjoining damp proof courses and expose to view where concealed. Thoroughly clean away all mortar, debris and dirt from vicinity of DPCs, including any projecting portions of DPCs. DPCs which project from the wall: Lap by 200mm with sheeting and fully bond/seal to projecting DPC.

006 POLYTHENE DPM:
Type: PIFA - Standard 6/83A:1995. Min.300 micrometres / 1200 gauge. Lay sheets neatly and tuck well into angles to prevent bridging. If sheets cannot be kept dry, double welted joints may be used provided they are temporarily weighted to hold the folds in position prior to laying concrete or insulation. Form folded welts at corners in upstands.

007 RADON GAS IMPERMEABLE MEMBRANE BARRIER SHEETING SYSTEM (300µm):
- Primary protection for use in Zone 1 at ground level with ground supported and suspended concrete floors;
- Performance:
  - Radon Permeability 12x10-12m²/s: Laboratory Test;.
  - Low temperature flexibility to BS EN 495-5:2001 – No cracking at -25º Centigrade;.
- Products:
  - Low Density Polyethylene (LDPE) sheet, minimum 300 micrometres (1200 gauge);
  - Tensile strength to BS EN ISO 527-3 and BS 2782 Method 326E: 1995.
  - Minimum 13N/mm²;
  - Elongation to BS EN ISO 527-2;
  - Minimum 450%.;
  - Tear Resistance to BS 2782-3: Method 360C;
  - Minimum 100N;
- Accessories:
  - 5mm polypropylene geotextile protection layer for gas membrane barrier;
  - 30mm double sided butyl tape self-adhesive bonding strip sealant for compression joints; to be non-hardening permanently flexible and durable;.
  - 110, 120 or 130mm nominal diameter take external dimension of pipe preformed Top Hat pipe collars section (for service pipes);
  - 110 -140mm diameter adjustable stainless steel clip;
- Preparation:
  - Barriers shall be stored rolled up in a dry area until they are to be used; keep away from sharp objects and chemical solvents;
  - Store rolls on their sides under cover until needed;
- To offer protection against granular fill or rough surfaces of pre-cast concrete units; lay down geotextile protection layer;
- Installation in accordance with manufacturer's technical data sheet.

008 RADON GAS IMPERMEABLE MEMBRANE BARRIER SHEETING SYSTEM (300µm):
- Primary protection for use in Zone 2 at ground level with ground supported and suspended concrete floors;
- Performance:
  - Radon Permeability 12x10-12m²/s: Laboratory Test;
  - Low temperature flexibility to BS EN 495-5:2001 – No cracking at -25º Centigrade;
  - Form an airtight, durably sealed, barrier across the whole of the building; including the floor, internal walls and both external and party walls - along with the associated cavities.
  - Carefully install and seal sections of the barrier; ensure airtight sealing at all joints, laps, service entries and cavity trays.
- Products:
  - Low Density Polyethylene (LDPE) sheet, minimum 300 micrometres (1200 gauge);
  - Tensile strength to BS EN ISO 527-3 and BS 2782 Method 326E: 1995.
  - Minimum 13N/mm²;
  - Elongation to BS EN ISO 527-2;
  - Minimum 450%.;
  - Tear Resistance to BS 2782-3: Method 360C;
  - Minimum 100N;
- Accessories:
  - 5mm polypropylene geotextile protection layer for gas membrane barrier;
  - 30mm double sided butyl tape self-adhesive bonding strip sealant for compression joints; to be non-hardening permanently flexible and durable;.
  - 110, 120 or 130mm nominal diameter take external dimension of pipe preformed Top Hat pipe collars section (for service pipes);
  - 110 -140mm diameter adjustable stainless steel clip;
- Preparation:
  - Barriers shall be stored rolled up in a dry area until they are to be used; keep away from sharp objects and chemical solvents;
  - Store rolls on their sides under cover until needed;

- To offer protection against granular fill or rough surfaces of pre-cast concrete units; lay down geotextile protection layer;
- Installation in accordance with manufacturer's technical data sheet.

009 INSTALLATION OF RADON GAS IMPERMEABLE MEMBRANE:

- Form an airtight, durably sealed, barrier across the whole of the building; including the floor, internal walls and both external and party walls - along with the associated cavities;
- Carefully install and seal sections of the barrier; ensure airtight sealing at all joints, laps, service entries and cavity trays.

Application and arrangement:

- Remove loose debris from the surface of the concrete slab. The surface of the slab should be smooth and free from projections or indentations.
- Cover entire site with main membrane barrier to be loose-laid directly onto a protection layer(as recommended by manufacturer) on concrete slab; allow for 150mm over lapping joints between sheets; lay main membrane barrier neatly, tuck well into angles to prevent bridging and creasing.
- Repair or replace any damaged areas.
- Take care to ensure all joints have a clean, dry and dust-free overlap.
- Carry edges of membrane under DPC of external walls. Avoid slip panes as per PD 6697:2010.
- Provide 600mm wide membrane strip under internal walls; allow for 150mm overlapping joints with the main membrane barrier.
- In the case of an extension to an existing dwelling, cut a chase in the existing wall and tuck in the membrane. If there is a radon membrane in the existing floor, make the cut slightly above or below.
- For service pipe penetrations through the main membrane barrier, cut a hole in the barrier so that it fits neatly around the penetration and install preformed "Top Hat" pipe collars membrane sections ensuring 150mm overlap with main membrane barrier.
- Ensure a secure gas-tight seal connection at membrane barrier overlaps using one strip of double-sided tape; 2 No. strips to be used to seal "Top Hat" pipe collar sections - firstly tape butt joint main membrane barrier to service pipe and secondly, membrane barrier to "Top Hat" Section.
- Install and tighten adjustable stainless steel clip around top of "Top Hat" pipe collars to ensure a gas tight seal is maintained around service penetrations.
- Ensure that the barrier is not punctured as building work continues; any damage must be repaired before laying the floor slab; cover the barrier with the permanent over lapping construction as soon as possible.

Slip Resistance

010 The Pendulum Test Value (PTV) should be 36+ (CoF) or above when tested, wet or dry as appropriate for the anticipated service conditions including any likely surface contamination by the method described in BS 7976-1-2 and 3 as required by BS 8204-6.

011 For plaster, use Gypsum building plasters or 'Pre-mixed Lightweight Plaster', plaster to BS EN 13279-1(see below) to a minimum thickness of 8mm, Finish Plaster to BS EN13279; minimum thickness of 2mm to bonding plaster, minimum thickness of 3mm when applied to plasterboard.

Types of gypsum binders and gypsum plasters	
Designation	Notation
Gypsum Binders e.g.:	A
• gypsum binders for direct use or further processing (dry powder products);	A1
• gypsum binders for direct use on site	A2
• gypsum binders for further processing (e.g. for gypsum blocks, gypsum plasterboards, gypsum elements for suspended ceilings, gypsum boards with fibrous reinforcement)	A3
Gypsum plaster:	B
• gypsum building plaster;	B1
• gypsum based building plaster;	B2
• gypsum-lime building plaster;	B3
• lightweight gypsum building plaster;	B4
• lightweight gypsum based building plaster;	B5
• lightweight gypsum –lime building plaster;	B6
• gypsum plaster for plasterwork with enhanced surface hardness.	B7
Gypsum plaster for special purposes:	C
• gypsum plaster for fibrous plasterwork;	C1
• gypsum mortar;	C2
• acoustic plaster;	C3
• thermal insulation plaster;	C4
• fire protection plaster;	C5
• thin coat plaster, finishing product;	C6
• finishing product.	C7

Bonding agent

012 Where bonding agents are permitted, use an opaque white non-toxic externally plasticised PVA of high viscosity manufactured to BS 5720-1 solution to sound surfaces, with a 1:3 solution to be applied to soffits.

Metal lathing, beads and stops

013 Ensure steel lathing is of the plain expanded type having a minimum weight of 1.6Kg/m2.

014 Ensure beads and stops are of an appropriate profile and:
- for internal use are galvanised; and
- for external use are manufactured from stainless steel or PVC-u to BS 13658-1.

Plasterboard

015 Plasterboard is to be to BS EN 520; core density of 6kg/m2 for 12.5mm board. Product selection to be restricted to materials with a minimum 75% recycled content.

016 Dry lining is to be to BS EN 520, core density of 10kg/m2 for a 12.5mm board; taper edged.

Wall tiling

017 Plain cushion edge white or coloured glazed ceramic tiles to BS EN 14411 and BS 5385-1 size 6mm minimum thickness. Waterproof adhesives for ceramic tiles to be to BS ISO 13007-1. Waterproof grout to BS ISO 13007-3. Wall tiling for repairs is to match existing for repairs to existing tiled surfaces.

Sealant

018 Sealants are to be:

- gun grade white silicone mould resistant sealant to BS EN ISO 11600 low modulus; or
- gun grade white silicone sealant to BS EN ISO 11600 low modulus; or
- fire retardant sealant to BS 476-22

Textured decorative finish

019 Use a plastic compound textured decorative finish. Apply it to provide a finish to match the existing finish. Apply to no less than the minimum thickness stated in the manufacturer's technical data sheet.

Steel lathing beads and stops

020 Lathing to Timber or Masonry to be either:

- Zinc coated lathing to BS EN 13658-1 or BS EN 13658-2 zinc coated Reference L3 fixed with staples at 150mm centres; or
- Stainless steel lathing to BS EN 13658-1 or BS EN 13658-2 stainless steel Reference SWL fixed with stainless steel staples at 150mm centres.

021 Lathing to External Wall Insulation to be either:

- Stainless steel lathing to BS EN 13658-1 or BS EN 13658-2 stainless steel Reference HWL fixed with stainless steel staples and ties at 150mm centres; or
- Glass or Carbon reinforced lathing, with fibres encapsulated against alkali attack, strength and stiffness greater than that for stainless steel, fixed with stainless steel staples and ties at 150mm centres

022 Stretch lathing and fix securely in accordance with manufacturer's technical data sheet to give a taut firm base for plaster/rendering, fix with the ling way of the mesh at right angles to supports and with all strands sloping in the same direction, Lap side edges not less than 100mm. Lap ends 50mm at supports and 100mm between supports. Laps must not occur within 100mm of angles or bends. Tie all edges and ends together with 1.2mm wire ties at not more than 150mm centres. Ensure all joints have a 100m lap and are wired at centres not exceeding 75mm.

023 Angle beads are to be either:

- PVC-u angle bead with 25mm x 25mm lugs to take 2mm plaster to BS 13658-1; or
- PVC-u angle bead with 40mm x 40mm lugs, depth to suit external render;

Bellcast beads are to be PVC-u with 25mm x 45mm lugs.

Stop beads are to be PVC-u edge bead 25mm wide.

Fix beads and stops with galvanised steel or stainless steel nails or mortar or render dabs on accordance with the manufacturer's technical data sheet.

Plasterboard, Dry Lining and Thermal Boards

024 Fix plasterboard to soffits or studding with 32mm x 12 swg galvanised clout headed nails for 10mm boards and 38mm x 12 swg galvanised clout headed nails for 12.5mm boards at intervals suitable for the particular application. Provide all supporting members as necessary for fixing the plasterboard. Do not use cross joints in boards. Seal all exposed and cut edges with PVAC sealer.

025 Horizontal joints will not be permitted on dry lining unless the wall height exceeds the maximum manufactured board dimension. All joints are to be taped and finished to a flush seamless finish. Jointing material is to be to BS EN 13963. Seal all exposed and cut edges with PVAC sealer.

026 Ensure flush joints between plasterboards and at the junction between walls and soffits with staright edged and level finish plaster. Cover them with 90mm wide jute scrim cloth bedded in neat board finish. Apply a coat of neat d finish plaster at least 5mm thick immediately after the joint application has set but before it dries out.

027 Fix dry lining to metal framing with drill point ("jack point") drywall screws at 300mm centres to vertical studs, around openings and at board edges.

028 Ensure that backing walls are dry and direct bond dry lining with a gypsum based adhesive , seal perimeter and around openings with gypsum adhesive.

029 Ensure the plaster finish to thermal board consists of two coats of premixed lightweight plaster total thickness of plaster system of at least 13mm as follows:
- the first coat being scratch coat of bonding plaster; followed by
- a coat of appropriate finish plaster trowelled to a smooth finish.

Plaster on concrete soffits

030 Ensure the plaster finish to concrete soffits consists of two coats of premixed lightweight plaster, to a total thickness of plaster system of at least 10mm as follows:
- the first coat being a bonding scratch coat; followed by
- a finishing coat trowelled to a smooth finish.

Plaster on solid vertical backgrounds

031 Ensure the plaster finish to solid vertical backgrounds consists of two coats of lightweight premixed plaster to a total thickness of plaster system of at least 13mm as follows:
- the first coat being:
  - on low suction backgrounds, a bonding plaster scratch coat containing exfoliated vermiculite; or
  - on normal suction backgrounds, a scratch coat of HB browning plaster containing expanded perlite aggregate; and
- the second coat being finish plaster containing exfoliated vermiculite aggregate trowelled to a smooth finish.

Dissimilar Solid Backgrounds for Plaster:

032 Where plaster is to be continued without break across joints between dissimilar solid backgrounds which are rigidly bonded or tied together, cover the joints with a 200 mm wide galvanized mesh strip (backgrounds in the same plane) or with galvanized corner mesh (internal angles) fixed at not more than 600 mm centres along both edges, unless specified otherwise.

Dissimilar Solid Backgrounds for Plaster (Lintels):

033 Where plaster is to be continued without break and without change of plane across the face of a lintel which is not wider than 300 mm and is rigidly bonded or tied to the plaster background:
- Cover the face of the lintel with building paper to BS 1521 extending 25 mm on to the adjacent background.
- Overlay with expanded galvanized steel lathing extending 50 mm beyond the edges of the
- paper and securely fix with masonry nails at not less than 100 mm centres along both edges.

Alternatively, a suitable paper and mesh lathing may be used.

Dissimilar Solid Backgrounds For Rendering:

034 Where rendering is to be continued without break across joints between dissimilar solid backgrounds which are in the same plane and rigidly bonded or tied together, cover joints with a 150 mm wide strip of building paper to BS 1521 overlaid with 300 mm wide stainless steel lathing fixed at not more than 600 mm centres along both edges, unless specified otherwise.

Conduits:

035 Conduits bedded in undercoat to be covered with 90 mm wide jute scrim bedded in finishing coat mix, pressed flat and trowelled in. Do not lap ends of scrim.

Cement beds, backings and renderings generally

036 Unless the Client's Representative Instructs otherwise, ensure all beds, backings and renderings are composed of one part Portland Cement to three parts sand, by volume. Keep the water content as low as possible and ensure it does not exceed 18 litres per 50 Kg of cement (including the moisture content in the sand).

037 Brush sub-bases and backgrounds free of all dust. Well wet them and coat them with cement slurry before applying the screeds. Alternatively, use 1:10 EVA bonding adhesive instead of cement slurry.

038 Where the beds, backings or renderings are specified as waterproof, incorporate waterproofer to BS EN1199 in the mix.

039 Expansion joints should be placed to form bays not exceeding 3.50m x 3.50m. Finish off the surfaces of beds and backings to receive the appropriate tiling, paving or other finishing.

040 External rendering is to be to BS EN 13914-1. Ensure external renderings have a surface finish to match the existing renderings.

Granolithic finish

041 Ensure granolithic finish is composed of 1 part cement to 1 part fine aggregate to 2 parts coarse aggregate 10mm maximum size, all measured by weight. Add the minimum amount of water necessary to give sufficient workability for laying and compacting. All granolithic repairs are to match existing.

042 Thoroughly scabble, clean, wet and treat the base for granolithic application either by brushing on a neat cement grout or an EVA emulsion bonding agent. Lay the granolithic finishing in bays not exceeding 15m2 with the bay proportions being such that the ratio of sides will not exceed 1:1 1/2.

043 Ensure the minimum thickness is 19mm to a sound loadbearing concrete base. To prevent dusting, avoid excessive trowelling. Carry out curing for at least 4 days or, if the Client's Representative so Instructs, for longer.

044 Ensure the deviation from the level is no more than +/- 3mm in 3m.

045 Steel trowel the granolithic to produce a close knit surface and either tool it by stud rolling or sprinkle it with non slip grains to produce an anti-slip finish as Instructed by the Client's Representative.

Wall tiling

046 Fix tiles to the backing with straight joints on a combed bed of waterproof adhesive. Ensure all exposed edges of tiles are round edged. Either round edge or mitre the external angles, at the Service Provider's discretion. Form exposed stop end corners using double bullnose tiles.

047 Fill the joints between tiles solid with waterproof grout. Tool off the joints and clear off all residual adhesive and grout from the tiles and surrounding surfaces on completion of the Works.

Quarry and Ceramic floor tiling

048 Lay tiles either on a bed of cement and sand (1:3) or on a cementitious adhesive bed to BS ISO 13007 3-6mm thick, which makes full contact with the tile and background.

Suitability of Backgrounds/Bases:

049 Before starting work ensure that backgrounds/bases:
- Are sufficiently flat to permit specified flatness of finished surfaces, bearing in
- mind the permissible minimum and maximum thicknesses of the bedding material.
- Have been allowed to dry out by exposure to the air for not less than the following:
  - Concrete slabs: 6 weeks.
  - Cement:sand screeds: 4 weeks.
  - Rendering: 2 weeks.
  - Gypsum plaster: 4 weeks.

Plain Coloured Skirting To Existing Painted Plaster:

050 Tiles: Plain coloured unglazed ceramic skirting tiles, minimum rounded top edge, coved bottom to BS EN 14411 and BS 5385-3, Size: 8mm minimum. Joint width: 3mm.
- Background/Base: Existing painted plaster.
- Grouting material: Waterproof grout.

Setting Out:

051 Ensure that:
- Joints to be true to line, continuous and without steps.
- Joints on walls to be truly horizontal, vertical and in alignment round corners.
- Joints in floors to be parallel to the main axis of the space or specified features.
- Cut tiles/slabs to be kept to the minimum, as large as possible and in unobtrusive locations.
- Before laying tiles obtain confirmation of setting out to satisfaction of the Client's Representative.

Flatness of Wall Tiling:

052 Sudden irregularities not permitted. When measured with a slip gauge to BS EN 14411 and BS 5385-1, the variation in gap under a 2 m straight edge placed anywhere on the surface to be not more than 3 mm.

Flatness of Floor Tiling:

053 Sudden irregularities not permitted. When measured with a slip gauge to BS EN 14411 and BS 5385-3, the variation in gap under a straight edge (with feet) placed anywhere on the surface to be not more than 3mm over a 2m straight edge.

Vinyl and thermoplastic tiles

054 Unless the Client's Representative Instructs otherwise, lay tiles in accordance with BS 8203 with straight joints on a combed bed of adhesive to a standard and quality approved by the Client's Representative. Match the size, colour and pattern of the tiles as nearly as possible to any existing surrounding tiles.

Vinyl and other Resilient Sheet Floor Coverings

055 Unless the Client's Representative Instructs otherwise, vinyl and other resilient sheet floorings are to be of a standard and quality in accordance with BS EN 10582, and laid in accordance with BS 8203.

All non slip floor coverings to be 2mm thick anti slip vinyl sheet floor coverings to BS EN 13845 and BS EN 13553 and to have a Pendulum test value (PTV or slip resistance value) (36+ (CoF) or above) as tested to BS 7976-1,-2 and -3 and a Surface roughness (Rz) (20+µm (microns) or above) to BS 1134. Floor covering to be complete with aluminium threshold strips at doors

Textured decorative finish

056 Fill joints in plasterboard to receive decorative textured finish with plastic filler. Cover them, while wet, with wet strength paper scrim or while wet or dry, with glass fibre membrane scrim tape. Allow this to dry before applying the finishing coat. Apply the finishing coat evenly. Tool or brush this to match the existing surrounding finishes or as the Client's Representative Instructs otherwise.

Labour and sundry items

057 Cut and fit and/or make good all wall and floor finishings around any kind of obstruction or projection of a permanent nature from the wall background or floor base including any:

- structural elements;
- pipework, ducting and their brackets and supports;
- fittings and appliances in connection with the electrical, water, gas heating, air conditioning, communication and waste disposal systems; and/or
- fittings and any permanent object in connection with any permanent parts of the Property.

058 Unless the Client's Representative Instructs otherwise, maintain plasterwork, renderings, backings, asphalt and any applied finishes in the same plane as any existing surrounding similar applications. Make a fair joint between the new application and any existing surrounding application.

Client's current manufacturers/suppliers/products

059 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

PAINTING AND DECORATING

PAINTING AND DECORATING

GENERAL

Benchmark Standard

001 Prior to the commencement of painting, the Client's Representative, the Service Provider and the Paint and Decorative Materials Manufacturer will meet on site to identify a number of Properties which are agreed as being representative in condition and substrate types of the Properties that exist throughout the relevant estate or programme of Works. The Client's Representative shall have the final decision on the Properties identified as the benchmark Properties.

002 The selected Properties will be known as the "benchmark Properties" against which decorating materials performance will be measured during the course of the Contract and the agreed addresses will be recorded.

003 Prior to commencement of re-decoration to the remainder of the estate or programme of Works, the benchmark Properties will be prepared and redecorated strictly in accordance with the contract/technical decorating specifications and monitored by the Client's Representative.

004 Upon completion of the benchmark Properties, the Client's Representative, Service Provider and Paint and Decorative Materials Manufacturer will meet again to "sign off" the Properties provided the required standards of workmanship and materials have been achieved. The signing off should be in conjunction with the Client's Decorative Materials Performance Record – Benchmark Properties Form.

005 The Service Provider shall further ensure that the standards of preparation and decoration on the benchmark Properties are applied to the remaining Properties within the estate or programme of Works.

The Service Provider

006 The Service Provider shall be responsible for ensuring that the selected Paint and Decorative Materials Manufacturer is consulted prior to the commencement of any painting and decorating Works.

007 The Service Provider shall be responsible for ensuring that all Staff engaged to carry out the painting and decorating are suitably trained to achieve the quality standards and levels of service indicated in this Specification and individual Property, estate or programme of Works requirements.

008 The Service Provider shall be responsible for the quality standards and levels of service achieved both in surface preparation and decorative materials application by those members of Staff engaged for this purpose. The Service Provider will also ensure that a suitably qualified Supervisor is appointed to control work sequencing, quality standards and to ensure that Customers property is left clean and tidy at the end of each working day.

009 The Service Provider shall be responsible for adhering wholly to the "Technical Painting and Decorating Specification" prepared and supplied by the Paint and Decorative Materials Manufacturer, and using the specified paint and other decorative materials so that the application to various surfaces, preparation, initial and final coats achieve the optimum performance as stated. The Service Provider must use the paint and other decorative materials stated in the "Technical Painting and Decorating Specification" specific to the project Property, estate or programme of Works.

010 The Service Provider shall provide a minimum of one week's notice to all Customers prior to preparation or painting and decorating Works being carried out on their Property.

011 The Service Provider shall ensure that the standards of preparation and painting and decorating application to the Benchmark Properties is compliant with the Technical Painting and Decorating Specification" provided and subsequently "signed off" by the authorised representative of the Paint and Decorative Materials Manufacturer and the Client's Representative.

012 The Service Provider shall ensure the remaining Properties on the estate or programme of Works achieve equitable painting and decorating standards in terms of quality and performance as the previously agreed Benchmark Property.

013 The Service Provider shall show evidence of having a responsible waste management system, i.e. that paint and decorative materials tins and containers are re-cycled and not disposed of to landfill sites.

Paint and Decorative Materials Manufacturer

014 The Paint and Decorative Materials Manufacturer is the party indirectly employed by the Service Provider or their approved Subcontractors to supply paint and other decorative Materials, training and technical support.

015 The Paint and Decorative Materials Manufacturer shall liaise with the Client's Representative and the Service Provider to identify and agree the Benchmark Properties for the estate or programme of Work.

016 The Paint and Decorative Materials Manufacturer shall ensure that all of the products supplied for the Contract, are in full compliance with this Specification.

017 The Paint and Decorative Materials Manufacturer shall provide for each Property, estate or programme of Work (if required) any necessary on-site training in the use of their products and retain a record of the training undertaken and who received that training.

018 The Paint and Decorative Materials Manufacturer shall inspect and survey each Property, estate or programme of Work and prepare the applicable "Technical Painting and Decorating Specification" recommending the preparation, applications and paint and other decorative Material products applicable to the Works identified as being required to be undertaken, which if undertaken correctly would enforce any guarantees given by the Paint and Decorative Materials Manufacturer as to the expected life and performance of the paint and decorative Material products used.

019 The Paint and Decorative Materials Manufacturer shall liaise fully with the Client's Representative, the Service Provider and if applicable any approved painting Subcontractors to provide an effective site monitoring of standards and advisory service which ensures best practice in the use of their products. The Paint and Decorative Materials Manufacturer shall complete the Client's Quality Monitor Form on a bi-weekly basis.

020 In addition the Paint and Decorative Materials Manufacturer shall be responsible for providing a written report in an electronic format to the Client's Representative following each inspection.

021 The Paint and Decorative Materials Manufacturer is required on the completion of every Property to collate a comprehensive Property, estate or Programme of Work specific technical report in an electronic format and submit to the Client's Representative. The technical report must provide clear evidence of the following:

- a comprehensive Technical specification that identifies all of the products used (trade names permitted) with their associated warranties and where applied;
- Site Monitoring Reports – details of any site visits, any findings identified and what action(s) were taken/requested in terms of remedial works;
- Where communal hallways have been repainted – full details of flake sampling, independent analysis and what recommendations were followed on site, details of tag(s) affixed should also be recorded including photographic record of location(s);
- Record of training where specifically requested by the Service Provider of a paint or decorative Material product or products;
- Confirmation that all paint and other decorative Material products and their quantities as supplied are held by the Paint and Decorative Materials Manufacturer on his internal IT system for future reference; and
- Fire certification certificates as applicable on the application of fire retardant paints and the achievement of Class "0" surface spread of flame.

Redecorate/touch up/make good

022 Note that "redecorate/touch up" or "make good decoration" includes preparation, priming, one undercoat and either one gloss coat to previously painted surfaces or reinstating any stain or clear finish for previously stained or clear finish surfaces.

MATERIALS

Generally

023 The products supplied must be applied in accordance with the relevant product Technical Data Sheet. In addition, all products should be used in accordance with BS 6150 Code of Practice for Painting Buildings and BS 8000 Part 12 Workmanship on Building Sites as set out in the table below. When applying coatings, in order to ensure optimum protection and durability, it is essential to achieve the required coverage rate, particularly when using medium/high build finishes,

AREA	LONGEVITY	BASE	RE-COAT Within	COVERAGE
Previously painted woodwork	Up to 8 Years	Solvent or Water Based	8-16 Hours	18m^2/litre
Previously stained woodwork	Up to 10 Years	Solvent or Water Based	16 Hours	20m^2/litre
Previously painted landscape timber (i.e. fencing etc.,)	Up to 8 Years	Solvent or Water Based	16 Hours	12m^2/litre
Previously painted masonry walls	Up to 15 Years	Solvent or Water Based	1 -2 Hours	14 -16m^2/litre
Previously painted masonry walls	Up to 15 Years	Solvent/Oil Based	12 Hours	8m^2/litre
Previously painted masonry walls	Up to 15 Years	Water Based	2 – 4 Hours	12 – 14m^2/litre
Previously painted metalwork	Up to 8 Years	Solvent or Water Based	4 – 8 Hours	15m^2/litre

AREA OF WORK	CERTIFICATION
All paint generally	BBA Accreditation or equivalent
Health and Safety	Current COSHH Regulations as amended
Painting Buildings	BS 6150 – Code of Practice
Workmanship on Building sites	BS 8000 – Code of Practice
Paints and varnishes	BS EN ISO 12944
Protective coating of iron and steel structures against corrosion	BS EN ISO 12944

024 The products supplied must ensure that failure free repaint and redecoration cycles of 15 years for masonry substrate and 8 years for all other substrate as a minimum will be achieved. The onus is on the Paint and Decorative Materials Manufacturer of any product to "demonstrate compliance", whilst it is the Service Provider's duty to ensure "premium products" are provided in all cases to reflect the established warranties.

025 Obtain undercoats and finishing coats for an individual surface from the same manufacturer.

026 Ensure paints are delivered to the Property in sealed containers as received from the manufacturer and no labels are removed or painted out. Use the paint without adulteration.

027 Under no circumstances thin paint supplied by the manufacturer unless approved by the Client. When such approval has been granted, carry out thinning with thinners of the type stated in the manufacturer's technical data sheet.

028 Execute painting in shades approved by the Client's Representative. Submit samples of tints before ordering Materials. Ensure each coat of paint matches the finished shade, and where tint types are required by the manufacturer's technical data sheet, they are used.

029 Provide samples of Materials to the Client's Representative for approval in sample tins filled 7/8 full after the contents of the container or kettle have been thoroughly stirred and mixed. Record all relevant details of the Materials sampled.

030 Immediately remove any unsatisfactory Materials from the Property and make good any Works executed with such defective Materials.

031 Note that the Rates include for the use of varied colours in the Works and for the execution of sample patches, as required by the Client's Representative.

032 Use water based paints where appropriate.

Knotting

033 Use a best quality shellac knotting compound, dissolved in methylated spirits. Cover all knots and resinous parts.

Stopping

034 Ensure stopping/filler for:

- plasterwork - is a plaster based filler applied to a PVA solution primed surface, or a proprietary filler suitable for plaster repairs;
- internal woodwork, hardboard, fireboard and plywood - is a proprietary wood filler either suitably pre-coloured to match the base material or of a neutral colour and capable of being stained to match the required colour when stain is applied;
- external woodwork – is a proprietary filler recommended for external use approved by the Client's Representative, (and tinted to match the colour of the stained/varnished finish where appropriate); and
- clear finished woodwork - is tinted to match the surrounding woodwork.

Primer for alkaline surfaces

035 For alkaline surfaces use an alkali resistant sealer/primer and finish with a top coat of the type stated in the manufacturer's technical data sheet.

Primer for iron and steelwork

036 Prime iron and steelwork with a primer of the type stated in the manufacturer's technical data sheet for the subsequent finish coats.

Primer for galvanised iron and steelwork

037 Prime galvanised iron and steelwork with a primer that is compatible with the subsequent finish coats. Pretreat new galvanised surfaces with a mordant solution before priming.

Primer for hardboard

038 Where hardboard is not factory primed or sealed, use a suitable primer of the type stated in the manufacturer's technical data sheet for the subsequent finish coats.

Primer for woodwork

039 For woodwork, use a finishing ready-mix primer obtained from the maker of the undercoat and finishing coats.

Primer for oily or resinous timbers

040 For British Columbia pine (Douglas fir) or other oily or resinous timber, use an aluminium based priming paint not darker than BS 4800, Colour 00A01 approved by the Client's Representative which is compatible with the subsequent coats of the type stated in the manufacturer's technical data sheet.

Primer for stains

041 For stain finishes, ensure surfaces are clean, rubbed down to an even finish and lightly keyed to every coat except the top coat.

Stabilising sealer

042 Use a type and make of stabilising sealer recommended by the manufacturer of the undercoat and finishing coat.

Chemical stripper

043 Ensure chemical paint stripper is water soluble.

Anti fungal solution

044 Ensure an anti-fungal solution is appropriate to the surface being treated and is used in accordance with The Control of Pesticides Regulations 1986 (amended 1997) and The Pesticides Act 1998.

PREPARATION OF SURFACES

Preparations

045 Thoroughly prepare all surfaces to a high standard of preparatory work. Note that "prepare" used in the Schedule of Rates includes all Works described below including washing down, rubbing down, filling in pin and plug holes, priming and painting extra coats, but excluding paint removal.

046 Report any necessary paint removal to the Client's Representative and agree the extent of this with the Client's Representative before starting this Work. Note that no payment will be made for paint removal unless this is done.

047 Apply a liberal brush coat of timber preservative conforming to Building Establishment Technical Note No. 24 (or equivalent) to existing bare non-durable timber surfaces. Allow adequate time for this to dry before overcoating.

048 Rub down previously painted surfaces in good condition with abrasive paper. Fill cracks as described in Paragraph 034. Subject to Paragraph 046, remove existing paint in poor condition completely using a non-caustic paint remover.

049 Treat stains on the ceiling before decoration to prevent them bleeding through subsequent decorative coatings with a proprietary stain stop or blocker appropriate to the substrate and in keeping with the requirements of the finish to be applied.

050 Use tinted undercoats if the Client's Representative so Instructs.

Approval

051 Where specified, obtain the approval of the Client's Representative to the preparation of surfaces before applying any coating.

Stopping

052 Where stopping/filling is referred to in this Section, use the appropriate stopping as described in the Materials Section.

Burning off

053 Burn off and rub down to remove paint from wooden surfaces. Fill in cracks, knot, prime and stop woodwork so exposed all as described for new Work, rub down with fine abrasive paper and apply one additional undercoat before painting as specified. Burning off is not permitted indoors without the express written permission of the Client's Representative.

Plaster, render, concrete and brickwork

054 Remove plaster or mortar splashes from the decorated surfaces by scraping. Stop all holes, cracks, etc. Brush down the whole surface to remove dust and loose material. Remove all traces of mould oil by scrubbing with water and detergent and rinsing with clean water to remove all detergent.

055 Allow plaster surfaces to dry out completely before decorating, (i.e.< 10% moisture content).

056 Remove efflorescence first by wiping dry with a dry course cloth and then with a damp cloth. Leave the surfaces for 48 hours to see if efflorescence has ceased and clean the surfaces to remove dirt, dust, etc. Allow the surfaces to dry out thoroughly before painting is commenced. When efflorescence has occurred or is suspected, defer painting as Instructed by the Client's Representative. New plaster/render should be allowed to dry for a minimum of 28 calendar days before decorating.

057 Cut out loose and defective rendering and make good before redecoration. Stabilise existing surfaces to be redecorated with an stabilising agent of 1:10 PVA solution or 1:3PVA solution to soffits.

Plasterboard to receive direct redecoration

058 Finish the joints in plasterboard ceilings to receive textured decorative finishings as described in the 'Plasterwork and Other Floor, Wall and Ceiling Finishes' Section.

Iron and steel

059 Remove rust, mill scale, welding slag and flux residue from iron and steel surfaces by wire brushing, scraping, hammering, flame cleaning, etc.

Previously painted metalwork

060 Thoroughly clean down all paintwork which is in sound condition and rub down with abrasive paper. Remove small areas of defective paint and all rust and loose scale by chipping, scraping and wire brushing back to clean metal. Prime the metal so exposed immediately after preparation with one coat of primer and apply one additional undercoat before painting.

061 Remove large areas of defective paint by using an non-caustic stripper appropriate to the substrate and in accordance with the technical data sheet for the subsequent coats or by chipping, scraping and wire brushing back to clean metal. In all cases where rust is apparent, scrape the rusting section and a sufficient area around it clean of all paint and rust and coat it with a rust inhibiting primer approved by the Client's Representative in addition to the priming coat described.

Defective putties

062 Hack out defective, cracked or uneven putties to glazing, prepare and prime the rebates as required and make good the putties before any painting is carried out. Allow putties to form a hard skin before painting with an oil based paint or allow for no less than 14 calendar days drying time where water based paint/stain is to be applied.

Hardboard

063 Remove dirt and grease from hardboard surfaces. Before priming ensure all nail holes and other imperfections are stopped/filled in.

Plywood

064 Fill as required with a plastic based filler before priming/staining. Prime surfaces of internal plywood before painting with one coat of primer, filled as required with a plastic based filler. Rub and dust down and apply a second coat of primer/stain.

065 Before final priming/staining ensure that all imperfections are stopped, rubbed down and brushed off. Prime/stain surfaces of external plywood before painting with one coat of primer/stain. Where stain is to be applied use a stainable filler, or a filler pre-coloured to match the stain finish. Rub and dust down and apply a second coat of primer/stain.

Woodwork to be painted

066 Before fixing woodwork, rub down surfaces that will be visible after fixing. Scorch back excess resin from live knots and resin pockets. Coat all knots and resinous areas with fresh knotting. Prime all surfaces, ensure all nail holes and other imperfections are stopped/filled. Rub down the whole surface and brush off all dust before the undercoat is applied.

Previously painted woodwork

067 Wash down thoroughly with sugar soap or white spirit solution all paintwork which is in sound condition and allow to dry. Rub down to a smooth surface with an abrasive paper, achieving the final pre-paint finish with a fine grain abrasive paper to achieve a finish free from abrasive marks. Rinse well with clean water and allow to dry. Fill in cracks, etc., as described for new woodwork.

068 Remove small areas of cracked or defective paint by carefully scraping back to a firm edge. Knot, prime and stop woodwork so exposed as described for new work. Sand with fine abrasive paper and apply one additional undercoat before painting if required.

069 Apply a liberal coat of brush applied water repellent timber preservative conforming to the recommendations of BS 8417 to bare existing non-durable timber surfaces or surfaces with defective areas of paint film. Allow adequate time to dry before overcoating.

070 On existing coated timber, remove any degraded surface timber by sanding down to clean sound timber. Remove resinous exudations by heat using hot air gun. Apply 2 coats of knotting to affected areas and any exposed knots and allow to dry.

071 On existing coated timber, remove dirt, algae and dead fibre by means of high pressure power hosing, apply one coat fungicide and leave for 72 hours.

Woodwork to receive a clear finish

072 Stop/fill holes and other imperfections in surfaces that are to receive a clear finish. Rub down the whole surface and brush off all dust.

073 Prepare existing varnished surfaces in sound condition by cleaning down with a suitable detergent and thoroughly rinsing them. Lightly key sound existing finishes to an even finish over the entire surface ensuring that all existing finish sheen is removed.

074 Strip and revarnish existing varnished surfaces in unsound condition.

Woodwork to receive stain finish

075 Prepare previously treated and untreated surfaces that are to receive a proprietary stain finish in accordance with the manufacturer's technical data sheet.

WORKMANSHIP

Paint

076 In order to eradicate any unauthorised addition of thinners or driers, or other adulteration of paint:
- give adequate supervision during the painting work to ensure that paint is not adulterated;
- note that if cases of unauthorised or excessive thinning or other adulterations are discovered, the Client's Representative will usually exercise the power contained in this Contract to require the removal of the Staff members concerned;
- ensure a notice is exhibited drawing the attention of Staff to the Client's requirement to use paint as supplied by the manufacturer and the consequences of a breach of this requirement; and
- note that similar requirements will apply to Subcontractors.

Stirring of Materials

077 Thoroughly stir the contents of all cans and containers of Materials before and during use. Suitably strain them as and when necessary.

Application

078 Apply coatings by brush or roller. Use sprays only with the prior approval of the Client's Representative. Where spray application is approved it shall be applied as directed by the manufacturer, including thinning with thinners of a type and to a ratio that complies with the manufacturer's technical data sheet.

Priming of glazing beads

079 Prime/stain glazing beads, rebates and the backs of beads at the same time as priming/staining the window frames.

Condition of priming

080 If the priming/staining has in any way deteriorated or has been damaged by the time of the first coat, rub down and reprime/restain the affected portions, or the whole if necessary. Where required, touch up with the same primer/stain or equivalent all articles, such as the windows, that were primed by their manufacturers.

Coatings to be dry

081 Allow coatings to dry thoroughly for the time specified by the manufacturer before applying succeeding coats.

Painting windows/doors

082 Do not paint windows or doors in the closed position.

Rubbing down

083 Rub down and de-nib undercoats for paints and clear finishes to a smooth surface with abrasive paper. Remove all dust before the succeeding coat is applied.

Differing colours of undercoats

084 Ensure each succeeding coat of priming and undercoating paint is sufficiently different in colour to be readily distinguishable.

Unsuitable conditions

085 Do not apply coating:
- to surfaces affected by wet, damp, foggy or frosty weather or other unsuitable conditions;
- to any damp surface; or
- in temperatures below 5^0 Centigrade.
- when heat is likely to cause blistering or wrinkling.

Take all necessary precautions including restrictions on working hours, providing temporary protection and allowing extra drying time, to ensure that coatings are not adversely affected by climatic conditions before, during and after application.

Protection of wet surfaces

086 Take adequate care to protect surfaces whilst still wet, by the use of screens and 'wet paint' signs where necessary. Take responsibility for any damage which may be caused by or through wet paint.

Damage to adjoining surfaces

087 Take care not to damage or stain other Works when storing Materials, preparing surfaces, or applying paint or stains. Remove all such stains, making good the stained surface and touching up any paintwork disturbed.

Cleanliness

088 Keep surfaces clean and free from dust during the painting processes. Do not carry out painting in the vicinity of other operations which might cause dust. Provide a suitable movable receptacle into which all liquids (including slop washings) are placed. Ensure this is not tipped down any of the gullies, manholes, sinks, basins, water closets or any other sanitary fittings. Remove all solid refuse or inflammable residues from the Property.

Removal of ironmongery

089 Remove surface fixed ironmongery, fittings and door/window furniture (except hinges) before painting and refix them on completion.

Radiators

090 Take down radiators to allow the proper decoration of the surfaces behind. Refit the radiators and refill the systems including inhibitor and balance if required.

Protection of furniture

091 Protect all furniture and fittings, use dust sheets and remove items such as curtains before commencing the Works. Rehang or reinstate on completion of the Works.

Protection:

092 Adequately protect both internal and external surfaces which are not to be coated, by covering with dust sheets or other suitable materials. Exhibit 'Wet paint' signs and provide barriers where necessary to prevent damage to freshly applied coatings.

Concealed Joinery Surfaces:

093 Where one or more additional coats are specified to be applied in the factory, they must be applied to all surfaces, including those which will be concealed when incorporated into the Property.

Painting Existing Concrete:

094 Preparation: - Remove surface salts and other loose material with stiff brush. Leave for 48 hours and repeat process if necessary. Apply one coat of fungicide solution and leave for 72 hours, apply one coat proprietary sealer/primer, carefully remove all loose or defective areas of coating to a firm edge. Thoroughly clean by wiping down with white spirit or washing with water containing detergent. Remove heavy deposits of oil, grease, etc. with a suitable proprietary cleaning solution, sand down surfaces while still wet to provide a key, rinse off and allow to dry, patch prime as specified. fill joints, cracks, holes and other depressions with filler worked well in and finished off flush with surface. Sand smooth and remove dust, apply additional coats to areas where paint has been removed to restore the original coating thickness (Bring forward). Sand down junctions to give a flush surface.

Apply initial coat of exterior quality water based masonry paint and one finishing coat of exterior quality water based masonry paint.

Painting New Concrete:

095 Preparation: - Remove surface salts and other loose material with stiff brush. Leave for 48 hours and repeat process if necessary. Apply one coat of fungicide solution and leave for 72 hours, apply one coat proprietary sealer/primer, apply one coat of exterior quality water based masonry paint thinned as necessary in accordance with the manufacturer's technical data sheet. Sand down junctions to give a flush surface.

Apply initial coat of exterior quality water based masonry paint and one finishing coat of exterior quality water based masonry paint.

Painting Existing Render:

096 Preparation: Take back to a firm edge all areas of poorly adhering or defective coatings. Remove all loose or powdery material by vigorously brushing down with suitable stiff brushes and dust off. Where appropriate on smooth surfaces, rub down sound areas to produce the necessary key for good adhesion and dust off. Cut out and make good all cracks, holes, open joints and other imperfections etc., with an approved proprietary filler, rub down smooth and dust off. Prime all sound bare areas exposed by the removal of coatings with one coat of exterior quality water based masonry paint, thinned as necessary in accordance with the manufacturer's technical data sheet. Apply stabilising primer to all areas. Bring forward all areas which during preparation were taken back to bare substrate or disfigured/exposed by the removal of the previous coating with one coat of exterior quality water based masonry paint of the selected shade.

Apply initial coat of exterior quality water based masonry paint and one finishing coat of exterior quality water based masonry paint.

Painting New Render:

097 Preparation: Thoroughly clean down to remove all surface contamination, mortar splashes, nibs etc. Allow to fully dry. Cut out and make good all cracks, holes, open joints and other imperfections etc., with an approved proprietary filler, rub down smooth and dust off. Apply one coat of exterior quality water based masonry paint, thinned as necessary in accordance with the manufacturer's technical data sheet. .

Apply initial coat of exterior quality water based masonry paint and one finishing coat of exterior quality water based masonry paint.

Painting Existing Concrete/Render with Anti-Graffiti Paint:

098 Preparation: Carefully remove all loose or defective areas of coating to a firm edge. Thoroughly clean by wiping down with white spirit or washing with water containing detergent. Remove heavy deposits of oil, grease, etc. with a suitable proprietary cleaning solution. - Sand down surfaces while still wet to provide a key. Rinse off and allow to dry, patch prime as specified, fill joints, cracks, holes and other depressions with filler worked well in and finished off flush with surface. Sand smooth and remove dust. Apply additional coats to areas where paint has been removed to restore the original coating thickness (Bring forward). Sand down junctions to give a flush surface.

Apply initial coat of two pack water based epoxy anti-graffiti paint and one finishing coat of two pack water based epoxy anti-graffiti paint.

Painting New Concrete/Render with Anti-Graffiti Paint:

099 Preparation: Remove surface salts and other loose material with stiff brush. Leave for 48 hours and repeat process if necessary. Apply one coat of fungicide solution and leave for 72 hours, fill joints, cracks, holes and other depressions with filler worked well in and finished off flush with surface. Sand smooth and remove dust. Apply one coat proprietary sealer/primer. Sand down junctions to give a flush surface.

Apply initial coat of two pack water based epoxy anti-graffiti paint and one finishing coat of two pack water based epoxy anti-graffiti paint.

Painting Existing Coated Brickwork/Blockwork:

100 Preparation: Carefully remove all loose or defective areas of coating to a firm edge. Thoroughly clean by wiping down with white spirit or washing with water containing detergent. Remove heavy deposits of oil, grease, etc. with a suitable proprietary cleaning solution. Sand down surfaces while still wet to provide a key. Rinse off and allow to dry, patch prime as specified. Fill joints, cracks, holes and other depressions with filler worked well in and finished off flush with surface. Sand smooth and remove dust. Apply additional coats to areas where paint has been removed to restore the original coating thickness (Bring forward). Sand down junctions to give a flush surface.

Apply one initial coat of exterior quality solvent based masonry paint, and one finishing coat of exterior quality solvent based masonry paint.

Painting New Brickwork/Blockwork:

101 Preparation: Carefully remove all loose mortar etc. Thoroughly clean by wiping down with white spirit or washing with water containing detergent. New brickwork/blockwork: Remove surface salts and other loose material with stiff brush. Leave for 48 hours and repeat process if necessary. Apply one coat of exterior quality solvent based masonry paint thinned as necessary in accordance with the manufacturer's technical data sheet. Sand down junctions to give a flush surface.

Apply one initial coat of exterior quality solvent based masonry paint, and one finishing coat of exterior quality solvent based masonry paint.

Painting Existing Plaster – Oil based Paint:

102 Preparation: Remove dirt and surface deposit with a stiff brush and rub down to remove nibs, trowel marks, plaster and paint splashes. Widen cracks sufficiently to receive proprietary filler. Brush cracks to remove any loose plaster and fill with proprietary filler and rub flush with surface. Apply one coat proprietary primer/sealer.

Apply one initial coat of oil based vapour barrier paint and one finishing coat of oil based vapour barrier paint.

Painting New Plaster – Oil based Paint:

103 Preparation: Lightly rub over-trowelled glossy plaster with worn abrasive paper. Fill all depressions, holes and cracks and lightly rub down flush with surface, apply one coat proprietary sealer/primer.

Apply one initial coat of oil based vapour barrier paint and one finishing coat of oil based vapour barrier paint.

Painting Existing Plaster – Emulsion Paint:

104 Preparation: - Remove dirt and surface deposits with a stiff brush. Widen cracks sufficiently to receive proprietary filler. Brush cracks to remove any loose plaster and fill with proprietary filler and rub flush with surface. Rub down to remove nibs, trowel marks and plaster and paint splashes, lightly rub over-trowelled glossy plaster with worn abrasive paper, fill all depressions, holes and cracks and lightly rub down flush with surface, apply one coat proprietary sealer/primer.

Apply two finishing coats of emulsion paint.

Painting New Plaster – Emulsion Paint:

105 Preparation: - Remove dirt and surface deposits with a stiff brush. Rub down to remove nibs, trowel marks and plaster splashes, lightly rub over-trowelled glossy plaster with worn abrasive paper, fill all depressions, holes and cracks and lightly rub down flush with surface, apply one coat proprietary sealer/primer, apply one coat of emulsion paint thinned as necessary in accordance with the manufacturer's technical data sheet.

Apply two finishing coats of emulsion paint.

Painting Existing Plaster – Eggshell Paint – Fire Retardant Paint

106 Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Powdery and friable surface coatings are to be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion and feather broken edges of existing coating. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off.

Initial coats: Prime all sound bare areas with one coat of eggshell paint thinned in accordance with the manufacturer's technical data sheet.

Apply two finishing coats of eggshell paint.

Painting New Plaster – Eggshell Paint – Fire Retardant Paint

107 Preparation: Remove dirt and surface deposits with a stiff brush. Rub down to remove nibs, trowel marks and plaster splashes, lightly rub over-trowelled glossy plaster with worn abrasive paper, fill all depressions, holes and cracks and lightly rub down flush with surface, apply one coat proprietary sealer/primer, apply one coat of eggshell paint thinned in accordance with the manufacturer's technical data sheet.

Apply two finishing coats of eggshell paint.

Painting Existing Plaster – Vinyl Matt Paint

108 Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Powdery and friable surface coatings are to be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion and feather broken edges of existing coating. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off.

Initial coats: Prime all sound bare areas with one coat of vinyl matt paint thinned in accordance with the manufacturer's technical data sheet.

Apply two finishing coats of vinyl matt paint.

Painting New Plaster – Vinyl Matt Paint

109 Preparation: Remove dirt and surface deposits with a stiff brush. Rub down to remove nibs, trowel marks and plaster splashes, lightly rub over-trowelled glossy plaster with worn abrasive paper, fill all depressions, holes and cracks and lightly rub down flush with surface, apply one coat proprietary sealer/primer, apply one coat of vinyl matt paint thinned in accordance with the manufacturer's technical data sheet.

Apply two finishing coats of vinyl matt paint.

Painting Existing Painted Internal Surfaces – Anti Graffiti Paint

110 Preparation: Remove existing graffiti with an approved appropriate graffiti removal system, thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Powdery and friable surface coatings are to be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion and feather broken edges of existing coating. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off.

Prime all sound bare areas with one coat of anti graffiti paint sealer, bring forward sealed areas with anti graffiti paint primer, apply two finishing coats of anti-graffiti paint.

Painting Internal Surfaces – Anti Graffiti Paint

111 Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Powdery and friable surface coatings are to be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion and feather broken edges of existing coating. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off.

Prime all sound bare areas with one coat of anti graffiti paint sealer, bring forward sealed areas with anti graffiti paint primer, apply two finishing coats of anti-graffiti paint.

Painting Existing Painted Internal Surfaces – Class "O" Fire Retardant Finish

112 Preparation: Remove existing graffiti with an approved appropriate graffiti removal system, thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Powdery and friable surface coatings are to be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion and feather broken edges of existing coating. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off. Seal marks or suspect areas and surfaces that remain powdery and friable after thorough preparation with one coat of stain blocker.

Finishing system: Apply three coats of Class "O" as Instructed by the Client's Representative. Fire retardant basecoat applied strictly in accordance with the manufacturer's technical data sheet. Apply two finishing coats of eggshell paint.

Painting New Internal Surfaces – Class "O" Fire Retardant Finish

113 Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Allow the surface to fully dry before proceeding. Where appropriate rub down sound areas to produce the necessary key for good adhesion. Dust off. Make good holes, cracks and other imperfections with an approved proprietary filler, rub down and dust off.

Finishing system: Apply three coats of Class "O" as Instructed by the Client's Representative. Fire retardant basecoat applied strictly in accordance with the manufacturer's technical data sheet. Apply two finishing coats of eggshell paint.

Painting Previously Painted Internal Metal – Gloss Paint

114 Preparation: Thoroughly clean down to remove all surface contamination. Carefully scrape back to a firm edge all areas of damaged paint coatings. Scrape and wire brush corroded steel to produce a clean metal surface. Rub down with a suitable abrasive and dust off. All surfaces should be prepared to the minimum standard recommended in BS 7079 at the time of coating. Prime all bare metal with two coats of zinc phosphate primer, applied in accordance with the manufacturer's technical data sheet. Bring forward primed areas with one coat of undercoat.

Apply two finishing coats of 8 years all weather protection metal gloss finish paint, applied in accordance with the manufacturer's technical data sheet.

Painting New Internal Metal – Gloss Paint

115 Preparation: Thoroughly clean down to remove all surface contamination. Rub down with a suitable abrasive and dust off. All surfaces should be prepared to the minimum standard recommended in BS 7079 at the time of coating at the time of coating. Prime all metal with two coats of zinc phosphate primer, applied in accordance with the manufacturer's technical data sheet. Apply one coat of undercoat.

Apply two finishing coats of 8 years all weather protection metal gloss finish paint, applied in accordance with the manufacturer's technical data sheet.

Painting Previously Painted External Metal – Gloss Paint

116 Preparation: Thoroughly clean down to remove all surface contamination. Carefully scrape back to a firm edge all areas of damaged paint coatings. Scrape and wire brush corroded steel to produce a clean metal surface. Rub down to smooth edges with a suitable abrasive and dust off. All surfaces should be prepared to a minimum standard recommended in BS 7079 at the time of coating. Prime all bare metal with two coats of zinc phosphate primer or other equal approved, applied in accordance with the manufacturer's technical data sheet. Bring forward primed areas with one coat of undercoat.

Apply two finishing coats of 8 years all weather protection metal gloss finish paint, applied in accordance with the manufacturer's technical data sheet

Painting New External Metal – Gloss Paint

117 Preparation: Thoroughly clean down to remove all surface contamination. Rub down with a suitable abrasive and dust off. All surfaces should be prepared to the minimum standard recommended in BS 7079 at the time of coating at the time of coating. Prime all metal with two coats of zinc phosphate primer, applied in accordance with the manufacturer's technical data sheet. Apply one coat of undercoat.

Apply two finishing coats of 8 years all weather protection metal gloss finish paint, applied in accordance with the manufacturer's technical data sheet.

Painting Galvanised Steel – Gloss Paint

118 Preparation: Wash with white spirit to remove dirt and grease then wash with mild detergent solution and rinse off with clean water. Pretreat with mordant solution. Retreat non-blackened areas to achieve blackening of whole of surface. If galvanizing is defective obtain instructions before proceeding.

Apply one coat zinc phosphate primer, apply one coat of undercoat.

Apply two finishing coats of 8 years all weather protection metal gloss finish paint, applied in accordance with the manufacturer's technical data sheet.

Painting Previously Painted Internal Timber – Gloss Oil Paint

119 Preparation: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive, taking care to avoid exposing timber on sharp edges. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer; prime all bare areas and areas exposed by the removal of coatings with one coat of wood primer, thinned as manufacturer's technical data sheet. Bring forward areas with undercoat.

Apply one coat of oil based undercoat and one finishing coat of gloss oil based paint.

Painting Previously Painted Internal Timber – Gloss Water Based Paint (Micro Porous)

120 Preparation: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive, taking care to avoid exposing timber on sharp edges. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc., with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer; prime all bare areas and areas exposed by the removal of coatings with one coat of wood primer, thinned as manufacturer's technical data sheet. Bring forward areas with undercoat.

Apply one coat of water based undercoat and one finishing coat of micro porous gloss water based paint.

Painting New Internal Timber – Gloss Oil Paint

121 Preparation: Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer; apply one coat of wood primer.

Apply two coats of oil based undercoat and one finishing coat of gloss oil based paint.

Painting New Internal Timber – Gloss Water Based Paint (Micro Porous)

122 Preparation: Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer; apply one coat of wood primer.

Apply two coats of water based undercoat and one finishing coat of micro porous gloss water based paint.

Painting Previously Painted External Timber – Exterior Quality Gloss Paint

123 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Remove all areas of blistered, poorly adhering or defective coatings. Where flaking has occurred or coatings are defective, the entire member or section must be stripped back to the nearest joint. Open up all joints which are not tight fitting and rake out thoroughly. Rub down to feather broken edges of existing coating and dust off. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer. Prime all bare areas and areas exposed by the removal of coatings with one coat of exterior preservative primer. Bring forward all primed and/or filled areas to match existing with one coat of 8 years all weather protection exterior micro porous flexible undercoat of appropriate shade.

Apply one coat of 8 year all weather protection micro porous undercoats of appropriate shade, and one finishing coat of 8 year all weather protection micro porous exterior high gloss paint.

Painting New External Timber – Exterior Quality Gloss Paint

124 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary filler, rub down smooth and dust off. Apply two thin coats of knotting to all knots and resinous areas and allow to harden. Spot prime any bare metal, metal fixings, nail heads etc., with one coat of metal primer. Apply one coat of exterior preservative primer.

Apply one coat of 8 year all weather protection micro porous undercoats of appropriate shade, and two finishing coats of 8 year all weather protection micro porous exterior high gloss paint.

Painting Previously Painted Internal Plastic – Gloss

125 Preparation: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive. Finally rinse down and allow to dry. Prime all bare areas with preservative primer. Bring forward all primed areas with one coat of gloss paint.

Apply one finishing coat of gloss paint.

Painting Previously Painted External Plastic – Gloss

126 Preparation and making good: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive. Finally rinse down and allow to dry. Prime all bare areas with preservative primer. Bring forward all primed areas with one coat of 8 year all weather protection micro porous exterior gloss.

Apply one finishing coat of 8 year all weather protection micro porous exterior gloss paint.

Previously Wood-stained Internal Timber – Decorative Protection

127 Preparation: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive, taking care to avoid exposing timber on sharp edges. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc., with an approved proprietary filler, rub down smooth and dust off. Touch in any bare areas with one coat of decorative wood-stain of appropriate shade, thinned as manufacturer's technical data sheet.

Apply two finishing coats of decorative wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

New Internal Timber – Decorative Protection

128 Preparation: Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Rinse down and allow to dry. Make good all nail holes, open joints and open grain etc., with an approved proprietary filler, rub down smooth and dust off. Apply one coat of decorative wood-stain of appropriate shade, thinned as manufacturer's technical data sheet.

Apply two finishing coats of decorative wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

Previously Opaque Wood-stained External Timber – Decorative Protection

129 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Remove all areas of blistered, poorly adhering or defective coatings. Where flaking has occurred or coatings are defective, the entire member or section must be stripped back to the nearest joint. Open up all joints which are not tight fitting and rake out thoroughly. Rub down to feather broken edges of existing coating and dust off. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary stopper/filler designed for use with a wood-stain system, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Prime all sound bare areas and areas exposed by the removal of coatings with one coat of 8 year all weather preservative basecoat. If required, touch in any primed areas with 8 year all weather protection stain to match the surrounding timber for colour and build. Allow to dry.

Apply two finishing coats of opaque 8 year all weather protection wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

Opaque Wood-stained New External Timber – Decorative Protection

130 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary stopper/filler designed for use with a wood-stain system, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Apply one coat of 8 year all weather preservative basecoat.

Apply three finishing coats of opaque 8 year all weather protection wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

Previously Transparent Wood-stained External Timber – Decorative Protection

131 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Remove all areas of blistered, poorly adhering or defective coatings. Where flaking has occurred or coatings are defective, the entire member or section must be stripped back to the nearest joint. Open up all joints which are not tight fitting and rake out thoroughly. Rub down to feather broken edges of existing coating and dust off. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary stopper/filler designed for use with a wood-stain system, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Prime all sound bare areas and areas exposed by the removal of coatings with one coat of 8 year all weather preservative basecoat. If required, touch in any primed areas with 8 year all weather protection stain to match the surrounding timber for colour and build. Allow to dry.

Apply two finishing coats of transparent 8 year all weather protection wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

Transparent Wood-stained New External Timber – Decorative Protection

132 Preparation: Thoroughly clean down surfaces to remove all dirt, grease and surface contaminants. Abrade the surfaces in the direction of the grain to remove any grey denatured timber and raised grain, round all sharp edges. Make good all cracks, nail holes, open joints and open grain etc., with an approved proprietary stopper/filler designed for use with a wood-stain system, rub down smooth and dust off. Apply two thin coats of knotting solution to all knots and resinous areas and allow to harden. Apply one coat of 8 year all weather preservative basecoat.

Apply three finishing coats of transparent 8 year all weather protection wood-stain of selected shade, apply wood-stain in flowing coats, redistribute excess material by brushing before wood-stain has set, allow not less than 24 hours between coats.

Previously Varnished Internal Timber – Polyurethane Varnish

133 Preparation: and making good: Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Rub down to feather broken edges of existing coating and dust off. Wash down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Whilst wet, rub down the surfaces with a suitable abrasive, taking care to avoid exposing timber on sharp edges. Finally rinse down and allow to dry. Make good all nail holes, open joints and open grain etc with an approved proprietary filler, rub down smooth and dust off. Touch in any bare areas with one coat of interior polyurethane varnish or other equal approved, thinned as manufacturer's technical data sheet.

Apply two finishing coats of gloss, satin or matt interior polyurethane varnish as specified, brush well in avoiding aeration and layoff, rub down lightly between coats along the grain.

Previously Preservative Treated Sawn Timber; External

134 Preparation: Brush down to remove loose fibres, grey denatured timber and poorly adhering or defective coatings. Thoroughly clean down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Rinse with clean water and allow to dry. Surfaces which are contaminated with mould and/or vegetable growths should be scraped and treated with an appropriate fungicidal wash applied strictly in accordance with the manufacturer's technical data sheet. Ensure all surfaces are completely dry. Apply two thin coats of knotting solution to all knots and resinous areas and allow to dry. Spot prime all knots and bare areas with two coats of coloured timber preservative primer.

Apply one or two (as specified by Client's Representative) finishing coats of opaque fencing timber preservative of selected shade.

Preservative Treated New Sawn Timber; External

135 Preparation: Brush down to remove loose fibres and grey denatured timber Thoroughly clean down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Rinse with clean water and allow to dry. Apply two thin coats of knotting solution to all knots and resinous areas and allow to dry. Spot prime all knots and bare areas with two coats of coloured timber preservative primer.

Apply two finishing coats of opaque fencing timber preservative of selected shade.

Stripping Wallpaper:

136 Strip wall paper, lining paper, etc., clear away debris, remove dirt and surface deposits with a stiff brush, rub down to remove trowel marks, plaster and paint splashes. Lightly rub glossy plaster with worn abrasive paper. - Fill all depressions, holes and cracks with suitable filler and lightly rub down flush with surface.

Vinyl Covered Backgrounds:

137 Where these are to be stripped, the paper backing may be retained as a lining if in good condition and firmly adhering. Stick down any lifting edges and corners.

Treatment of Organic Growths:

138 Remove all loose growths and infected coatings/decorations. Apply appropriate biocidal solution to growth areas and surrounding surfaces. Scrape or brush off all dead growth. Remove infected materials immediately to ensure that no other areas become infected. Apply appropriate residual effect biocidal solution to inhibit re-establishment of growths. Biocides must be approved and registered by the Health and Safety Executive (HSE) and listed as surface biocides.

Hanging Wallpaper, Lining Paper etc., Generally:

139 All joints must be truly vertical and/or horizontal, straight and fully adhered with edges neatly cut to ceilings and skirtings. Finished coverings must be securely adhered, smooth and free of air bubbles, wrinkles, gaps, tears, adhesive marks and stains.

Sizing:

140 Where specified size surfaces with a solution of wallpaper paste diluted in accordance with the manufacturers technical data sheet.

Lining Paper:

141 Apply size to walls and hang lining paper with adhesive to BS 3046 with butt joints and turn all edges. When not specified otherwise, select type and weight to suit covering and background. Hang lengths with butt joints; do not overlap. Hang lengths transversely to direction of covering. Leave to dry for 24 hours before hanging covering.

Adhesive:

142 When not specified otherwise, type to be as recommended by the covering manufacturer or, in the absence of such recommendation, type to be approved. Adhesives to contain a fungicide and be made up in accordance with the manufacturer's technical data sheet.

Coverings:

143 Self edged coverings to be trimmed to a true straight edge before hanging, unless manufacturer recommends overlap joints. Hang wall coverings vertically unless specified otherwise. Hang ceiling coverings parallel to the main window wall unless specified otherwise. Isolate any metallic foil/fabric coverings from electrical contact.

Joints in Coverings:

144 Hang lengths with neat butt joints generally with the patterns matching where applicable. Hang lengths with neat overlapped joints only when permitted by the covering manufacturer where butt joints are impractical.

Hang lengths in one piece generally. Cross joints are only permitted where single lengths are impractical.

Joints in Coverings - Overlapped and Cut:

145 Hang lengths with neat overlapped joints. Cut through when stable to a true straight edge, without damaging the background, and bond joints. Hang lengths in one piece generally. Cross joints are only permitted where single lengths are impractical.

Shading:

146 Use lengths in the sequence they are cut from the roll. Check each length for colour and pattern match before hanging.

Do not reverse alternate lengths unless recommended by the covering manufacturer.

Check for shade variation after hanging the first three lengths. Inform the Client's Representative of any variation before proceeding.

Graffiti Removal

147 Apply a low odour bio-degradable chemical remover to the graffiti treating small areas at a time.

After the detergent remover has taken effect, the surface can be cleaned using a hot/cold power washer with a fan jet head. Pressure should be restricted to less than 1500PSI to avoid possible damage to masonry surfaces.

All applications shall be carried out in accordance with current Health and Safety requirements and with the manufacturer's technical data sheet. Suitable detergent cleaners only shall be selected for the surface to be cleaned.

Mould Growth Treatment

148 Clean all infected surfaces and surrounding area with anti-bacterial mould growth remover.

Wash down cleaned surfaces and apply anti-fungicidal solution to prevent re-growth.

Where repainting is required proprietary anti-fungicidal paint systems shall be used.

All paint and chemical solutions must be applied strictly in accordance with the manufacturer's Health and Safety instructions on their technical data sheet, and fully comply with current Health and Safety requirements.

Cleaning Rainwater Gutters and Pipes

149 Clear all dirt and debris from inside of gutter and clean.

Clean out defective joints of gutters and seal with suitable jointing material to satisfaction of the Client.

Clean outside face of gutters, when the inside has been cleaned.

Clear all dirt and debris from inside of rainwater pipes.

Clean out defective joints of rainwater pipes and seal with suitable jointing material to satisfaction of the Client.

Clean outside face of downpipes, when the inside has been flushed.

Client's current manufacturers/suppliers/products

150 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

GLAZING

GLAZING

MATERIALS

Glass

001 Clear float, obscured pattern and Georgian wired glass shall comply with BS 952-1.

002 Laminated safety, toughened glass and polycarbonate sheet shall comply with the requirements of BS EN 12600

003 Laminated safety glass shall comply with and meet the requirements of BS 6206.

004 Laminated safety glass shall comply with and meet the requirements of BS EN ISO 12543.

005 Panes to be accurately and squarely cut, with clean, undisfigured, free from all specks, bubbles, bladders and all other defects, and having undamaged edges and surfaces, to suit the sizes of the openings. Dimensions of edge cover and clearance, positions and materials of distance pieces, setting and location blocks to be to BS 6262 and glass and sealant manufacturer's recommendations.

006 For clear float glass, use 'ordinary glazing quality'.

007 For obscure/patterned glass, use clear cast glass either to match the existing glass or of a pattern approved by the Client's Representative.

008 For polished plate glass, use 'glass for glazing quality'.

009 For wired glass, use Georgian wired cast or Georgian wired polished plate glass, as specified. Ensure the wire extends to the edges of the glass and is free from rust. Cut Georgian wired glass to ensure that any edge is parallel to the alignment of the wires. Care to be taken to ensure that the wires in adjacent panes line up either horizontally or vertically.

Double and triple glazed units

010 Ensure flat dual/hermetically sealed double glazing units are manufactured using low-E coating on inner face s and have a minimum 5 (five) year guarantee. Provide details of the guarantee to the Client's Representative. Units to comply with BS EN 1279-1, with units to be clearly marked on at least one section, the spacer bar with the BS kitemark or equivalent standard or compliance with BS EN 1279-5, the manufacturer's name and number and the date of manufacture, to the month. All units to have argon gas filling.

Secure double glazed units into rebates with double-sided PVC-u foam closed cell high density security glazing to PAS 24.

Install units in accordance with BS EN 572-2, BS 6262, BS 8000-0, the glass and Glazing Federation Glazing Manual or equivalent.

Putty

011 For glazing to wood use timber slips and sealants.

012 On timber windows the bottom slip shall be a proprietary drained aluminium bead complete with end caps and spacers, use linseed oil putty or equivalent.

Intumescent mastic

013 Ensure mastic to fire doors/windows is of a type of fire protection sealant to BS 476-20 approved by the Client's Representative.

Plastic Protection Channels:

014 Preformed proprietary protection channel are to suit particular glass thickness, and fitted securely to bottom edge of glass.

Condensation Channels:

015 Proprietary pre-formed PVC-u/metal condensation channel are to be complete with stop ends, glazing gaskets and proprietary fixings. Channel to be bedded in recommended sealant to bottom member of window.

Ventilated Glazing Beads:

016 Proprietary pre-formed PVC-u or aluminium ventilated glazing bead are to be complete with stop ends, glazing gaskets and proprietary fixings and fixed in accordance with manufacturer's technical data sheet.

Glass Locking System:

017 Proprietary plastic/metal body and clip and fixed in accordance with manufacturer's technical data sheet.

WORKMANSHIP

Glazing generally

018 Glass generally shall comply with standards to BS 952. Undertake all glazing in accordance with BS 6262, the Glass and Glazing Federation Code of Practice and the current Building Regulations.

Ensure that glass/plastics, surround materials, primers, mastics, sealers and paints which are used together are compatible.

Glazing to be the responsibility of the unit manufacturer.

Safety Glass – to identify the grade of safety glass used, each pane should be indelibly marked so that the marking is visible after installation. The markings should include:

The manufacturer's name or trade mark;
The product number for the type of glass;*
The impact performance classification I to BS EN 12600 (or A to BS 6206)

*e.g. BS EN 12150 toughened glass;
BS EN 14449 laminated glass:
BS EN 14179 heat soaked thermally toughened glass;

Fire Glass – all glazing units forming or part of a composite unit i.e. door, window, sidelight etc., should be manufactured to allow compliance with fire testing and rated accordingly to the component unit as a whole and comply with Building Control.

019 Accurately and squarely cut glass with clean, undisfigured and undamaged edges and surfaces, to size with a small clearance. Provide a clearance of 3mm on timber, 5mm on PVC-u windows all round between the edge of the double glazed unit and the frame to permit drainage and ventilation. Cut Georgina Wired glass to ensure that any edge is parallel to the alignment of the wires. Care shall be taken to ensure that the wires in adjacent panes line up either horizontally or vertically.

020 Ensure glass, except that bedded in patent glazing strip, is bedded back and front and around the perimeter with mastic neatly trimmed and cleaned off.

021 Ensure glazing is sprigged to wood, or fixed with aluminium, timber beads or PVC-u beads and security clips or double edged security tape.

022 If gasket glazing is required, ensure the glazing gaskets and weather seals are extruded from EPDM (Ethylene Propylene Diene Monomer).

023 Install obscured glass in single glazing with the "rough" side to the inside of the Property. Install obscure glass to sealed double glazed units with the "rough" side to the inside of the unit and the obscure glass to the inside of the Property.

024 Seal and prime rebates and beads before glass is inserted.

Double glazing units

025 Glazing packers are to be in accordance with BS 8213 and should not obstruct the drainage with profile specific bridging packers used. Use setting blocks and distance pieces so as to centralise the glass, unit or infill within the opening and ensure that it cannot move in the wind. Use setting blocks at the bottom edge of the frame. For fixed windows, position them as near the quarter points as possible. Where it is necessary to avoid undue deflection of the frame, place them nearer the sides, but never less than 85mm from the corner. Use setting blocks that are 3mm wider than the glass unit or infill and as thick as the designed edge clearance. Allow for toeing and healing.

026 Use setting blocks that are at least 25mm in length and approximately 2 No evenly spaced for each metre of major glass dimension to BS 8213-4. For vertically pivoted windows, use setting chocks that are at least 75mm in length. Do not place blocks where these will inhibit drainage.

027 Use location blocks between the edges of the glass unit or infill and at the top and sides of the frame in an opening light.

028 Use distance pieces 25mm long and 3mm less in height than the rebate depth. Ensure the thickness is at least 3mm and such as to ensure that the glass is held firmly in the glazing rebate. Insert rigid PVC-u shims if necessary, to ensure that the distance pieces are a tight fit between the face of the glass and rebate. For beads which fit into continuous grooves, insert the first distance pieces 75mm from each corner, and the remainder at approximately 30mm centres. For beads fixed by screws or other studs, insert the distance pieces at the fixing points provided.

029 Composition of Double Glazing Units as tabled below:

DOUBLE GLAZING UNITS TO DOORS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	12mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated clear glass
Overall thickness of the units: Not less than 25.6mm		

DOUBLE GLAZING UNITS TO DOORS – OBSCURE SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	12mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated obscured pattern safety glass
Overall thickness of the units: Not less than 25.6mm		

DOUBLE GLAZING UNITS TO SIDELIGHTS – OBSCURE SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear low-E glass	14mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated obscured pattern safety glass
Overall thickness of the units: Not less than 24.8mm		

DOUBLE GLAZING UNITS TO SIDELIGHTS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear low-E glass	14mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated clear safety glass
Overall thickness of the units: Not less than 24.8mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR FLOAT		
Pane material/thickness		
Inner pane 4mm clear low-E glass	16mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm clear glass
Overall thickness of the units: Not less than 24mm		

DOUBLE GLAZING UNITS TO WINDOWS – OBSCURE		
Pane material/thickness		
Inner pane 4mm clear low-E glass	16mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm obscured pattern group 4 glass
Overall thickness of the units: Not less than 24mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear low-E glass	16mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm toughened clear glass
Overall thickness of the units: Not less than 24mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	16mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated clear glass
Overall thickness of the units: Not less than 29.6mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR FLOAT		
Pane material/thickness		
Inner pane 4mm clear low-E glass	20mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm clear glass
Overall thickness of the units: Not less than 28mm		

DOUBLE GLAZING UNITS TO WINDOWS – OBSCURE		
Pane material/thickness		
Inner pane 4mm clear low-E glass	20mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm obscured pattern group 4 glass
Overall thickness of the units: Not less than 28mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear low-E glass	20mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 4mm toughened clear glass
Overall thickness of the units: Not less than 28mm		

DOUBLE GLAZING UNITS TO WINDOWS – CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	20mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6.8mm laminated clear glass
Overall thickness of the units: Not less than 33.6mm		

DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	12mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6mm clear Georgian Wire Fire Glass
Overall thickness of the units: Not less than 24.4mm		

DOUBLE FIRE GLAZING UNITS– OBSCURE SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear low-E glass	12mm thermally broken warm edge spacer bar with 90% argon fill	Outer pane 6mm Georgian Wire Fire Glass obscured pattern group 1
Overall thickness of the units: Not less than 24.4mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear glass	Stainless steel spacer bar with argon gas filling	Outer pane 11.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– TEXTURED/PATTERNED SAFETY		
Pane material/thickness		
Inner pane 4mm toughened textured/ patterned glass	Stainless steel spacer bar with argon gas filling	Outer pane 11.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– TEXTURED/PATTERNED SAFETY		
Pane material/thickness		
Inner pane 4mm toughened textured/ patterned glass	Stainless steel spacer bar with argon gas filling	Outer pane 11.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.8mm laminated clear (safety Class A) glass	Stainless steel spacer bar with argon gas filling	Outer pane 7.0mm internal fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY		
Pane material/thickness		
Inner pane 4mm toughened clear glass	Stainless steel spacer bar with argon gas filling	Outer pane 10.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– TEXTURED/PATTERNED SAFETY		
Pane material/thickness		
Inner pane 4mm toughened textured/ patterned glass	Stainless steel spacer bar with argon gas filling	Outer pane 10.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY LOW –E HARD COAT		
Pane material/thickness		
Inner pane 4mm toughened low-E hard coat clear glass	Stainless steel spacer bar with argon gas filling	Outer pane 10.0mm safety fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

FIRE GLAZING, DOUBLE FIRE GLAZING UNITS– CLEAR SAFETY		
Pane material/thickness		
Inner pane 6.4mm laminated clear (safety Class B) glass	Stainless steel spacer bar with argon gas filling	Outer pane 7.0mm external fire grade glass fully UV stable, clear
Overall thickness of the units: Not less than 24.0mm		

Neoprene glazing gaskets

030 Fit glass to PVC-u windows using glazing gaskets appropriate to the window. Angle all glazing gaskets if possible, but in any event mitre all corners and comply with Clause 021 above.

Cleaning:

031 Remove cement and plaster based spillage whilst wet. Remove all smears and excess glazing materials. Leave glazing clean and free from scratches inside and out.

Damage:

032 Replace all glass and fixing materials broken or damaged before completion and redecorate.

Fire Resistant Glazing

033 Fire resistant Glazing Cassette to Door Sets with cassette interlocking system with male/female connectors, 24.4mm double glazing unit comprising 6.8mm laminated clear low–E safety glass inner pane, 12mm thermally broken warm edge spacer bar with 90% argon fill, 6mm clear Georgian wired fire glass or 6mm Georgian wire fire glass obscure pattern group 1, fire retardant glazing sealant as intumescent aperture lining/filler, installed in accordance with UKAS accredited report for fire resistant glazing and in accordance with glazing manufacturer's technical data sheet.

034 Fire resistant Glazing Cassette to Door Sets with cassette interlocking system with male/female connectors, 26mm double glazing unit comprising 6.8mm laminated clear low–E safety glass inner pane, 12mm thermally broken warm edge spacer bar with 90% argon fill, 6mm clear Georgian wired fire glass or 6mm Georgian wire fire glass obscure pattern group 1, fire retardant glazing sealant as intumescent aperture lining/filler, installed in accordance with UKAS accredited report for fire resistant glazing and in accordance with glazing manufacturer's technical data sheet.

035 Fire resistant glazing to fanlights and sidelights with 24.4mm double glazing unit comprising 6.8mm laminated clear low–E safety glass inner pane, 12mm thermally broken warm edge spacer bar with 90% argon fill, 6mm clear Georgian wired fire glass or 6mm Georgian wire fire glass obscure pattern group 1, fire retardant glazing sealant as intumescent aperture lining/filler, installed in accordance with UKAS accredited report for fire resistant glazing and in accordance with glazing manufacturer's technical data sheet, aluminium powder coated glazing bead extrusion with flexible intumescent glazing compound to entire length of glazing bead extrusion and fixing in accordance with the manufacturer's technical data sheet.

Client's current manufacturers/suppliers/products

036 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand Name	Manufacturer's Details

[complete table as appropriate]

ELECTRICAL WORKS

ELECTRICAL WORKS

GENERAL

Regulations

001 All electrical Works must be carried out in accordance with BS 7671 Requirements for Electrical Installations IET Wiring Regulations co-published by the British Standards Institution ("BSI") and the Institution of Engineering and Technology ("IET").

Equipotential bonding

002 Standard to BS 7671 Installation: Connect the following metallic parts to the main earthing terminal, where they are extraneous-conductive parts to:

- metal water installation pipes;
- metal gas installation pipes, as near practical to the point of entry of the service into the premises and before any branch pipework where the meter is fitted externally. Where practicable the connection shall be made within 600mm of the meter outlet union where the meter is installed internally;
- central heating system pipework;
- other installation pipework (including oil and gas supply pipes) and ducting; and
- exposed metallic structural parts of the building.

Sizes of bonding conductors are given in BS 7671.

Supplementary equipotential bonding

003 Standard to BS 7671 General: Within the zone formed by the main equipotential bonding, provide connections to:

- baths;
- sinks;
- exposed pipes; and
- heating systems.

In locations containing a bath or shower, supplementary equipotential bonding is to comply with BS 7671 Section 701.

Sizes of supplementary equipotential bonding conductors are given in BS 7671.

Standard to BS 7671: Electrical equipment and/or electrical circuits installed in a room containing a bath or shower shall have RCD protection, complying with BS 7671 Regulation 701.411.3.3.

Standard to BS 7671: Where all electrical requirements in the dwelling to BS 7671 Regulation 701.411.3.3 are met, supplementary equipotential bonding as Clause 003 may be omitted.

MATERIALS

Earth Electrode

004 Standard to BS 7671
General: Conductive part, which may be embedded in the soil or in a specific conductive medium, in contact with the earth;
Materials: Copper, with hardened steel driving cap, hardened steel tip and phosphor bronze coupling screws;
Mechanical protection: Each earth electrode shall be protected from mechanical damage by enclosing in a heavy duty cast-iron box with lid or a heavy duty concrete box with lid. The earth lead shall be enclosed, where exposed in heavy gauge galvanised steel conduit. Permanent labels to BS 951 indelibly marked "Safety Electrical Earth Do Not Remove" shall be attached to the earth lead at both the meter cupboard and at the electrical electrode.

Conduit/trunking/ducting

005 Do not use surface conduit or trunking without an Instruction to do so from the Client's Representative.

Steel Conduit and fittings

006 Standard to BS 7671
Type: Plain threadable rigid conduit;
Size: In accordance with BS 7671;
Fittings: Circular boxes shall be malleable cast-iron;
Finish: Class 4 hot dipped galvanised;
Mounting/support: Conduit shall be secured to surfaces using galvanised steel clips/saddles;
Mounting/support: Conduit shall be secured to surfaces using galvanised steel clips/saddles
Installation: Use maximum practical lengths to minimise number of joints. Form bends by machine and remove burrs from cut ends. Use bends and or/junction boxes at changes of direction. Elbows or tees shall not be used without the consent of the Client's Representative. Conduit system to be secured using brass screws an fibre/plastic plug. Boxes must be fixed independently of conduit. Tightly screw all joints to ensure electrical continuity, with no thread showing. All threads to be treated with rust inhibiting paint. Use expansion couplings where conduit crosses movement joints in structure. Make secure connections to boxes, trunking etc., with screwed coupling and provide rubber bushes at open ends.

PVC-u conduits and fittings

007 Ensure PVC-u conduits and fittings comply with the following:
- strength: heavy gauge super high impact;
- shape/colour: round, white;
- jointing: push fit and solvent welded;
- fittings: standard;
- mounting/support: screw the conduit to surfaces using the conduit manufacturer's clips/saddles;
- use maximum practical straight lengths to minimise number of joints;
- use proprietary bends and/or junction boxes at changes of direction;
- do not use elbows, tees or site formed bends without the approval of the Client's Representative;
- secure the conduit system using boxes, plated screws and fibre/plastic plugs;
- fix boxes independently of the conduit; and
- form secure joints, using expansion couplings where recommended by the manufacturer and connectors at equipment and terminal fittings.

PVC-u surface cornice trunking system

008 Use PVC-u surface cornice trunking in conjunction with mini trunking for the mechanical protection of sub-mains cables and final circuit cables in accessible locations at ceiling level, where approved by the Client's Representative. Ensure the trunking complies with the following:
- fittings: use the manufacturer's standard fittings;
- colour: white;
- mounting/support: secure to surfaces using plated screws and fibre/plastic plugs; and
- use proprietary units to form junctions and changes of direction wherever possible.

PVC-u surface mini-trunking system

009 Use PVC-u surface mini-trunking for the mechanical protection of final circuit cables in accessible locations. Ensure the trunking complies with the following:
- fittings: use the manufacturer's standard fittings;
- colour: white;
- mounting/support: secure to surfaces using plated screws and fibre/plastic plugs; and
- use proprietary units to form junctions and changes of direction wherever possible.

Fire stopping of trunking/ducting

010 Seal trunking/ducting internally with firmly packed rock fibre or intumescent type material supplied by the trunking/duct manufacturer.

Cables generally

011 Ensure cables are BASEC certified. Use cables in the locations and for the uses specified in the table below:

Location/Use:	Cable Type:
General (includes central heating, ventilation and smoke detector systems)	PVC insulated and sheathed
Conduit system (complete)	PVC insulated and sheathed or PVC insulated only
Sub-mains distribution	PVC split concentric
Sub-mains distribution armoured and PVC sheathed	PVC insulated, PVC sheathed, steel wire armour and PVC sheathed
Fire alarm system	PVC insulated and sheathed
Immersion heater (final connection)	EP rubber/HOFR sheath, Heat resistant PVC flexible cable

PVC-u insulated and sheathed cables and PVC-u insulated split concentric cables

012 Colour code cables for identification.

Electrical accessories generally (wall mounted)

013 Ensure wall mounted accessories for the connection and control of power, lighting and low voltage equipment are:

- manufactured using white moulded plastic;
- complete with surface or flush type mounting box except where specified otherwise;
- from the same manufacturer in a single installation; and
- marked to show their function where they are a control switch for e.g. an immersion heater, a cooker, a refrigerator, a washing machine or a circulating pump etc.,.

014 Ensure metal boxes for flush mounting switches and sockets are manufactured from galvanised steel complete with an earth terminal.

015 Fix all boxes using brass screws, fibre or plastic plugs.

Electrical accessories generally (ceiling mounted)

016 Ensure ceiling mounted accessories for the connection and control of power, lighting and low voltage equipment:

- are manufactured using white moulded plastic;
- are complete with mounting box where required;
- are from the same manufacturer where used in a single installation;
- are fixed with brass or sheradised screws, with fibre or plastic plugs as required; and
- in conduit systems have a white insulated break-ring between the ceiling roses and cord switches and the respective terminal boxes.

Consumer unit

017 Ensure consumer units:
- have a surface non-combustible pattern unit complete with lid;
- have a main switch of 80/100 amp DP rating;
- are fitted with RCBO's to BS EN 61009-1;
- located adjacent to the meter at the incoming supply position; and
- have each way permanently labelled to identify the circuit and rating.

018 In installations without Protective Multiple Earthing it must be a surface non-combustible unit complete with lid, fitted with RCBO's to BS EN61009-1 and must be labelled to correspond to the following circuit allocations:

Circuit No Allocations	RCBO Rating
Lighting Downstairs	6
Lighting Upstairs	6
Boiler	6
Immersion Heater	16
Kitchen Ring Main Circuit	32
Shower	45
Cooker	32
Power Ring Main Circuit – RCD/RCBO protected	32
Mains Powered Smoke Alarms	6

Residual current device/residual current circuit device (RCD/RCCD)

019 Ensure RCDs and RCCDs:
- function as both isolators and switches;
- have a current rating of 80 amp DP;
- have a sensitivity of 30m amp; and
- are complete with an insulated cover or terminal shrouds.

Residual current circuit breaker (RCCB)

020 Ensure RCCBs:
- function as both isolators and switches;
- have a current rating of 63 amp DP;
- have a sensitivity of 30mA; and
- have a white PVC enclosure.

Residual current circuit breaker with override protection (RCBO)

021 Ensure RCBOs:
- function as both isolators and switches;
- have a current rating of 80A DP;
- have a sensitivity of 30mA; and
- are complete with an insulated cover or terminal shrouds.

ISCO connectors

022 For ISCO connectors ensure:
- the covers and bases are manufactured from black phenolic resin material; and
- the connector blocks are manufactured from brass with electro-tin finish.

Door bells

023 Ensure door bells:
- are primary mains supply, transformer , 6v secondary outlet;
- have a white bell push PVC-u cover; and
- are screw fixed.

Bulkhead light fitting (fluorescent) (metal base)

024 Ensure metal base bulkhead light fittings:
- have a corrosion resistant die-cast or pressed metal base complete with a vandal resistant diffuser;
- have the wiring within the fitting protected by heat resistant sleeving;
- are installed complete with a 20W compact fluorescent lamp with integrated control gear;
- lamp efficacy to be greater than 45 lumens per circuit-watt;
- controlled manually by Customers; and
- are screw fixed.

Bulkhead light fittings (fluorescent) (polycarbonate base)

025 Ensure polycarbonate base bulkhead light fittings:
- have a heavy duty polycarbonate base with a vandal resistant diffuser;
- have the wiring within the fitting protected by heat resistant sleeving;
- are installed complete with a 20W compact fluorescent lamp with integrated control gear;
- lamp efficacy to be greater than 45 lumens per circuit-watt;
- controlled manually by Customers; and
- are screw fixed.

Photocell sensor

026 Ensure sensors to control the landlord's lighting installation are:
- complete with a baseholder and wall mounting bracket;
- screw fixed to masonry or concrete; and
- fixed in a position approved by the Client's Representative.

TV aerial installation

027 Ensure TV aerial installations:
- consist of 20mm diameter PVC-u conduit complete with co-axial cabling run from roof level; and
- terminate at a white plastic surface mounted outlet box complete with a white plastic cover plate with single co-axial TV outlet.

Time switch (24 hour)

028 Ensure time switches:
- have a 24 hour and quartz control mechanism;
- are a 20 amp single pole, single throw time switch; and
- have 2 'on' and 2 'off' programmes with a day omitting device and independent motor connections.

Smoke detectors

029 Ensure smoke detectors:
- have white PVC-u for the housing;
- have a minimum 10 year life expectancy;
- include a photo-electronic sensor to BS EN 14604;
- are 240 V mains operated with a sealed-in rechargeable Lithium cell back up supply; and
- include a full function test/hush button control, automatic reset, Green and Red LED indicators to confirm alarm status and low power cell warning signal.

Heat detectors

030 Ensure heat detectors:
- have white PVC-u housing;
- have a minimum 10 year life expectancy;
- comprise a fixed temperature fast response thermistor sensor with a range of 54^{o} – 62^{o} centigrade to BS 5446-2;
- are 240V mains operated with a sealed-in rechargeable Lithium cell back up supply; and
- include or have a test button control function, Green and Red LED indicators to confirm alarm status and low power cell warning signal.

Carbon monoxide detectors

031 Ensure carbon monoxide detectors:
- have white PVC-u housing;
- have a minimum 10 year life expectancy;
- incorporate an electrochemical cell sensor module;
- are battery operated to BS EN 50291 fixed with security screws to ceiling;
- sensor power pack life 10 years;
- include a continuous self check function monitor with test/hush facility;
- have a pre-alarm warning LED;
- include LEDS for battery power pack life, CO level and fault status; and
- have a CO gas test feature.

Fixing electrical accessories/equipment

032 Position accessories accurately and squarely to the vertical and horizontal axes. Where not shown otherwise, align adjacent accessories on the same vertical or horizontal axis (as appropriate). Agree the mounting heights with the Client's Representative.

Multi-gang switches

033 Connect switches so that there is a logical relationship with the lights.

WORKMANSHIP

Installation generally

034 Install, test and commission the electrical work in accordance with BS 7671 and the design and performance requirements set out in this Section so as to provide a safe, well insulated, earth protected system capable of supplying the anticipated maximum demand.

035 Ensure all installation Works are carried out by qualified electricians fully conversant with BS 7671 to good workmanship by skilled (electrical) or instructed (electrical) persons and proper Materials shall be used in the electrical installation.

036 Do not allow the number of Apprentices and Trainees at a Property to exceed the number of qualified electricians.

037 Ensure all installation Works are carried out under the direct supervision of a "Qualifying Manager" named in the List of Approved Service Providers issued by the National Inspection Council for Electrical Installation Contracting (or equivalent).

038 Use only the types of fastenings, bushes, glands, terminals, connectors, clips, clamps and all other minor accessories necessary to complete the installation that are recommended by the manufacturer of the electrical equipment being installed.

039 Avoid contact between dissimilar metals. Use corrosion resistant fastenings in locations where moisture is present or may occur.

040 The Service Provider must rectify, free of charge to the Contract, any Work which in the opinion of the Client's Representative has not been properly executed and must replace free of charge to the Contract any Materials which do not comply with this Specification.

041 The Service Provider must confirm the voltage and frequency of the supply before ordering any equipment.

042 The Service Provider must include in his tender for the provision of all fixings and the making good by qualified tradesmen to the satisfaction of the Client's Representative all damage to walls, ceilings, decorations and fitments.

043 Dust sheets are to be used and every consideration given to Customer's property.

044 After work is completed each day all systems will be left in a safe usable condition and all dust and mess cleared up.

Circuit chart

045 Standard to BS 7671
Regulation No. 514.9.1
Requirements: For simple domestic electrical installations the information required in Regulation 514.9.1 may be given in a Schedule
Schedule: A laminated durable copy of the Schedule relating to the Consumer Unit(s) shall be provided securely fixed within or adjacent to each Consumer Unit.

Electricity supply

046 Note that the electricity supply is nominally 240 volt AC, single phase, 50 hertz, 2 wire.

System of wiring

047 For concealed wiring, use PVC sheathed 600/1000 volt grade cable of the size and type specified. Wherever possible, run it in within floor, roof and ceiling voids.

048 Run cables along the sides of joists at the mid point. Clip them at 450mm centres using cable clips of tinned brass secured by nonferrous fixing pins, screws, clips or a similar fixing. Support the wire and equipment located between the joists by a wood bearer of a size of at least 100x25mm.

049 Install the cable:
- with a minimum clearance of 150mm to all heating, gas and waste pipes or ducts; and
- physically separated from other wiring not associated with lighting and power supplies.

050 Where cables cross flooring joists they must be passed through small holes drilled through the centre of the joists. These holes must not exceed 25mm diameter.

051 Ensure cables leaving or crossing joists do so at right angles to the longitudinal side of the joist, on trusses or binders. Do not notch or saw joints. Ensure that cables do not run in positions where they are susceptible to damage by floor nails.

052 Do not run cables in roof spaces on the top of joists or insulation. All cables in a roof space shall be clipped to horizontal timber tray supported on battens secured above roof trusses and kept clear of thermal insulation.

053 Install cables leaving roof voids and within floor spaces or passing through any part of the structure in conduit or trunking as specified.

054 Ensure cables in solid floor that are either laid in screed or in a ceiling void are drawn in through rigid PVC-u conduit as specified and run continuously from the consumer unit to the outlet served.

055 Do not install cables within wall cavities.

056 Contain all wiring to each flat within that flat.

057 Fit conduits complete and then draw the cable through.

058 Cables must be protected, supported and fixed to the requirements of BS 7671 and all other Regulatory Requirements.

Cables installed in plastered walls

059 Protect cables by rigid PVC-u metric super high impact heavy gauge conduit where no conduit exists at present. Reuse existing conduit where approved by the Client's Representative.

060 Ensure new conduits are in continuous lengths, smooth in bore, true in size, and terminating in roof spaces and within floor spaces with a minimum projection of 50mm. Provide inside outlet boxes with a universal cleat.

061 Ensure new conduits are vertical and chased into the wall, such that the finished wall will provide a minimum of 10mm plaster cover. Adequately fix the conduit with sheradised nails and saddle clips, such that during the plastering processes, there is no tendency for plaster to push the conduit forward and reduce the cover.

Cables installed in plasterboard partitions

062 In plasterboard partitions with a timber core, draw cables through the partition between the timber studding and noggins. Where timber work occurs, take the cable over the face of the timber by a small chase through the plasterboard and into the timber. Make good the chase with a suitable plaster material finished smooth and flush. Ensure cables installed in partitions are vertical.

063 Take due account of any insulation within the partition when sizing the cables so as to prevent overheating.

Conduit installed on the surface

064 Use super high impact light gauge PVC-u metric rigid conduit and accessories on fairfaced brickwork or unplastered surfaces in heating cupboards, stores, garages, plant rooms, meter compartments and similar areas.

065 Support the conduit by PVC-u spacer bar saddles and wood screws and rawlplugs at intervals not exceeding 400mm.

066 Allow for the expansion of PVC-u conduit.

067 Install the conduit only vertically or horizontally.

Where new cables are to be installed in or under solid floors

068 Protect cables by rigid PVC-u round super high impact heavy gauge conduit laid in continuous lengths from the consumer unit to the outlet served, run in a diagonal line. Use the proper outlet and inspection bends and tees. Adequately fix the whole system to avoid any displacement by subsequent building trades.

Requirements for PVC-u conduit systems

069 Install no more cables in each circular conduit than necessary to permit easy insertion and withdrawal. Do not install more than the maximum recommended in BS 7671. Demonstrate to the Client's Representative that cables can be easily withdrawn and inserted in any section of the installation. If this cannot be done using the existing conduit, then provide new conduit.

070 Use conduits, boxes, fittings and accessories from the same manufacturer and with suitable fixings for the application. Ensure circular conduit is at least 20mm in diameter.

071 Ensure PVC-u outlet boxes and equipment do not become distorted during plastering. Install boxes flush with the finished plaster and the sides vertical, using 1.25" No. 8 woodscrews and rawlplugs or equivalent fixing.

Use of cable trunking

072 Use cable trunking to improve the appearance at points in the installation where a number of conduits terminate or share a common route, and/or at the meter intake positions for the formation of distribution board/local isolator assemblies. Use compact miniature trunking of the appropriate size.

073 Use PVC-u trunking with fitted end covers. Provide a separate earth continuity conductor.

074 Connect trunking to equipment by appropriate screwed couplers, bushes and shakeproof washers, or flanged couplings.

075 Connect trunking to PVC-u conduit by "threaded to plain" adaptors with lock nuts, or clip in adaptors.

076 Clean out trunking before cable is drawn in.

077 Ensure the number of cables installed in trunking does not exceed the space factor specified in BS 7671.

Conductors

078 Ensure all cables comply with British Cable Association recommendations (or equivalent).

079 Carefully remove any insulation in making terminations without causing damage to the conductor. Double the wiring to fill the terminations.

080 Take the sheath of PVC-u sheathed cable inside the outlet boxes or the pattress of ceiling fittings and similar equipment.

081 Securely clamp flexible cords and fit suitable grommets to all terminal boxes.

082 Use cables of the following types and sizes complete with integral earth continuity:

Concealed wiring - copper 2 core and earth PVC 600/1000 volt grade	
Lighting sub-circuits - 1.5mm sq	Dependent upon length of circuit and to comply with BS 7671
Boiler circuits - 1.5mm sq	
Ring circuits - 2.5mm sq	
Radial circuits - 2.5mm sq	
Cooker circuit - 10.0mm sq	
Shower circuit - 10.0mm sq	
2/3 Kw Immersion Heater - 2.5mm sq	
3 Kw Water Heater - 2.5mm sq	
Flexible cords and cables - heat resistant insulation 300/500 volt grade	
Lighting - pendant lamp holder	0.75mm sq 2 core heat resistant silicone rubber insulated white circular
Lighting - final internal connection for enclosed tungsten fittings in bathrooms, garages, and for exterior light fittings	0.75mm sq 3 core heat resistant butyl rubber
2/3 Kw Immersion heater	2.5mm sq EP rubber/HOFR sheath or heat resistant PVC flexible cable
3 kw Water heater	2.5mm sq EP rubber/HOFR sheath or heat resistant PVC flexible cable

Lighting Circuits

083 Install wiring by the loop-in system. Ensure there are no joints or connectors in the final-circuit from the consumer distribution unit.

084 Install a maximum of two live pairs and one switch pair at each point. Install the wiring for 2-way switching between switch points. Terminate the earth conductor in each lighting and switch point.

085 Install lighting points and arrange the system such that:
- 2/3 bedroom Properties are provided with two 6 amp circuits; and
- small 1 bedroom Properties are provided with one 6 amp circuit in the consumer distribution unit.

086 Limit the number of points controlled by one 6 amp RCBO way to 10. If an installation has an excess of 20 lighting points then provide three 6 amp RCBO circuit ways.

087 Ensure pendant type cord grip, all insulated lampholders and ceiling roses are white plastic and are complete with 225mm of flexible cable as specified for a standard height ceiling. For non-standard Properties, adjust the length of the flexible cable to give a 2.1 metre (7ft) clearance from the lampholder to the floor. Ensure lampholders are all of the insulated heat resisting pattern.

088 Ensure interior light switches (except in bathrooms) are white plastic, flush fitting, single pole, rocker operated 5 amp AC units, mounted in boxes with adjustable fixing lugs. Gang the switches as required, using a multiple plate cover.

089 Where flush fittings and switches cannot be used, mount single pole rocker operated 5 amp AC surface type switches on matching moulded white plastic boxes.

090 Install light switches at a distance of between 450 and 1200mm above the floor level to the centre of the switch, and at least 150mm from the nearest door frame, unless the Client's Representative Instructs otherwise.

091 Ensure light switches in bathrooms are white plastic 5 amp AC surface pattern operated by a non-conductive pull cord and knob and hang not more than 900mm above floor level. Fit them close to the wall and well clear of the door to the room.

092 Support ceiling fittings that are wired and located between joists by wooden bearers of a minimum size of 100x25mm fixed to the joists at both ends of the bearer.

093 Do not provide lamps except where specifically required by the Schedule of Rates.

13 amp ring circuit installation

094 Connect sockets in ring circuits without spurs using cable as specified, with both ends of each circuit terminated in one 32 amp RCBO at the consumer distribution unit.

095 Prevent overloading of circuits by providing specified appliances with separate final-circuits.

096 For Properties with a total internal floor area not exceeding 100 square metres on a single level, provide one ring circuit with appropriate numbers of sockets or fused connection units connected to the ring and one kitchen ring main.

097 Properties with a total internal floor area exceeding 100 square metres or Properties on two or more levels, are to have a minimum of two ring circuits with the appropriate number of sockets or fused connection units connected to the ring, in addition to a kitchen ring main.

098 Locate sockets and fused connector boxes in the same positions as those existing. Ensure they are 13 amp 3 pin white flush pattern. Gang sockets as required, with a multiple plate cover.

099 Use surface pattern sockets protected with a RCBO device in garages, and elsewhere on fair face brickwork.

100 Ensure sockets have switches unless otherwise specified.

101 Ensure the positions of sockets relative to the floor level are as follows:

Location	**Dimensions for socket outlets to floor level**
Garages, laundry areas	450mm - 1200mm
General living areas, hall, landings, etc.	450mm - 1200mm
Elderly persons' Properties	450mm - 1200mm
Bedrooms (except elderly persons' Properties)	450mm - 1200mm
Kitchens (preferred dimension from bottom of outlet to worktop)	Within 100mm and 300mm above worktop level

102 In kitchens, where necessary, increase the above dimensions to ensure a satisfactory match with the layout of the wall tiles. Sockets to be aligned level with each other throughout the room. Agree the exact position of sockets with the Client's Representative before installation to ensure a satisfactory position in relation to storage cupboards and shelves, etc.

103 Recess socket boxes into the walls to just below plaster level and provide them with adjustable fixing lugs.

Cooker circuit

104 For cooker circuits, provide one final-circuit connected to one 32 amp RCBO at the consumer distribution unit using cable as specified.

105 Locate a flush fitting, white plastic cooker control unit with a 45 amp DP main cooker control switch, complete with neon indicator, horizontally within 150-1200mm maximum from the edge of the cooker spaces Instructed by the Client's Representative. Ensure the dimension from the top of the unit to the floor is 1400mm and from the side of the cooker to the centre line of the unit is 150mm. Where a Customer owns a separate hob and oven, provide a separate 45A DP switch and cooker connection unit below worktop for each appliance.

106 Ensure a cooker control unit that is located between storage cupboards or shelves and working top surfaces aligns with other sockets around the worktop.

107 Connect the cooker circuit in the cooker control unit. Extend it to terminate in a cooker cable connector outlet mounted 450mm above the finished floor level and immediately adjacent to the cooker. Terminate the cooker wiring at the cooker connector outlet box where no electric cooker is provided. Connect the cooker if the Customer has one.

Immersion heaters

108 For heater circuits, provide one final sub-circuit connected to one 16 amp RCBO at the consumer distribution unit using cable as specified.

109 Provide for the heater to be controlled by a heating boost switch to BS EN 60669-1 or BS EN 60730-1 located above the worktop in the kitchen with a 20A switch located adjacent to the hot water cylinder in the hot press.

110 Use flush fitting units where switches are located outside the hot press. Where flex outlets are located inside the hot press, use either surface or flush fitted units.

111 Terminate the circuit adjacent to the heater using suitable cable and 20A switch. Make the final connection with heat resistant flexible cable as specified and run so as to prevent the hanging of clothes, etc., on the cable.

112 When the supply cable is exposed within a hot press, protect cables with mini-trunking as specified.

Showers

113 For shower circuit, provide one final sub-circuit connected to one 45amp RCBO at the consumer distribution unit using cable as specified. Provide for the shower to be controlled as near as practicable to the shower unit, by a white 45amp AC, DP neon light or indicating flag pull cord switch located in bathroom.

114 New showers are to ne 8.7KW electric shower unit to BS EN 60335-2, BEAB, BEAB CARE, RNIB, CE marked and WRAS approved complete with installation set maximum temperature control, phased shut down, low pressure indicator, installation set timer setting, including plugging walls as necessary, connect to water and electrical supplies including provision of shower circuit including mini-trunking or rigid PVC-u conduit chased to walls etc., incorporating RCBO protection, controlled with 45A DP switch with neon light or indicator flag, all adjustments to pipework, adjust electrical supply as necessary, fill, test, and undertake tests, provide certificate, and remove all waste.

Showers are to be supplied with fixed sliding rail, twist and lock shower head mechanism, shower hose with adjustable shower head outlet and soap dish.

Smoke Heat Detectors

115 Smoke alarms must be approved by the Client's Representative and must be installed to BS 5839:Part 6 and must be of the mains powered type. The mains power must be supplied from an independent circuit of the distribution board and protected by a suitably rated RBCO breaker. The Service Provider must provide the necessary wiring for interconnection of the units. Installation must be strictly as specified by the manufacturer. One set of instructions must be left on site for Customers' use. The alarm system shall be tested and a certificate supplied to the Client's Representative in accordance with BS 5839 Part 6

116 Detectors must be mains operated with either battery or capacitor back up.

117 In premises of two levels, an optical detector is required in each of the circulation spaces and the main habitable room. Manufacturer's technical data sheet requirements must be strictly adhered to.

118 Wiring must be in PVC twin and earth cable looped from an independent circuit at the distribution board.

119 Interconnection must be made using PVC triple and earth cable between the two detectors, using the third core for interconnection, such that in the event of either surrounding the other must also sound.

Installation control and distribution

120 Install, test and commission the electrical work in accordance with BS 7671 ensuring compliance with design and performance, to provide a safe, well insulated, earth protected system capable of supplying the anticipared maximum demand.

121 Ensure the consumer equipment consists of a non-combustible metal consumer unit with lid complying with BS 7671 complete with:
- main control switch to BS EN 61439-3;
- sufficient RCBO's to accommodate all the sub-circuits scheduled for the Property; and
- additional 20% spare way capacity to the number of electrical circuits installed.

122 Ensure sufficient space is available for the Utility Provider's metering and service cutouts. If required, provide a panel which satisfies the requirements of the Utility Provider for mounting meters, cutout and other equipment.

123 Supply and install PVC connection tails to the Utility Provider's point of supply, using correct coding and matching the cross sectional area to the main isolating switch rating.

124 Upgrade all earthing and bonding to conform to BS 7671. Do not use metal trunking as an earthing conductor.

125 Meter tails are to be neatly fixed and clipped as specified.

126 Provide all equipment white in colour.

127 Clearly identify each way on distribution equipment.

128 Ensure the mounting height of equipment is such that persons of average height can reach all fuses, switchgear, etc., from floor level without assistance.

129 Conceal cables above the ceilings and maintain access to the cable runs.

130 Enclose cables run in cupboards in mini-trunking.

131 Before and on starting the Works, obtain approval from the Client's Representative to the proposed routes of cable runs and wiring circuits.

132 Agree any alterations to the agreed routes of wiring circuits with the Client's Representative before starting the Works on them.

133 If Works are carried out before having agreed the routes with the Client's Representative, return and reroute and rewire cable runs and circuits where Instructed by the Client's Representative.

Standardisation of components

134 Use matching components with all lighting switches, sockets, fused spurs and similar equipment used in the Works, being from the same manufacturer.

Customer's fittings

135 Refix any existing fittings installed by the Customer, provided the fitting conforms to BS 7671.

136 Notify the Client's Representative of any Customer's fitting which does not meet BS 7671 and which will therefore not be rewired or reconnected.

Removal of floor boarding, etc

137 Carefully remove any floor boarding necessary for the installation of cables. Saw through the tongues only and replace the boards in a workmanlike manner. Joists to be drilled only for the installation of cables. Ensure any new floor boarding is identical in width and thickness. Remove all debris from the joist and roof spaces.

138 Make good all plaster disturbed by the removal of fittings to a true and level surface.

139 Do not disfigure timber frames and mouldings by sawing or chiselling out for the insertion of cables.

140 Where the removal of mouldings, etc. is necessary, ensure the replacement is carried out by a qualified tradesman and that the replacement surface matches the existing surface.

Existing roof insulation

141 Where the roof insulation must be moved for the electrical installation, carefully move it to one side. On completion of the electrical Works carefully replace it to its original position. Take care to cover lengths of cable with insulating material to ensure the current rating of the cable(s) is not unduly altered.

Removal of old cables and fittings

142 Remove old cables and redundant switches, sockets, clips, boxes, etc. from roof spaces, exposed walls and other noticeable places and make good any disturbed surfaces.

COMPLETION

Inspection and testing

143 Ensure that on completion and before being energised, any installation is tested in accordance with BS 7671.

144 Give not less than 24 hours' notice to the Client's Representative before commencing the testing.

145 After satisfactory completion of tests, submit copies of all inspection and completion certificates, with all associated schedules and test results if applicable, to the Client's Representative.

146 Note the testing instrument serial numbers on the test certificates.

147 All charges for testing or re-testing must be borne by the Service Provider.

148 The Service Provider must provide all the test instruments and test equipment required, make all arrangements for connections of the mains supply and issue to local authority supply company all appropriate test notices.

149 The Service Provider must affix to the distribution board a notice in accordance with BS 7671.

Report and certificates

150 Ensure all inspections, reports and test certificates and forms are the current version at the time of the test and are in the standard format published by IET, the National Inspection Council for Electrical Installation Contracting (NICEIC), the Electrical Contractors' Association (ECA) or other certifying and testing body approved by the Client's Representative.

151 For minor Works or alterations to an electrical installation which involve a change or modification to an existing single circuit, provide a certificate for Minor Electrical Installation Works.

152 Issue an Electrical Installation Completion Certificate for Major Works or alterations to electrical installations which involve:
- a change or modification to two or more existing circuits;
- the addition of one or more new circuits to an existing installation; or
- a new installation.

153 Provide an electrical installations condition report when specifically Instructed by the Client's Representative.

Operating Instructions

154 Each consumer unit must be supplied with an operating instruction card which must be mounted adjacent to the unit.

155 The Service Provider must leave with the Customer printed instructions regarding operation of the consumer unit trip switch.

156 The instruction leaflet for the smoke detectors must be left in a safe place either by the electricity meter or consumer unit.

Client's current manufacturers/suppliers/products

157 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand Name	Manufacturer's Details

[complete table as appropriate]

DISABLED REFUGE INTERCOM INSTALLATIONS

DISABLED REFUGE INTERCOM INSTALLATIONS

CONTRACT REQUIREMENTS

001 The Disabled Refuge Intercom Installations must be covered by a fully comprehensive type Contract.

002 Detailed below are the specific requirements. The Contract must therefore comprise of the following elements:

Routine Maintenance
Responsive Breakdown Call-outs and Emergency Maintenance
Repairs, Replacements and Adjustments

ROUTINE MAINTENANCE

003 The minimum requirements for preventative and routine maintenance are to be in accordance with the relevant equipment manufacturer's technical data sheet.

004 These are minimum requirements and the maintenance plans and task sheets must take into account the individual particulars of the Disabled Refuge Intercom Installations concerned in terms of their condition, age and type.

005 The Service Provider must carry out all necessary visits per annum for preventative and routine maintenance on all Disabled Refuge Intercom Installations.

006 The Service Provider must include for the provision and application of all consumables within the price for this element of the Contract.

007 All servicing and maintenance necessary to ensure that the operation of the Disabled Refuge Intercom installation in strict conformity with the requirements of BS EN 50134-7:2017 including any subsequent amendments or substitutions.

008 The Works must also include for but not be limited to the following activities which are to be undertaken on each service visit.

Checking and Maintenance

Cleaning

- Wipe all exposed surfaces of control panels with a damp cloth;
- Dry with a lint free cloth;
- Wipe all surfaces of speech and pull cord modules with proprietary cleaning cloth; and
- Dry with a lint free cloth.

Inspections and Testing

- Periodic visual inspection of cabling, trunking and equipment including mountings;
- Periodic performance check, realignment and renewal of unserviceable parts or components as necessary of;
    - Master and Slave control panels; and
    - Call point remote units;

Preventive Maintenance

At least once a week, perform a functional test at each Call Point Remote Unit and confirm it can make calls with the Master and Slave Control Panels.

At least once a month, check the 'Battery High', 'Battery Low', and 'Charger' indicators on the Master and Slave Control Panels. If any of these indicators are illuminated, replace the batteries. If the indicators are still illuminated, contact the supplier for advice and service. Note: A fault will sound the beeper, unless silenced.

Call Point Remote Unit Fault Identification

If the yellow indicator by a Call Point Remote Unit button is flashing (except for busy indication, see System Reset, above) then there is a fault with that unit or the cabling to it. If the fault is cabling it is normal for two adjacent Call Point Remote Units to indicate a fault, as they are each connected to one end of the same cable.

The type of fault can be identified as follows:

1. Ensure that the Master and Slave Panel's handsets are on-hook;

2. Press and hold the **Speak** button. If the fault indicator goes out then the Call Point Remote Unit has a data fault. This is almost certain to be a cable fault;

3. Press and hold the **All** button. If the fault indicator goes out then the Call Point Remote Unit has a Power fault. This is also likely to be a cable problem;

4. Press and hold both the **Speak** and **All** buttons. If the fault indicator goes out then the Call Point Remote Unit has a fault;

5. If the fault indicator has not gone out in any of the above it may be a combination of faults. See if the flashing changes when you press the buttons. If it does, then the described fault is one of those at the Call Point Remote Unit.

Description of Call Point Remote Unit Controls and Indicators

Volume: Set as required (normally about half way)

Call Point Remote Unit indicator: The 'System OK' indicator on each of the Call Point Remote Units shows the status of the unit.

During normal operation two 'monitoring messages' are sent around the loop. One originating from connection 'A' causes the Call Point Remote Unit to turn their indicators on, ¼ second later the second message is sent originating from connection 'B', this message causes the units to turn their indicators off. This means that on a system with no cable faults the indicator on each of the Call Point Remote Units will flash once every 1.5 seconds. However if the cable is damaged, units up to the break (starting from connection 'A') will have their indicators on and those after the break will have their indicators off, since they will either only receive on or off messages.

If a Call Point Remote Unit has not received any data since power was applied it will flash its indicator fast (about once a second with equal on and off times)

If a Call Point Remote Unit has received data since power was applied but has not received any data for 5 seconds or longer (this should never happen in a working system) then it will flash its indicator slowly (about once every 14 seconds with equal on and off times)

RESPONSIVE BREAKDOWN CALL OUTS AND EMERGENCY MAINTENANCE

009 The Service Provider must attend to all call outs due to malfunction or breakdown.

010 The Service Provider must include for call-out service and emergency maintenance on a 24 hour, 7 days a week, 365 days per year basis.

011 Call outs, which in the opinion of the Service Provider are due to mis-use or vandalism must be brought to the immediate attention of the Client and a report issued.

012 Where call outs are attended to for authorised cases of mis-use or vandalism, the Service Provider will be paid in accordance with the rates detailed in the Form of Tender and/or the Schedule of Rates.

REPAIRS, REPLACEMENTS AND ADJUSTMENTS

013 The Service Provider must be responsible for the replacing, repair and adjustment of any part of the Disable Refuge Alarm Installations should it fail. Any replacements or repairs must be of a standard equal to the original installation.

014 During the course of the preventative and routine maintenance visits, the Service Provider must identify the need to replace and/or repair any item of equipment. Where replacement parts are required the ordering of such materials and implementation of the necessary works must be planned so as to suit the requirements of the building.

015 Works may be implemented during the Service Provider's normal working hours provided that the Client is given 7 days notice. In the case of emergency repairs the timing of the work must be agreed with the Client.

016 Where repairs, replacements and adjustments are required and the works are not covered by the terms of this Contract, separate instructions must be issued. The basis of costing must be in accordance with the rates and labour provisions detailed in the Price Framework and/or the Schedule of Rates.

KEY PERFORMANCE INDICATOR (KPI) FRAMEWORK

Fire Safety Works

CONTENTS

PART 1: INTRODUCTION

1. Purpose of the KPIs

In this Contract key performance indicators ("KPIs") are used for the following purposes:

- to monitor performance of the Contract, with a view to both the Client and Service Provider having data which they will review at progress and other meetings so that each of them can bring forward suggestions for the improvement of the performance of the Contract and the delivery of the Works;
- to identify performance below the performance target which, if continued for 3 monthly Measurement Periods, or applying to 3 or more KPIs, leads to a requirement for the Service Provider to produce a Remedial Plan.

2. Remedial Plan

The Contract Conditions require the production of a Remedial Plan if the Service Provider fails to achieve the Performance Target(s) for:

- 3 or more KPIs in relation to any Measurement Period; or
- the same KPI for 3 or more monthly Measurement Periods or one quarterly Measurement Period.

The Remedial Plan is subject to the approval of the Client and if the Service Provider provides 3 drafts of the Remedial Plan without one being acceptable to the Client, this will be Service Provider Default.

The Service Provider must implement the Remedial Plan and a failure to do so will be a breach of this Contract.

Value of Programme Completion	
Purpose	To demonstrate progress against planned programme of works and to determine the ability of the contractor to carry out works in line with the agreed programme.
Definition	Measurement of the value of completed works against agreed budget. 'Completed' is defined as the point that the work is complete and has been invoiced. In order to demonstrate a realistic performance, the target shall be profiled to reflect seasonal variation and general work management in planned programmes. Therefore, the target will vary and will not be derived by simply dividing the total annual contract value for planned works for the year by 12 months.
Method	The value of the work monitored against the agreed spend profile proposed by the contractor. For example: Contractors spend profile states 20% spend quarter 1, 2 and 3 and 40% spend quarter 4 of a £120,000 budget. Qtr 1 target is 20% of £120,000 = £24,000 Qtr 1 actual spend is £23,000 23,000 x 100 = 95.83% 24,000
Method of Measure	Monthly monitoring Quarterly statistical report
Data Source	Invoices processed and paid. Contractors Spend profile.
Target	95%

Customer Satisfaction	
Purpose	To help drive quality of planned works and monitor service standards.
Definition	The number of tenants that have completed planned works who say they are satisfied with the works.
Method	RLO to survey tenants, collate and present the results to the Contract Administrator for their verification. Question: Are you satisfied with the completed works?
Method of Measure	Monthly monitoring
Data Source	RLO
Target	95%

Defect numbers at post-inspection	
Purpose	To determine the quality of completed works at post-inspection by the client.
Definition	The total number of properties inspected where no defects where found. Once the contractor hands over a completed property it is expected that no defects or snagging items will be found. If any defects or snagging items are found this property will fail. If a contractor attends to correct the defect, this will not change the calculation.
Method	Determine all works on all properties post-inspected in a month, and the number with zero-defects. The calculation is on number of properties not number of defects at one property. Number of properties with zero-defects x 100 Number of properties post-inspected For example: 48 properties with zero-defects x 100 = 96% 50 properties inspected
Method of Measure	Monthly monitoring
Data Source	Contract Administrators post-inspections.
Target	95%

Contractor Health & Safety Reporting	
Purpose	To determine the level of reportable accidents, incidents and near misses, with a view to implementing remedial action to avoid reoccurrences for all stakeholders and 3rd parties.
Definition	To measure safety performance and ensure an effective safety of the working environment.
Method	To include directly employed staff/operatives and regular sub-contracting operatives. Customer and site-based administration should be included where directly employed or sub-contracting employees work between sites – in these instances an average should be applied. It is permissible to exclude short-term contracting arrangements such as delivery drivers and catering, etc. **Types of reportable injury:** • Deaths • Major injuries • Over seven-day injuries **Reportable major injuries include but not limited to:** • Fractures, other than fingers, thumbs and toes • Amputation • Dislocation of the shoulder, hip, knee or spine • Loss of sight (temporary or permanent) • Chemical or hot metal burn to the eye or penetrating injury to the eye • Injury relating to electric shock or electrical burn leading to unconsciousness, or requiring resuscitation or admittance to hospital for more than 24 hours • Any other injury leading to hyperthermia, heat-induced illness or unconsciousness, or requiring resuscitation or admittance to hospital for more than 24 hours • Unconsciousness caused by asphyxia or exposure to a harmful substance or biological agent • Acute illness requiring medical treatment, or loss of consciousness arising from absorption of any substance by inhalation, ingestion or through the skin. • Acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to biological agent or its toxins or affected material **Over seven-day injuries** Include for reporting of injuries that lead an employee or self-employed person being away from work, or unable to perform their normal work duties, for more than seven consecutive days as the result of an occupational accident or injury (not counting the day of the accident but including weekends and rest days). The report must be made within 15 days of the accident.

	Over three-day injuries You must still keep a record of the accident if the worker has been incapacitated for more than three consecutive days. If you are an employer, who must keep an accident book under the Social Security (Claims and Payment) Regulations 1979, that record will be enough.
Method of Measure	Monthly monitoring
Data Source	Contractor Data
Target	100%

Pre-construction Health & Safety Plan

For

Folkestone & Hythe District Council
Fire Safety Works

November 2023

Pre-construction Information

In this design stage health and safety plan, each of the following topics has been considered and information has been included where the topic is relevant to the work proposed. This plan will provide information for those planning or bidding for the work and for the development of the construction phase plan.

The level of detail in this plan is proportionate to the risks involved in this project.

1. Description of the Project

a) Project description and programme details including any key details.

- PROJECT DESCRIPTION: The scope of works involves the fire protection, fire stopping and fire remedial works to various properties/blocks following the findings of Fire Risk Assessments. Works may include: replacing doors, fire stopping, signage, fire compartmentation, bin stores and general building works.
- PROJECT LOCATION: Folkestone & Hythe's full property portfolio
- PROJECT START DATE: Work is expected to start April 2024
- CONTRACT PERIOD: This project must be completed by the 31/03/26. This could be extended for a further 1 + 1 years dependant on performance.
- MINIMUM TIME ALLOWED BETWEEN APPOINTMENT OF PRINCIPAL CONTRACTOR AND WORK COMMENCEMENT DATE: 3 Weeks

b) Details of client, CDM co-ordinator, designers, principal contractor and other consultants

Client:	Folkestone & Hythe District Council
Contact Name:	
Principal Designer:	
Principal Contractor:	To Be Appointed
Contact Name:	To Be Confirmed

c) The proposed works are domestic properties and therefore will not be used as a future workplace.

d) Extent and location of existing records and plans relevant to the project

- All details and plans held are contained within the Specification and should be referred to accordingly

2. Client's considerations and management requirements

e) Management structure and responsibilities.

- A principle contractor will be appointed who will nominate a contract manager to be the first point of contact on site. A competent foreman, to be named, will be advised to the client.

f) Planning and managing the construction works and health and safety goals for the project

- To carry out the specified works without placing risk on site users and operatives.

- To minimise the risk to occupants and visitors of the domestic properties.
- Health and safety is constantly monitored and any issues arising on site to be relayed back to the Contract Manager straight away, in order to review the health and safety procedures in place.
- Minimise risk by obtaining risk assessments from the contractor and method statements stating how the works will be carried out.
- Ensure health and safety procedures and risk assessments are reviewed regularly to improve systems of work and minimise risks.
- Ensure there is a procedure in place for accident reporting.
- Ensure the health and safety file is always available and kept up to date.

Communication between all parties will be carried out by:

- Telephone calls
- Emails
- Site meetings
- Site inspections
- Informal meetings
- Formal meetings
- Site instruction notepads
- Online meetings, as required

g) Security of site

- Ensure all materials are stored securely and in the correct manner.
- Ensure all tools are taken away from site at the end of each working day.
- Ensure all skips are fenced off and protected from the general public.
- Ensure works are left in a secure way before leaving the premises.

h) Welfare provision

- The principal contractor should provide welfare facilities on site.

i) Requirements relating to the health and safety of client's employees, customers and others involved in the project

Site hoarding requirements	• Protection to Contractors compound and access to site of works.
Site transportation arrangements or vehicle movement restrictions	• Some of the site approach roads may be narrow as in a residential area. Deliveries will need to be carefully planned.
Permit to work systems	Hot works: • Work covering the use of heat producing equipment means provision of fire-fighting equipment and personal protective clothing should be provided. • Where burning off of surfaces is required fire extinguishers shall be kept where the work is being carried out. • Check areas after at least 2 hours and at

	the end of the working day for any evidence of smouldering material which may ignite, causing a fire to break out. • Adjacent surfaces shall be protected when carrying out hot work to ensure they are not affected by the work i.e. fire resisting matting behind copper fittings etc. being soldered.
Fire precautions	• Programme any work to ensure everyone understands the need to reduce the outbreak of a fire. • Ensure everyone can be alerted and escape in the event of a fire and there is adequate means of calling Kent Fire and Rescue in an emergency. • Reduce the use of materials and methods of working that resent a fire risk. • Keep flammable liquids in suitable closed containers. Keep the quantity at the workplace to a minimum. • Remove rubbish regularly and at the end of the working day, place solvent soaked rags or other flammable waste in closed fire-resisting containers.
Emergency procedures and means of escape	• Ensure emergency procedures are in place and included in training and any tool box talks. • At least two operatives shall be engaged on work where the working platform is more than 2 metres above ground level. Access for emergency services shall not be restricted by stacking materials or locating skips close to any scaffold. • Ensure the correct line of communication is used in an emergency.
'no-go' areas	• Not Applicable
Confined spaces	• The Contractor is to consider this and provide for it within RAMS.
Smoking and parking restrictions	• No smoking on site. • Ensure driveways and paths are not blocked. • No parking on grass verges.

3. Environmental restrictions and existing on site risks

j) Safety hazards including:

Boundaries and access	• No known issues

Restrictions on deliveries and waste or storage	• Materials to be stored in an appropriate manner • Deliveries to be planned ahead to reduce traffic issues and access problems
Adjacent land uses	• Care to be taken throughout the works ensuring consideration of neighbouring properties • Consider footpaths and make sure these are accessible for the general public and site users
Existing storage for hazardous materials	• Not provided as work is for domestic properties.
Location of existing services	• Contractor to inspect site before commencement of work and inform the designer of any issues that may arise from existing services.
Existing structures	• Due to the nature of the works, the Contractor shall adhere to the details in the specification in respect of this.
Previous structural modifications	• The Principal Designer to be informed of any modifications which will adversely affect the proposed works.
Fire damage, shrinkage, or poor maintenance that might have affected the structure	• Fire damage not applicable • If there are maintenance issues then the Designer should be contacted so that these issues can be dealt with appropriately.
Difficulties relating to plant and equipment	• Any hired equipment should request maintenance inspection records from hire companies/sub-contractors etc. when they arrive on site. • Ensure regular maintenance inspections are undertaken.
Health and safety information contained in design or construction	• Please see section 6 for health and safety information relating to proposed works.

k) Health hazards including:

Asbestos	• FHDC will supply a full R&D survey where required and provide the resulting report to the Contractor. • Any suspected asbestos will be tested and if the removal is not licensed activity then it will be removed by FHDC's asbestos contractor. • If the suspected asbestos material does

	require a license for removal this will be organised FHDC who will use their licensed asbestos contractor.
Existing storage of hazardous materials	• Not applicable as these are domestic properties.
Contaminated land	• Not applicable
Existing structures containing hazardous materials	• If there are existing structures containing hazardous materials that are linked to the proposed works, the designer should be notified immediately to attend a site visit and propose a suitable way of resolving the problem.
Health risks from client's activities	• Manual handling. • Noise and vibration. • Exposure to UV radiation from the sun.

4. Significant design and construction hazards

Significant risk identified in design	• There are no significant risks identified
Adjacent properties will be in occupation for the duration of the works and arrangements to be made for access to all properties while restricting access to the working area Arrangements for co-ordination of ongoing design work and handling design changes	• Contractor to keep all residents informed about the works programme. • Contractor to provide safety and warning signage. • Contractor to inform designer of any significant changes to the proposed Works. • The Principal Designer to inform contractor of any significant changes to the proposed Works. • Any variations to be cleared between all parties before carrying out the Works. • Ensure regular site visits are organised to make sure communication is clear between all parties.
Information on significant risks identified during design	• Not applicable

5. The Health and Safety File

- The health and safety file format and layout will be the responsibility of the Principal Contractor.

6. General Construction Health and Safety Issues

6.1. Working at Height

In accordance with the Working at Height Regulations 2005, all work at height must be properly planned, supervised and carried out safely. Ensure risks from WAH are assessed

and appropriate work equipment used. In accordance with HSE guidance:

- Avoid working at heights where possible.
- When work at height use work equipment or other measures to prevent falls (e.g. scaffold).

Issues to consider as work at height is necessary include:-

- Scaffold erection/dismantling by trained competent operatives. No modification to be made by unauthorised personnel.
- Provision of safe ladder access. Ensure ladders are secured and use restricted to access provision and works of short duration.

6.2. Lifting Operations

Lifting operations must be planned, supervised and carried out by trained, competent persons. 'Lifting plans' should be prepared taking into account issues such as weight/shape of load, ground conditions, adjacent structures, etc. Loads must not be lifted or suspended above operatives.

6.3. Slips, Trips and Falls

The site should be kept in good order-clean, tidy and well organised. Pedestrian routes and workplaces should be kept free of obstruction and materials should be stored in a safe and accessible manner. Waste should be removed from the work areas as work proceeds and at the end of the working day.

6.4. Working in the Sun

Ultraviolet rays in sunlight cause sunburn, skin blistering and may lead to skin cancer. Wear suitable clothing including head protection and use sunscreens on exposed areas. Skin should be checked regularly and medical advice sought regarding any skin changes of abnormalities.

6.5. Noise

In accordance with the Control of Noise at Work Regulations 2005, the new action level at which noise controls are determined are:

Lower Exposure Action Value

- Daily or weekly exposure 80dB
- Peak sound pressure 135dB

Upper Exposure Action Value

- Daily or weekly exposure 85dB
- Peak sound pressure 137dB

Exposure Limit Value (these must not be exceeded)

- Daily or weekly exposure 87dB
- Peak sound pressure 140dB

You must estimate the level of noise employees are exposed to. Where the assessment shows that an employee is subject to more than 80dB(A), see actions below:

Daily Exposure Level – dB(A)	Action Required
<80	Low level risk; reduce noise as far as reasonable practicable
Between 80 and 85	Make ear defenders available to all operatives
Above 85	Enforce use of correct ear defenders

Provide information and training to employees

Any equipment that exceeds peak sound pressure of 135dB (lower exposure value) 137dB (upper exposure value) and 140dB (exposure limit) will require the use of hearing protection even though the average daily exposure level may not be exceeded.

6.6. Dust

Dust will be created during the construction works which, as well as being harmful to operatives may create environmental nuisance to local residents. Risk assessment should be undertaken in accordance with COSHH regulations and suitable PPE and RPE provided to operatives to avoid inhalation. Damping-down will mitigate dust generation.

6.7. Manual Handling

Where possible, avoid manual handling of heavy of awkwardly shaped objects and utilise mechanical lifting methods. Where it is not practicable to avoid use of objects over 20kg, provision should be made for mechanical handling or for handling by two operatives. All operatives should be trained in basic manual handling techniques and, following risk assessment, information on any residual risk should be conveyed to operatives and reinforced with toolbox talks.

6.8. Working with Cement

To prevent dermatitis and cement burns, suitable PPE must be worn when handling wet cement and adequate welfare facilities provided on site including provision of hot and cold running water, basins in which forearms can be immersed, soap and towels. Operatives should be encouraged to report any occurrence of dermatitis and a competent person should carry out regular skin inspections where there is residual risk.

6.9 COVID-19 and other viral outbreaks

All works need to be conducted in line with Government guidelines applicable at the time which may impose restrictions on the number of operatives on site at any one time, social distancing measures and travel to/from the place of work. The contractor is to hold continuity plans for such events and to produce operational specific risk assessments and working policies as and when required in order to permit works to continue.

Folkestone & Hythe District Council

Preliminaires

For

Fire Safety Works

At

FHDC Properties

November 2023

CONTENTS

GLOSSARY OF TERMS

Personnel

FHDC Folkestone & Hythe District Council

CA Contract Administrator (Folkestone & Hythe District Council TBC)

RLO Resident Liaison Officer

Abbreviations

UK United Kingdom

ACM Asbestos Containing Materials

BST British Summer Time

References and Related Legislation

BSI British Standards Institution – The national standards body of the United Kingdom

DBS Disclosure and Barring Service

IET Regulations for Electrical Installations

1.0 Service Provision

The Contractor is responsible for the provision of delivering remedial works, the works are to be carried out as specified in the technical specification, identified by FHDC.

The Contractor shall employ competent operatives familiar with the type and nature of the installations. All works shall be in accordance with relevant legislation, good practice and the technical standards detailed in the specification.

2.0 The Sites

All properties owned by FHDC.

3.0 Site Visits

Special attention is to be given to means of access to the buildings. No allowance shall be made for ignorance due to Contractor's neglect in this respect.

4.0 Programme of Works

A programme of works is to be provided as part of the contractor's tender submission and this will be agreed prior to the commencement on site.

The project is estimated to start on the 1st April 2024 and must be completed by no later than 31st March 2026. This could be extended for a further 1 + 1 years dependant on performance.

Site meetings will be held as and when required over the duration of the works.

5.0 Risk Management

FHDC is conscious of the potential risks to the provision of the service and impact on residents if the service or relationship should falter or fail. These risks can be grouped under the following key headings:

i. Service Delivery
ii. Reputation
iii. Financial
iv. Health and Safety and Welfare
v. Staffing and Resources
vi. Regulatory or Statutory Issues

FHDC wishes to be confident that the selected Contractor(s) has a strong understanding of the risks that may affect FHDC and its residents and that the selected Contractor will take a proactive approach to risk management throughout the term of the contract. Therefore the Contractor will be expected to develop a Risk Register prior to commencement of the contract and maintain this is in collaboration with FHDC.

6.0 Inclusive Service

The Contractor's tender, except for where stated, is deemed to be fully inclusive of all costs required to undertake the Works.

The Contractor shall provide for the performance of all incidental matters which may be inferred from the Specification, according to its true intent and meaning, in order to complete the Works.

7.0 Work Not In Scope

If any work is instructed to be executed for which no tendered rate or price is contained in this contract, the value shall be based on the items therein closest with the description of such work, or as may be agreed. In the case works cannot be valued under specific items in the contract the Contractor will submit a price or prices for FHDC consideration.

New items of work (descriptions) and price shall be added to the Schedule of Rates for future use.

8.0 Specified Items

As per Specification.

9.0 Co-Operating With Other Partners and Contractors

The Contractor(s) appointed is expected to co-operate fully with other Partners and or Contractors appointed by FHDC. When necessary the Contractor should liaise with other parties and co-ordinate works so as to ensure limited disturbance and disruption for the residents, no additional charge will be accepted for this provision.

10.0 Workmanship & Materials

All workmanship and materials to be used in the Contract are to be the best of their respective kinds and in accordance with current British Standard or Code of Practice as applicable, whether specifically noted or not, this shall be taken to denote the minimum acceptable standard of material or workmanship.

It is a requirement that all work shall be carried out in accordance with the best possible building and installation practice and methods.

Manufactured items shall unless specified to the contrary mean manufacturer's standard products are installed in accordance with the manufacturer’s instructions.

11.0 British Standards

All products, equipment, materials must comply with and installed in accordance with the current relevant British Standard or Code of Practice. Products, equipment, materials may be substituted at FHDC discretion by a product complying with a grade or category within a European Community Standard or other international standard recognised in the UK specifying equivalent requirements and assurances in respect of material, safety, reliability, fitness for purpose and, where relevant, appearance.

12.0 Electrical Works

All electrical works are to comply with the requirements of the IEE Regulations for Electrical Installations (current edition) BS7671:2018 and all relevant British Standard and European Standard Code of Practice.

13.0 Asbestos

All operatives employed by the Contractor or sub-contractor must have attended Asbestos Awareness training and had refresher training within a twelve month period. FHDC will provide asbestos register information prior to commencement of the contract. If the successful Contractor suspects asbestos products (ACM) exist then the Contractor must cease works immediately and inform FHDC; all in accordance with FHDC Asbestos Policy and Procedure (copy can be provided on request).

14.0 Complaints

Contractors are required to comply with the FHDC Complaints Policies and Procedures, copy can be provided on request.

15.0 Contract Management

The Contractor is to ensure that the appropriate management team is in place at all times to ensure the works are delivered efficiently and to the required standard.

The management provision will include but is not limited to attendance at meetings, potentially with other Service Providers, for the purposes of: Contractor liaison, value engineering, process mapping, performance review, progress review, planning and resident communication.

16.0 Contract Supervision

The Contractor shall provide full and adequate supervision during the progress of the contract and shall keep a competent and qualified supervisor(s), approved by FHDC, (whose approval may be withdrawn at any time). The supervisor(s) must be able to receive and act upon (on behalf of the Contractor) all instructions, directions or orders issued by the FHDC Representative. The Contractor shall also ensure that the qualified supervisor(s) is supplied with a mobile telephone. He must also keep residents advised when they are to be affected by works and will record all correspondence with the residents. This person is to ensure generally that the interests of the residents receive full consideration, and the Contractor shall allow for visiting residents outside of normal working hours.

17.0 Operatives

The Contractor shall only engage competent operatives for the works who hold a nationally recognised or accredited construction/trades qualification. Prior to the commencement and to be maintained during the term of the contract, the Contractor shall provide a schedule of all staff who might be engaged on the FHDC service provision. This schedule will include:

- Name of each member of staff;
- Details of any relevant training or qualification for each member of staff;
- Proof of Data Barring Servicing (DBS) for staff interacting with residents.

The Contractor's operatives, including sub-contractors, will be provided with and wear appropriate clothing/overalls for the works at all times, including protective clothing as necessary.

FHDC shall reserve the right to exclude any member of the Contractor’s staff from working on/in its property on the grounds of being unqualified to maintain equipment or other reason which must be agreed with the Contractor.

Whenever additional members of staff are assigned to work, their details shall be provided by the Contractor to FHDC before they perform any work.

Operatives must undertake a Risk Assessment on all works to be undertaken to ensure the health, safety and welfare of all parties.

18.0 Resident Liaison Officer

The Contractor must include a Resident Liaison Officer (RLO) function dedicated to this Contract within the tender rates. This function will be expected to provide excellent customer care for residents (e.g. organising appointments with residents; dealing with enquiries; complaints, etc.; obtaining customer satisfaction feedback, etc.). The RLO will ensure that all residents are satisfied with the service provided during visits to their home.

The RLO function must be contactable at all times by phone and email during normal working hours and provide effective means of being contacted out-of-hours.

On completion and satisfactory commissioning of required works in each property, the RLO will be responsible for providing the Contract Administrator with a satisfaction questionnaire completed by the resident. The format and content will be agreed at the contract pre-start meeting.

19.0 Sub-Contractors

The Contractor shall not, without the consent in writing from FHDC and then only to such firm or firms to whom FHDC shall not object, sub-let as piece or task work, or otherwise, or make a sub-contract for the execution of the works or any part thereof except for the supply of materials and the Contractor shall not, without like sanction, assign this contract or any part thereof.

20.0 Identification

The Contractor will supply to all working personnel, including sub-contractors, employed to deliver services on-site a form of identification card approved by FHDC which will contain the following details:-

- Photograph of operative;
- Operative's name;
- Contractor's name, logo, address and telephone number;
- Expiry date of card;
- Unique Reference Number.

All working personnel including sub-contractors are to present their ID card to the resident on each and every visit to an FHDC property or on request.

All the operatives employed by the Contractor or sub-contractors shall at all times wear clean overalls, clearly and permanently bearing the Contractors logo, name, address and telephone number on them.

21.0 Working in Occupied Premises

Where work is to be carried out in occupied premises, the Contractor shall give reasonable notice to the occupier of his intention to commence the work, and the work is to be carried out in a manner that will cause the minimum inconvenience and nuisance from obstruction, dust, noise etc. All necessary precautions must be taken to ensure the safety of the occupier.

No work should start or continue in any building until all practicable steps have been taken to prevent danger to persons employed or living in the building at the time, from any live electric cable or apparatus, exposed asbestos or any other hazard which is liable to be a source of danger and the Contractor shall take all necessary safety measures accordingly.

The Contractor should be aware that properties might be occupied by elderly, frail or ill residents or other vulnerable persons and should therefore take due care and consideration in the execution of the works and allow for any extra costs.

If, in exceptional circumstances, the Contractor considers that, because of the nature of the work and the nature of the resident's needs, the resident cannot remain in occupation during the Works, this must be agreed with FHDC before works commence.

Where the Contractor considers it necessary for reasons of health and safety that vacant possession is necessary a request must be made to FHDC.

22.0 Protect and Repositioning Of Belongings

All belongings, fittings, apparatus, and the like shall be carefully moved by the Contractor as necessary to enable the execution of the works. This is to be discussed and agreed with the residents in advance of undertaking the works, and recorded.

The Contractor shall properly cover such items and the like with spot cloths, dust sheets and protect them and at completion of the works, replace and refit all such belongings in their original positions, to the residents' satisfaction.

Any claims for damage to any residents' property are to be settled directly between the resident(s) and the Contractor in the first instance and reported to FHDC for reference only. Should the matters not be reconciled between the resident and Contractor, the resident should be directed to the Contractor's complaints procedure. The Contractor is required to provide full details to FHDC for monitoring and review.

23.0 Unofficial Instruction

Should the Contractor be requested by a resident or other unofficial individual, to change, alter or modify in any way the FHDC instructions, the Contractor shall forthwith refer to FHDC and obtain further instructions before proceeding. No payment shall be made for work carried out other than ordered by FHDC.

24.0 Working Hours

The Contractor will not be permitted to carry out works all day Sunday or Public and Bank Holidays.

Normal working hours shall be between 0800 hours and 1800 hours, Monday to Saturday inclusive. Permission must be sought from FHDC for Saturday working with hours to be agreed. The Contractor, however, will be expected to accommodate the minority of residents that may not be available during these times at no extra cost.

25.0 Access Arrangements

The Contractor shall be responsible for making arrangements directly with the resident concerned to gain access.

In the event of continued access to a specific property not being possible or appointments not being kept, this shall be referred back to FHDC.

No payment will be made to the Contractor for abortive (no access) calls.

26.0 Access and Lack of Access

Where access has not been obtained for any reason the Contractor shall leave a “no access” card. This card shall provide the following information:

- Company Name;
- Contact Number;
- Date and Time Called;
- Brief description fault/reason for visit.

It is up to the Contractor to gain access to carry out the work. There will be no payments made for no access.

27.0 Parking Restrictions

Ensure driveways and paths are not blocked. No parking on grass verges. Be considerate of limited parking availability on some estates and the use of spaces by vulnerable tenants.

28.0 Data Usage

All data obtained by the Contractor in the execution of their duties shall be used within the conditions of the General Data Protection Regulation. In addition, all data or information obtained as part of this contract shall be treated as confidential and shall not be shared with any third party without the express authority of the Contract Administrator.

29.0 Quality Control

The Contractor is required to establish and implement a robust and well defined Quality Management System for all elements of works and or services. These systems will require the implementation of standard forms and procedures that the Contractor shall allow audit and inspection by FHDC with the aim of ensuring their use throughout the term of the Contract.

In addition to complying with the above, the Contractor will also be required to provide a consistently high quality of service through the use of high quality standards for its management processes including accreditation to recognised Quality Management Systems and Investors in People, etc.

30.0 Payment Process

The Contractor will submit a detailed, scheduled application every 30 days for the value of works completed on site. It shall be noted that the testing and remedial works will need to have been completed and a valid certificate issued to FHDC in order for the Contract Administrator to process the application for payment. For the avoidance of doubt, failure to supply a valid

certificate and confirmation of works completion will prevent the payment in respect of any and all properties that this relates to.

Following issue of an FHDC certificate, the Contractor shall issue a VAT invoice to Folkestone and Hythe District Council and payment will be made via BACS within 30 days receipt.

31.0 Elderly and Vulnerable Persons Units

Special care and consideration must be given to all the above. Such will require on site consultation and agreement in both the manner in which the work will proceed and the extent of the work that meets the specific needs of the occupiers.

32.0 Trades to Attend Upon Each Other

Allow for all trades to attend upon, cut away for and make good after each other, also allow for clearing rubbish from time to time as it accumulates, and removing from site. All waste must be either removed or neatly stored onsite at the end of each working day. Waste consignment notes must be provided by the Contractor and issued to the Contract Administrator in a timely manner. Re-cycling of waste must be maximised by the Contractor.

33.0 Completion

Upon completion, clear away all debris, surplus materials, and leave premises and site areas in a clean and tidy condition to the satisfaction of the Contract Administrator.

34.0 Handover

Upon completion of testing and remedial works of each property, certification and reports are to be supplied in accordance with the Specification.

35.0 Code of Conduct (Onsite)

Please let residents know if you're going to be late arriving or unable to attend that day. Do this as soon you can. This gives them the opportunity to select an alternative appointment.

Make sure your power tools are fully charged or charging.

Drive carefully in and around our neighbourhoods; park considerately, not causing damage to grass verges, or causing an obstruction.

Arriving at the door:

- Introduce yourself stating:
  - Your name;
  - Your Company Name;
  - An outline of what you've come to do;
  - Show your formal identification badge to the resident before entering the home. Let the Resident know if you're a trainee. (Trainees must always be supervised on site);
  - Explain clearly what the work will involve, which rooms you'll go in, what they need to do to help you, and how long it will take.

Your power tools must be sufficiently charged for the work. If on the rare occasion they're not, ask permission if you need to use gas, water and electrical supplies. Where the resident gives permission, be clear how you will repay the cost to the resident and agree the amount. The same principles apply to the use of a resident's phone or internet facility. Where there is a risk of damage to, for example, plants or fencing, tell the resident before works starts.

The following behaviours will not be accepted by the Contract Administrator:

- Language the resident finds abusive or offensive;
- Behaviour the resident finds rude, obstructive, unhelpful or aggressive;
- Criticising another's workmanship;
- Playing loud music;
- Using of the resident's equipment, e.g. kettle or microwave (unless offered);

- Harassment of any kind – this includes over-familiarity, sexist behaviour, derogatory or racist comments, intimidation of any kind;
- Insensitivity towards disability, vulnerability or specific needs;
- Asking questions not relevant to completing the task;
- Smoking at any time while working on site;
- Working under the influence of alcohol or drugs;
- Excessive use of mobile phone for personal reasons;
- Carelessness with sharp tools, electrical equipment or toxic substances;
- Don't trespass onto neighbouring property to complete repairs. You must first get permission from the adjoining owner or resident of that property.

On the Job: Security and Safety of the Home

- You're responsible for security where the resident leaves you on site alone;
- Do not leave doors and windows open unnecessarily: this is a security issue but it also causes draughts;
- If, during work, the condition of the property becomes dangerous, you must immediately inform:
    - The resident and or his/her family;
    - The Contract Administrator;
- Pay particular attention to the safety of young children, the elderly and disabled. This duty of care extends to all persons likely to be affected (i.e. residents, visitors, neighbours, the general public, etc.).

On the Job: Overnight

- You must leave the property, inside and out, tidy and safe overnight;
- You must remove surplus materials and rubbish regularly, preferably daily;
- You must stack ladders away securely and clear away all tools;
- Reconnect and test all services so that they're left working normally for the resident;
- There should be no ingress of wind or water;
- Before leaving, give the resident your company's emergency phone number.