49 - 59 Old Street

20 November 2017

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Demolition/ Alteration/ Renovation

C20
Demolition

C20 Demolition

To be read with Preliminaries/ General conditions

GENERAL REQUIREMENTS

SERVICES AFFECTED BY DECONSTRUCTION/ DEMOLITION

210 SERVICES REGULATIONS
- Work carried out to or affecting new and/ or existing services: Carry out in accordance with the byelaws and/ or regulations of the relevant Statutory Authority.

220 LOCATION OF SERVICES
- Services affected by deconstruction/ demolition work: Locate and mark positions.
- Mains services marking: Arrange with the appropriate authorities for services to be located and marked.
  - Marking standard: In accordance with National Joint Utilities Group 'Guidelines on the positioning and colour coding of underground utilities' apparatus'.

230 SERVICES DISCONNECTION ARRANGED BY CONTRACTOR
- General: Arrange with the appropriate authorities for disconnection of services and removal of fittings and equipment owned by those authorities prior to starting deconstruction/ demolition.

260 SERVICE BYPASS CONNECTIONS
- General: Provide as necessary to maintain continuity of services to occupied areas of the site on which the deconstruction/ demolition is taking place and to adjoining sites/ properties.
- Minimum notice to adjoining owners and all affected occupiers: 72 hours, if shutdown is necessary during changeover.

270 SERVICES TO BE RETAINED
- Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction/ demolition.
- Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner.

DECONSTRUCTION/ DEMOLITION WORK

310 WORKMANSHIP
- Standard: Demolish structures in accordance with BS 6187.
- Operatives:
  - Appropriately skilled and experienced for the type of work.
  - Holding, or in training to obtain, relevant CITB Certificates of Competence.
- Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction/ demolition to be used.

320 GAS OR VAPOUR RISKS
- Precautions: Prevent fire and/ or explosion caused by gas and/ or vapour from tanks, pipes, etc.

330 DUST CONTROL

- General: Reduce airborne dust by periodically spraying deconstruction/ demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris.
- Lead dust: Submit method statement for control, containment and clean-up regimes.

340 HEALTH HAZARDS

- Precautions: Protect site operatives and general public from hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.

350 ADJOINING PROPERTY

- Temporary support and protection: Provide. Maintain and alter, as necessary, as work proceeds. Do not leave unnecessary or unstable projections.
- Defects: Report immediately on discovery.
- Damage: Minimize. Repair promptly to ensure safety, stability, weather protection and security.
- Support to foundations: Do not disturb.

370 PARTLY DEMOLISHED STRUCTURES

- General: Leave in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Make secure outside working hours.
- Temporary works: Prevent overloading due to debris.
- Access: Prevent access by unauthorized persons.

380 DANGEROUS OPENINGS

- General: Provide guarding at all times, including outside of working hours. Illuminate during hours of darkness.
- Access: Prevent access by unauthorized persons.

390 ASBESTOS-CONTAINING MATERIALS – KNOWN OCCURRENCES

- General: Materials containing asbestos are known to be present in: All areas indicated in the Asbestos Management Survey Report - Reference: RAM/904/14 dated 19-03-2014 as contained within the Tender Documents..
- Removal: By contractor licensed by the Health and Safety Executive, and prior to other works starting in these locations.

391 ASBESTOS-CONTAINING MATERIALS – UNKNOWN OCCURRENCES

- Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction/ demolition work. Avoid disturbing such materials.
- Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

410 UNFORESEEN HAZARDS

- Discovery: Give notice immediately when hazards such as unrecorded voids, tanks, chemicals, are discovered during deconstruction/ demolition.
- Removal: Submit details of proposed methods for filling, removal, etc.

MATERIALS ARISING

510 CONTRACTOR'S PROPERTY

- Components and materials arising from the deconstruction/ demolition work: Property of the Contractor except where otherwise provided.
- Action: Remove from site as work proceeds where not to be reused or recycled for site use.

520 RECYCLED MATERIALS

- Materials arising from deconstruction/ demolition work: Can be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
- Evidence of compliance: Submit full details and supporting documentation.
  - Verification: Allow adequate time in programme for verification of compliance.

G
Structural/Carcassing metal/timber

G20
Carpentry/ timber framing/ first fixing

G20 Carpentry/ timber framing/ first fixing

To be read with Preliminaries/ General conditions.

GENERAL

105 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests/ plantations in accordance with:
  - The laws governing forest management in the producer country or countries.
  - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
  - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
  - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.

150 STRENGTH GRADING OF TIMBER

- Grader: A company currently registered under a third party quality assurance scheme operated by a certification body approved by the UK Timber Grading Committee.

160 GRADING AND MARKING OF SOFTWOOD

- Timber of a target/ finished thickness less than 100 mm and not specified for wet exposure: Graded at an average moisture content not exceeding 20% with no reading being in excess of 24% and clearly marked as 'DRY' or 'KD' (kiln dried).
- Timber graded undried (green) and specified for installation at higher moisture contents: Clearly marked as 'WET' or 'GRN'.
- Structural timber members cut from large graded sections: Regraded to approval and marked accordingly.

PRODUCTS

270 UNGRADED SOFTWOOD FOR INTERNAL NONSTRUCTURAL USE

- Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
- Surface finish: Regularized.
- Treatment:
  - Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8.
    Design service life: 40 years.
  - Fire retardant treatment: Fire retardant impregnation to NBS section Z12 and Wood Protection Association Commodity Specification FR1, Type DI.

WORKMANSHIP GENERALLY

402 CROSS SECTION DIMENSIONS OF NON-STRUCTURAL SOFTWOOD

- Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
- Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1:
  - Clause 6 for sawn sections.

430 SELECTION AND USE OF TIMBER

- Timber members damaged, crushed or split beyond the limits permitted by their grading: Do not use.

435 NOTCHES, HOLES AND JOINTS IN TIMBER

- Notches and holes:
  - General: Avoid if possible.
  - Sizes: Minimum needed to accommodate services.
  - Position: Do not locate near knots or other defects.
  - In same joist: Minimum 100 mm apart horizontally.
  - Notches in joists:
    Position: Locate at top. Form by sawing down to a drilled hole.
    Depth (maximum): 0.15 x joist depth.
    Distance from supports: Between 0.1 and 0.2 x span.
  - Holes in joists:
    Position: Locate on neutral axis.
    Diameter (maximum): 0.25 x joist depth.
    Centres (minimum): 3 x diameter of largest hole.
    Distance from supports: Between 0.25 and 0.4 of span.
  - Notches in roof rafters, struts and truss members: Not permitted.
  - Holes in struts and columns: Locate on neutral axis.
    Diameter (maximum): 0.25 x minimum width of member.
    Centres (minimum): 3 x diameter of largest hole.
    Distance from ends: Between 0.25 and 0.4 of span.
- Scarf joints, finger joints and splice plates: Do not use without approval.

440 PROCESSING TREATED TIMBER

- Cutting and machining: Carry out as much as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickness, planed, ploughed, etc.
- Surfaces exposed by minor cutting/ drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

450 MOISTURE CONTENT

- Moisture content of wood and wood based products at time of installation: Not more than:
  - Covered in generally unheated spaces: 24%.
  - Covered in generally heated spaces: 20%.
  - Internal in continuously heated spaces: 20%.

510 PROTECTION

- Generally: Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
- Timber and components: Store 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.
- Trussed rafters: Keep vertical during handling and storage.

530 PAINTED FINISHES

- Structural timber to be painted: Primed as specified before delivery to site.

540 CLEAR FINISHES

- Structural timber to be clear finished: Keep clean and apply first coat of specified finish before delivery to site.

550 EXPOSED TIMBER

- Planed structural timber exposed to view in completed work: Prevent damage to and marking of surfaces and arrises.

JOINTING TIMBER

570 JOINTING/ FIXING GENERALLY

- Generally: Where not specified precisely, select methods of jointing and fixing and types, sizes and spacings of fasteners in compliance with section Z20.

630 BOLTED JOINTS

- Bolt spacings (minimum): To BS EN 1995-1-1, section 8.5.
- Holes for bolts: Located accurately and drilled to diameters as close as practical to the nominal bolt diameter and not more than 2 mm larger.
- Washers: Placed under bolt heads and nuts that would otherwise bear directly on timber. Use spring washers in locations which will be hidden or inaccessible in the completed building.
- Bolt tightening: So that washers just bite the surface of the timber. Ensure that at least one complete thread protrudes from the nut.
  - Checking: At agreed regular intervals up to Completion. Tighten as necessary.

670 ANTI-CORROSION FINISHES FOR FASTENERS

- Galvanizing: To BS 7371-6, with internal threads tapped and lightly oiled following treatment.
- Sherardizing: To BS 7371-8, Class 1.
- Zinc plating: To BS EN ISO 4042 and passivated.

ERECTION AND INSTALLATION

784 JOISTS GENERALLY

- Centres: Equal, and not exceeding designed spacing.
- Bowed joists: Installed with positive camber.
- End joists: Positioned approximately 50 mm from masonry walls.

786 JOISTS ON HANGERS

- Hangers: Bedded directly on and hard against supporting construction. Do not use packs or bed on mortar.
- Joists: Cut to leave not more than 6 mm gap between ends of joists and back of hanger. Rebated to lie flush with underside of hangers.
- Fixing to hangers: A nail in every hole.

795 TRIMMING OPENINGS

- Trimmers and trimming joists: When not specified otherwise, not less than 25 mm wider than general joists.

H
Cladding/Covering

H13
Structural glass assemblies

H13 Structural glass assemblies

To be read with Preliminaries/ General conditions.

TYPES OF STRUCTURAL GLASS ASSEMBLY

115 STRUCTURAL GLASS ASSEMBLY TO ROOF LEVEL STAIRCASE

- Supporting structure: Existing concrete slab edge beams, as drawing .
- System manufacturer: Pilkington Architectural, Alexandra Works, Borough Road, St. Helens, England WA10 3WA Tel:
  01744 692 378 Fax: 01744 451 326.
  Installation by: Ide Contracting Ltd, 5 Sovereign Close, London, E1W 3HW Tel: 0207 680 9759 Fax: 0207 702 1559 (Contact David Hall).
  - Product reference: Planar System..
  - Walls: Double glazed wall / roof assembly.
  - Roofs: Double glazed wall / roof assembly.
  - Soffits: Double glazed wall / roof assembly.
- Assembly supports: Metal mullion..
  - Material: Stainless steel to BS 1449 Part 2..
  - Finish: Mild steel 15mm x 75mm positioned centrally.
  - Colour/ Texture: Powder paint coat RAL colour TBC.
  - Minimum film thickness: 40 micrometres.
- Assembly fixings: 905J and 902 fittings with spring plates..
  - Material: Stainless steel to BS 1449 Part 2..
  - Finish: As machined.
- Glass: Pilkington Planar IGU
  12mm Suncool 66/33 toughened glass 16mm airspace
  6-SGP-6 toughened and laminated glass as 610, 620, 630 and 640.
  Planar insulating double glazed units with laminated glass as clauses 610, 630 and 640.
- Sealant jointing: Silicone .
  - Nominal joint width: 12mm.
- Incorporated components: None.
- Fittings and ironmongery: Not required.
- Accessories: Not required.

DESIGN REQUIREMENTS

211 DESIGN:

" Complete the detailed design of the structural glass assembly in accordance with the general arrangement drawings and this specification.

" Coordinate detailed design with that for all related works.

221 INFORMATION TO BE PROVIDED WITH TENDER:

Submit to the CA the following structural glass assembly particulars:

" Typical plan, section, and elevation drawings at suitable scales.

" Outline reports and calculations demonstrating compliance with this specification.

" Proposals for connections to and support from the building structure and building components.

" Proposals for any secondary supporting structure additional to that shown on general arrangement drawings.

" Areas of non-compliance with this specification.

231 INFORMATION TO BE PROVIDED BEFORE COMMENCEMENT OF STRUCTURAL GLAZING

Submit to the CA the following structural glass assembly particulars:

" Detailed drawings to fully describe fabrication and installation.

" Detailed reports and calculations to prove compliance with all design/performance requirements. Reports and calculations must be based on approved laboratory testing or computer modelling.

" Project specific fabrication, handling and installation method statements.

" A detailed fabrication and installation programme in compliance with the Main Contract master programme.

" Full details of any structural sealant glazing design.

" Recommendations for safe dismantling and recycling or disposal of all products.

241 PRODUCT SAMPLES

Before commencing detailed design provide the CA with identified samples of: [GLASS]

Obtain approval of appearance before proceeding.

251 SAMPLES OF FIXINGS:

When submitting detailed design, provide the CA with identified samples of each type of assembly fixing, with details of methods of adjustment and tolerances.

341 WEATHER RESISTANCE

- Air leakage through sealant joints: None.
- Water leakage through the structural glass assembly and perimeter junctions: None.

351 AIR PERMEABILITY

There must be no leakage of air through sealed glass to glass joints and not more than 2.0 cu m/hr/lin. m leakage of air through opening lights and perimeter junctions when the structural glass assembly is tested in accordance with Centre for Window and Cladding Technology 'Test methods for curtain walling', section 4, to a peak positive pressure of __ _____ Pascals.

381 SOLAR CONTROL

Glass panes or units must have:

- A shading coefficient of not more than 0.40
- Total light transmission of not less than 63 %.

391 THERMAL STRESS IN GLAZING SAFETY

- Glass panes and units: Must have adequate resistance to thermal stress generated by orientation, shading, solar control and construction.

411 ACCURACY OF ERECTION

- Permitted deviation in glass joint width (maximum): Tolerances of ± 2 mm for manufacturing and ± 2 mm for installation permit a deviation in joint width of ± 4 mm (a 12 mm nominal joint width can vary between 8–16 mm.

421 SECURITY

- Threaded assembly fixings and assembly support fixings: Locked or pinned at completion of structural glazing to prevent rotation due to building movement and unauthorized adjustment.

PRODUCTS

610 GLASS GENERALLY

- Standards: To BS 952 and BS EN 1863 for heat strengthened soda lime silicate glass.
- Glass quality: Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.
- Glass edges: Flat ground, generally undamaged.
  - Shells and chips: Permitted to maximum dimensions of 2 mm deep and 5 mm across surface. Grind out to edges.
  - Arrises: Slightly ground, suitable for sealant jointing.

620 THERMALLY TOUGHENED GLASS

- Standard: To BS EN 12150 or BS EN 13024.
- Impact performance: To BS EN 12600.
- Edgework and holes: Complete before toughening.
- Toughening process: Horizontal to eliminate tong marks and minimize dimensional inaccuracies.
- Nickel sulfide inclusions: Heat soak toughened glass to BS EN 14179.
  - Holding period: 2 h.

630 LAMINATED GLASS

- Panes: Thermally toughened glass, combined with heat strengthened glass to BS EN 1863 and BS EN ISO 12543 or annealed glass to form panes that retain integrity in event of breakage.
- Interlayers to glass leaves: Polyvinyl butyral (pvb) or cast in place resin. Sealed at the perimeter to prevent deterioration due to water or glass joint sealant.

640 SEALED INSULATING GLASS UNITS

- Standard and labels for hermetically sealed units: To BS 5713 and Kitemark certified.
- Label: Each pane.
- Colour of aluminium perimeter spacers: BLACK.
- Perimeter seals:
  - Resistant to UV light degradation on exposed edges.
  - Compatible with structural and weather sealants with which they come into contact.
- Assembly fixings: Hermetically sealed through or into units.
- Structural integrity: Fabricate units to transfer loads safely from glass panes to assembly fixings.
- Perimeter taping: Not permitted.

650 STAINLESS STEEL ASSEMBLY FIXINGS

" Castings and machined fittings: To BS EN 10088-1, grade 1.4401 (BS 1449:Part 2, grade 316)

" Plate and strip: To BS EN 10088-2, grade 1.4401 (BS 1449:Part 2, grade 316).

" Bars, rods and sections: To BS EN 10088-3, grade 1.4401 (BS 1449:Part 2, grade 316).

" Fasteners: Austenitic stainless steel to BS 6105, grade A4.

660 ALUMINIUM ALLOY ASSEMBLY FIXINGS/SUPPORTS

- Extrusions: TBS 1474, grade 6063.
- Plate and strip: TBS EN 485, BS EN 515 and BS EN 573.

670 BRASS ASSEMBLY FIXINGS

Castings, extrusions, stampings, plate, and strip to be brass of nominally 60% copper: 40% zinc content.

FABRICATION AND INSTALLATION

710A WORKMANSHIP GENERALLY

" Fabricate and install structural glass assemblies in accordance with specified requirements.

" Fabricators and installers must employ competent structural glass assembly operatives. Provide records of their experience to the CA on request.

" Machine cut and drill all glass, assembly fixings and assembly supports in the workshop.

" Site drill or cut into structure only in approved locations.

730 STRUCTURAL GLAZING

- Setting out of glass panes and units: Orientate to ensure uniformity of appearance.
- Assembly fixings and assembly support fixings:
  - Isolate metal surfaces to prevent direct contact with glass.
  - Isolate dissimilar metal surfaces to prevent electrolytic corrosion.
  - Tighten to manufacturer's recommended torque figures.

740 SEALANT JOINTS

- Sealant: To BS EN ISO 11600, type G silicone, neutral curing where in contact or close proximity to other products and finishes that may be adversely affected by acetoxy curing.
  - Class: 25HM.
- Manufacturer: Dow Corning or other equal and approved. .
  - Product reference: Dow Corning 797 .
- Colour: Neutral.
- Application: As section Z22, unless specified otherwise in this section..

750 STRUCTURAL SEALANT JOINTS TO ASSEMBLY SUPPORT FINS

- Structural sealant:
  - Silicone, neutral curing, designed and manufactured for bonding of structural sealant glazing.
  - Compatible with contact and close proximity products and finishes.
- Manufacturer: Dow Corning or other equal and approved..
  - Product reference: Dow Corning 797.
- Colour: Black.
- Application: As section Z22, unless specified otherwise in this section..

H71
Lead sheet coverings/ flashings

H71 Lead sheet coverings/ flashings

To be read with Preliminaries/ General conditions.

TYPES OF LEADWORK

410 APRON FLASHINGS TO STRUCTURAL GLAZING TO ROOF STAIRCASE
- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths: Not more than 1500 mm.
  - End to end joints: Laps of not less than 100 mm.
  - Upstand: Not less than 75 mm.
  - Cover to abutment: Not less than 400 mm.
- Fixing: Lead wedges into bed joint, clips to bottom edge at laps and 500 mm centres..

GENERAL REQUIREMENTS/ PREPARATORY WORK

510 WORKMANSHIP GENERALLY
- Standard: To BS 6915 and latest edition of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Association.
- Fabrication and fixing: To provide a secure, free draining and completely weathertight installation.
- Operatives: Trained in the application of lead coverings/ flashings. Submit records of experience on request.
- Preforming: Measure, mark, cut and form lead prior to assembly wherever possible.
- Marking out: With pencil, chalk or crayon. Do not use scribers or other sharp instruments without approval.
- Bossing and forming: Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
- Solder: Use only where specified.
- Sharp metal edges: Fold under or remove as work proceeds.
- Finished work: Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
  - Protection: Prevent staining, discolouration and damage by subsequent works.

515 LEADWELDING
- In situ leadwelding: Not permitted.

520 LEAD SHEET
- Production method:
  - Rolled, to BS EN 12588, or
  - Machine cast and BBA certified, or
  - Sand cast, from lead free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes; to code thicknesses but with a tolerance (by weight) of ±10%.
- Identification: Labelled to show thickness/ code, weight and type.

610 SUITABILITY OF SUBSTRATES
- Condition: Dry and free of dust, debris, grease and other deleterious matter.

640 TIMBER FOR USE WITH LEADWORK

- Quality: Planed, free from wane, pitch pockets, decay and insect attack (ambrosia beetle excepted).
- Moisture content: Not more than 22% at time of fixing and covering. Give notice if greater than 16%.
- Preservative treatment: Organic solvent as section Z12 and Wood Protection Association Commodity Specification C8.

650 LAYING UNDERLAY

- Handling: Prevent tears and punctures.
- Laying: Butt or overlap jointed onto a dry substrate.
  - Fixing edges: With copper or stainless steel staples or clout nails.
  - Do not lay over roof edges but do turn up at abutments.
- Wood core rolls: Fixed over underlay.
- Protection: Keep dry and cover with lead at the earliest opportunity.

FIXING LEAD

715 CLIPS

- Manufacturer: Fabricated on site..
- Material:
  - Lead clips: Cut from sheets of same thickness/ code as sheet being secured.
  - Copper clips:
    Thickness: n/a.
    Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere; dipped in solder if exposed to view.
  - Stainless steel clips:
    Thickness: 0.38 mm.
    Grade: BS EN 10088, 1.4301(304) terne coated if exposed to view.
- Dimensions:
  - Width: 50 mm where not continuous.
  - Length: To suit detail.
- Fixing clips: Secure each to substrate with either two screw or three nail fixings not more than 50 mm from edge of lead sheet. Use additional fixings where lead downstands exceed 75 mm.
- Fixing lead sheet: Welt clips around edges and turn over 25 mm.

770 WEDGE FIXING INTO JOINTS/ CHASES

- Joint/ chase: Rake out to a depth of not less than 25 mm.
- Lead: Dress into joint/ chase.
  - Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
- Sealant: Submit proposals.
  - Application: As section Z22.

JOINTING LEAD

H72
Aluminium strip/ sheet coverings/ flashings

H72 Aluminium strip/ sheet coverings/ flashings

To be read with Preliminaries/ General conditions.

TYPES OF ALUMINIUM WORK

470 MISCELLANEOUS FLASHINGS TO GLASS ENCLOSURE TO NEW STAIRCASE

- Aluminium: Coated sheet/ strip.
  - Alloy designation: EN AW-1050A.
  - Temper: Not applicable.
  - Finish: Polyvinylidene fluoride (PVDF) coating RAL 7021.
  - Thickness: 0.9 mm .
- Dimensions:
  - Lengths: Not more than 2m.
- Fixing: Fixed between glazing cill & waterproofing membranes.

GENERAL REQUIREMENTS/ PREPARATORY WORK

510 WORKMANSHIP GENERALLY

- Standard: Generally to CP 143-15
- Fabrication and fixing: To provide a secure, free draining and completely weathertight installation.
- Operatives: Trained in the application of aluminium coverings/ flashings. Submit records of experience on request.
- Measuring, marking, cutting and forming: Prior to assembly wherever possible.
- Marking out: With pencil, chalk or crayon. Do not use scribers or other sharp instruments without approval.
- Folding: With mechanical or manual presses to give straight, regular and tight bends, leaving panels free from ripples, kinks, buckling and cracks. Use hand tools only for folding details that cannot be pressed.
- Surface protection: Fully coat surfaces to be embedded in concrete or mortar with high build bitumen based paint, after folding.
- Sharp metal edges: Fold under or remove as work proceeds.
- Joints: Do not use sealants to attain waterproofing.
- Finished aluminium work: Fully supported, adequately fixed to resist wind uplift and able to accommodate thermal movement without distortion or stress.
  - Protection: Prevent staining, discolouration and damage by subsequent works.

515 WELDING

- In situ welding: Not permitted.

610 SUITABILITY OF SUBSTRATES

- Condition: Dry and free of dust, debris, grease and other deleterious matter.

640 TIMBER FOR USE WITH ALUMINIUM WORK

- Quality: Planed, free from wane, splits, pitch pockets, decay and insect attack(ambrosia beetle excepted).
- Moisture content: Not more than 22% at time of fixing and covering.
- Preservative treatment: Organic solvent as section Z12, and Wood Protection Association Commodity Specification C8.

650 LAYING UNDERLAY

- Handling: Prevent tears and punctures.
- Laying: Butt jointed onto a dry substrate.
  - Fixing edges: With aluminium or galvanized steel staples or 20 x 3 mm extra large head clout nails.
  - Do not lay over eaves and drip/ step aluminium underlaps.
- Ventilation paths: Do not obstruct.
- Protection: Keep dry and cover with aluminium at the earliest opportunity.

FIXING

710 FIXINGS FOR CLIPS

- Nails to timber substrates: Aluminium to BS 1202-3 for aluminium clips. Stainless steel (austenitic) for stainless steel clips.
  - Shank type: Annular ringed or helical threaded.
  - Shank diameter: Not less than 2.65 mm.
  - Head: Flat.
  - Length: Not less than 25 mm or equal to substrate thickness.
- Screws to concrete/ masonry substrates: Sherardized or zinc plated steel or aluminium, for aluminium clips, to BS EN 14592. Stainless steel (austenitic) to BS EN 14592 for stainless steel clips.
  - Diameter: Not less than 3.35 mm.
  - Length: Not less than 25 mm.
  - Washers and plastic plugs: Compatible with screws.
- Screws to composite metal decks: Self tapping, as recommended by the deck and aluminium manufacturer/ supplier for aluminium or stainless steel clips.

JOINTING ALUMINIUM

K
Linings/Sheathing/Dry partitioning

K10
Gypsum board dry linings/ partitions/ ceilings

K10 Gypsum board dry linings/ partitions/ ceilings

To be read with Preliminaries/ General conditions.

TYPES OF DRY LINING

127A METAL STUD PARTITIONING FORMING PARTITION TYPES WT1 - PLYWOOD TO ONE SIDE ONLY

Manufacturer: British Gypsum, East Leake, Loughborough, Leicestershire LE12 6HX
Website: www.british-gypsum.com Tel: 0844 800 1991 Fax: 0844 561 8816

E-mail: bgtechnical.enquiries@bpb.com.
British Gypsum contact: Chris Greve - Tel: 07973 752080 - Email: chris.greve@bpb.com

Product reference : GypWall CLASSIC.

Nominal thickness (excluding finishes): 105.5mm.
- Performance criteria:

Fire resistance to BS 476: Part 22: 60 minutes.

Sound insulation: Rw 45dB.

Partition duty to BS 5234: Parts 1 and 2: Severe.

Maximum height based on limiting deflection of L/240 at 200Pa: 4600mm.
- Timber sole plate: 38mm (nominal) x channel width, if required.
- Framing:

Studs: Gypframe 70 S 50 at 600mm centres and Gypframe 70 S 50 at abutments, openings and junctions.

Stud boxing : n/a.

Floor channel: Gypframe 72 FEC 50 (height up to 4200mm).

Head channel: As floor channel or as determined by deflection criteria.

Fixing strap: Gypframe GFS1 to support horizontal joints in face layer of double layer board linings.
- Head condition: Suitably fixed up to structural soffit.

Deflection allowance: To be determined by a Structural Engineer.

Lining: One layer 12.5mm Gyproc WallBoard, sheet width 1200mm, to one side of framing fixed to 18mm WBP plywood; 2 layers of 12.5mm
Gyproc WallBoard fixed to other side of framing.

Fixing: As clause 591A.

Screws : 25mm & 36mm British Gypsum Drywall Screws.
- Cavity insulation: n/a.
- Recycled content: n/a.
- Gyproc Sealant: As clause 516A.
- Finishing: Taped seamless finish as clause 671A.
- Accessories: Gyproc Profilex access panels as per White Book section 14 - if required.
- Other requirements:
- Please Note: Before altering this specification check with the design team that any proposed changes will not jeopardise the project environmental assessment rating target

(BREEAM, CfSH, LEED, etc.)

- For areas to receive Ceramic Tiling see Section 13 British Gypsum White Book.

- For cut plasterboard edges/ movement joints/ window reveals/ shadow gaps use Thistle Thin Coat Plaster Stop Bead and appropriate Thistle Finish Coat-Plasters or Gyproc Edge Bead and appropriate jointing compounds. (See sections 13 & 14 British Gypsum White Book).

- For areas to receive plaster skim/Jointing on plasterboard types see Section 13 of British Gypsum White Book.

- Gypframe 99 FC 50 for Medium weight fixtures. If a plywood pattress is required, Gypframe Service Support Plates should be used.

- Greater heights can be achieved by reducing stud centres, changing stud gauge or stud type. Please call our Technical helpline or consult Table 15 in the Robustness section of the White Book for further assistance. Note consideration needs to be given to the effect on acoustic performance as a result of changing stud centres or types.

127B METAL STUD PARTITIONING FORMING PARTITION TYPES WT2 - PLYWOOD TO BOTH SIDES:

Manufacturer: British Gypsum, East Leake, Loughborough, Leicestershire LE12 6HX
Website: www.british-gypsum.com Tel: 0844 800 1991 Fax: 0844 561 8816

E-mail: bgtechnical.enquiries@bpb.com.
British Gypsum contact: Chris Greve - Tel: 07973 752080 - Email: chris.greve@bpb.com

Product reference: GypWall CLASSIC.

Nominal thickness (excluding finishes): 111mm.
- Performance criteria:

Fire resistance to BS 476: Part 22: 60 minutes.

Sound insulation: Rw 45dB.

Partition duty to BS 5234 : Parts 1 and 2: Severe.

Maximum height based on limiting deflection of L/240 at 200Pa: 4600mm.
- Timber sole plate: 38mm (nominal) x channel width, if required.
- Framing:

Studs: Gypframe 70 S 50 at 600mm centres and Gypframe 70 S 50 at abutments, openings and junctions.

Stud boxing : n/a.

Floor channel : Gypframe 72 FEC 50 (height up to 4200mm).

Head channel: As floor channel or as determined by deflection criteria.

Fixing strap : Gypframe GFS1 to support horizontal joints in face layer of double layer board linings.
- Head condition: Suitably fixed up to structural soffit.

Deflection allowance: To be determined by a Structural Engineer.

Lining : One layer 12.5mm Gyproc WallBoard, sheet width 1200mm, to both sides of framing fixed to one layer of 18mm WBP plywood sheet width 1200mm to both sides of framing.

Fixing : As clause 591A.

Screws: 25mm & 36mm British Gypsum Drywall Screws.
- Cavity insulation: n/a.
- Recycled content: n/a.
- Gyproc Sealant: As clause 516A.
- Finishing: Taped seamless finish as clause 671A.
- Accessories: Gyproc Profilex access panels as per White Book section 14 - if required.
- Other requirements:
- Please Note: Before altering this specification check with the design team that any proposed changes will not jeopardise the project environmental assessment rating target (BREEAM, CfSH, LEED, etc.)

- For areas to receive Ceramic Tiling see Section 13 British Gypsum White Book.

- For cut plasterboard edges/ movement joints/ window reveals/ shadow gaps use Thistle Thin Coat Plaster Stop Bead and appropriate Thistle Finish Coat-Plasters or Gyproc Edge Bead and appropriate jointing compounds. (See sections 13 & 14 British Gypsum White Book).

- For areas to receive plaster skim/Jointing on plasterboard types see Section 13 of British Gypsum White Book.

- Gypframe 99 FC 50 for Medium weight fixtures. If a plywood pattress is required, Gypframe Service Support Plates should be used.

- Greater heights can be achieved by reducing stud centres, changing stud gauge or stud type. Please call our Technical helpline or consult Table 15 in the Robustness section of the White Book for further assistance. Note consideration needs to be given to the effect on acoustic performance as a result of changing stud centres or types.

127C METAL STUD PARTITIONING FORMING OAK CLAD DRYLINING TO MAIN ENTRANCE CORRIDOR - WALL TYPE WT3:

Manufacturer: British Gypsum, East Leake, Loughborough, Leicestershire LE12 6HX
Website: www.british-gypsum.com Tel: 0844 800 1991 Fax: 0844 561 8816

E-mail: bgtechnical.enquiries@bpb.com.
British Gypsum contact: Chris Greve - Tel: 07973 752080 - Email: chris.greve@bpb.com

Product reference: None - Duraline board.

Nominal thickness (excluding finishes): varies
- Performance criteria:

Fire resistance to BS 476: Part 22: 60 minutes.

Sound insulation: Rw 45dB.

Partition duty to BS 5234: Parts 1 and 2: Severe.

Maximum height based on limiting deflection of L/240 at 200Pa: 4600mm.

Studs: Gypframe 70 S 50 at 600mm centres and Gypframe 70 S 50 at abutments, openings and junctions. Above the existing Terrazzo panel studs to be fixed back to wall through a 38 x 75mm sw stud,

Stud boxing: n/a.

Floor channel: None - completed with Atelier Sedap 737 MicroBlade PLINTHE high strength plaster profile to receive linear LED lighting at skirting level

Head channel: None - completed with Atelier Sedap 737 MicroBlade PLINTHE high strength plaster profile to receive linear LED lighting at ceiling wall junction level..

Fixing strap: Gypframe GFS1 to support horizontal joints in face layer of double layer board linings.
- Head condition: None - completed with Atelier Sedap 737 MicroBlade PLINTHE high strength plaster profile to receive linear LED lighting.

Deflection allowance: To be determined by a Structural Engineer.

Lining: One layer 15mm Gyproc Duraline, sheet width 1200mm.

Fixing: As clause 591A.

Screws: 25mm & 36mm British Gypsum Drywall Screws.
- Cavity insulation: n/a.
- Recycled content: n/a.
- Gyproc Sealant: As clause 516A.
- Finishing: Taped seamless finish as clause 671A.
- Other requirements:

- For cut plasterboard edges/ movement joints/ window reveals/ shadow gaps use Thistle Thin Coat Plaster Stop Bead and appropriate Thistle Finish Coat-Plasters or Gyproc Edge Bead and appropriate jointing compounds. (See sections 13 & 14 British Gypsum White Book).

- For areas to receive plaster skim/Jointing on plasterboard types see Section 13 of British Gypsum White Book.

Finishing: Fix full height Oak Battens size: 30 x 30mm fixed at 60mm centres, plugged and screwed at REGULAR AND EVEN HEIGHTS AND CENTRES and finished with 2no. coats of **Fiddes Liming Wax.**

Accessories:
Atelier Sedap **737 MicroBlade PLINTHE** high strength plaster profile to receive linear LED lighting at both *low-level* skirting and *high-level* ceiling/wall junction -
Ivor Sweetnam
Internal Sales (Sedap)
t: 01235 553769 | e: ivor@optelma.co.uk | w: optelma.com

226A SUSPENDED CEILING ON METAL FRAMING FORMING CEILING

- **Manufacturer:** British Gypsum, East Leake, Loughborough, Leicestershire LE12

6HX Website: www.british-gypsum.com Tel: 0844 800 1991 Fax: 0844 561 8816
E-mail: bgtechnical.enquiries@bpb.com.
British Gypsum contact: Chris Greve - Tel: 07973 752080 - Email: chris.greve@bpb.com

Product reference : CasoLine MF.
- Structural soffit: Concrete Floor.
- Performance criteria:

Fire resistance to BS 476: Part 21 or 22: n/a.
Fire protection to steels BS 476: Part 23: 60 minutes, up to 205 A/V m-1(Hp/A) based on three sided profiled exposure.

Sound insulation: n/a.

Sound Absorption Class : n/a.

Cavity/Plenum depth: 150mm (min.)

- **Suspension system:**

Hangers : Gypframe MF8 Strap hanger or Gypframe FEA1 Steel angle fixed to soffit via Gypframe MF12 Soffit Cleats.
Primary grid: Gypframe MF7 channels at 1200mm centres, suspended from hangers at 1200mm centres.
Secondary grid: Gypframe MF5 sections at 450mm centres, fixed to primary grid with British Gypsum Wafer Head Jack-Point Screws or alternatively Gypframe MF9 clips.

Perimeters: Gypframe MF6 channel.
- Lining: One layer of 12.5mm Gyproc FireLine.

Fixing: As clause 591A.

Screws : 25mm British Gypsum Drywall Screws.
- Cavity insulation: 50mm Isover Acoustic Partition Roll (APR 1200).

Recycled content: n/a.
- Gyproc Sealant: As clause 516A.
- Finishing: Thistle Skim coat plaster (General use) as clause 681A.
- Services fittings: Install _____
- Accessories: Gyproc Profilex access panels as per White Book section 14 - if required.

- **Other requirements:**

- Please Note: Before altering this specification check with the design team that any proposed changes will not jeopardise the project environmental assessment rating target (BREEAM, CfSH, LEED, etc.)
- For cut plasterboard edges/ movement joints/ window reveals/ shadow gaps use Thistle Thin Coat Plaster Stop Bead and appropriate Thistle Finish Coat-Plasters or Gyproc Edge Bead and appropriate jointing compounds. (See sections 13 & 14 British Gypsum White Book).
- For areas to receive plaster skim/Jointing on plasterboard types see Section 13 of British Gypsum White Book.

GENERALLY/PREPARATION

300 ENVIRONMENT – ISO14001: British Gypsum has ISO 14001 certification across the entire business including: mining, manufacture, distribution, and all ancillary services to support the business function.

301 ENVIRONMENT - BREEAM RATED PROJECTS : Prior to making any amendments to British Gypsum specifications consult with the design team responsible for the project for guidance. BREEAM (or similar environmental framework) ratings may be downgraded as a result of changes to this specification.

345 ADDITIONAL SUPPORTS FOR PARTITION HEADS: Provide or ensure provision of accurately positioned and securely fixed framing to receive partition heads running parallel with, but offset from main structural supports.

355 ADDITIONAL SUPPORTS FOR FIXTURES AND FITTINGS : Provide or ensure provision of accurately positioned and securely fixed framing to support fixtures, fittings and services. After fixing boards, mark positions of framing for following trades.

365 ADDITIONAL SUPPORTS FOR BOARD EDGES AND PERIMETERS: Provide or ensure provision of additional framing, accurately positioned and securely fixed, to give full support to board edges and lining perimeters in accordance with board manufacturer's recommendations.

375 NEW WET LAID BASES: Provide or ensure provision of a continuous strip of bituminous felt DPC or other approved material under partitions/freestanding wall linings, cut to the full width of the partition/lining.

385 SERVICE PENETRATIONS: The dry lining contractor must liaise with the Main Contractor and other contractors to ensure that fire resistance and other specified performance requirements are not impaired by service penetrations.

In particular:

- Form framed openings accurately for grouped services, ducts, etc. allowing for associated fire barriers.
- Provide insulation backings to recessed electrical outlets and switches as recommended by the plasterboard manufacturer.

395 CONTROL SAMPLE(S): Complete area(s) of finished work in approved locations as follows and obtain approval of appearance before proceeding:

_____

405 PLASTERBOARD GENERALLY: To BS EN 520: types A, H1(Moisture Resistant), F, P, D, R or I with exposed surface and edge profiles suitable to receive the specified finish.

406 GYPSUM BOARD WITH MAT REINFORCEMENT (GLASROC F FIRECASE): To EN 15283: Part 1, Types GM-F & H2 (Moisture Resistant).

407 GYPSUM BOARD WITH MAT REINFORCEMENT (GLASROC F MULTIBOARD):
a) 6mm thick to EN 15283: Part 1, Types GM-F & H1(Moisture Resistant)
b) 10mm/ 12.5mm thick to EN 15283: Part 1, Types GM-F.

408 GYPSUM FIBRE BOARD (RIGIDUR H) : To EN 15283: Part 2, Types GF, C1, I & W2.

409 GYPSUM BOARD WITH MAT REINFORCEMENT (GLASROC H TILEBACKER):
To EN 15283: Part 1, Types GM-H1(Moisture Resistant).

FIXING/FINISHING

435 DRY LINING GENERALLY:

- Fixing, jointing and finishing materials and accessories, where not specified otherwise, to be as recommended by the board manufacturer.
- Handle and store materials in accordance with BS 8212:1995, section 5. Do not use damaged boards.
- Use operatives properly trained for dry lining work and who have attended a recognised training scheme.
- Fix boards only in areas which have been made weathertight. Prevent frost damage.
- Cut boards neatly and accurately without damage to core or tearing of paper facing. Keep cut edges to a minimum and position at internal angles wherever possible. Mask with bound edges of adjacent boards at external corners.
- Fix boards securely and firmly to suitably prepared and accurately levelled backgrounds. Set heads of fastenings in a depression; do not break paper or gypsum core. Finish neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

455A METAL STUD FRAMING:
- Install using components, accessories and methods recommended by the board manufacturer.
- Set out floor/head channels and perimeter studs to give a framework which is accurately aligned with a true vertical plane. Fix securely at all perimeters at not more than 600mm centres.
- Position studs at equal centres to suit specified linings, maintaining sequence across openings. Provide additional studs as necessary to ensure support to all vertical edges of boards.
- Accurately form openings to receive door sets using Gypframe metal studs and suitable timber framing or Gypframe metal studs sleeved with Gypframe channel as necessary to achieve the strength grade requirements of the framing assembly and adequately support the weight of the door.

465A STAGGERED STUD PARTITIONS: Ensure that additional noggings, bearers, etc. are fixed between alternate studs and do not touch adjacent offset studs. Do not fix boards to adjacent offset studs. Ensure that acoustic isolation between each side of partition is maintained at corners.

467A BRITISH GYPSUM METAL STUD PARTITIONS: Fix Gypframe 94 and 148mm wide floor/head channels, and Gypframe 92 and 146mm perimeter abutment studs using two rows of staggered fixings, each at 600mm centres.

468A BRITISH GYPSUM SHAFTWALL : Notwithstanding clause 455A, fix head channel securely at not more than 300mm centres, incorporating Gyproc FireStrip.

495 MINERAL WOOL INSULATION TO METAL STUD PARTITIONS/LININGS:
- Fit securely with closely butted joints, leaving no gaps. Unless the insulation is of a self supporting slab type fitted between studs, fix at head of frame using short sections Gypframe angles or proprietary clips by others.

516A ACOUSTIC SEALANT:
- Manufacturer and reference: British Gypsum, Gyproc Sealant.
- Location: At junctions with adjoining structure, and at other airpaths.
- Apply as a continuous bead to clean, dry, dust free surfaces, leaving no gaps.
- After application of sealant, bulk fill gaps between floor and underside of plasterboard using Gyproc joint compound.

521A AIR PRESSURE SEALANT (SHAFTWALL) TO _____
- Sealant: British Gypsum, Gyproc Sealant.

- Location:
    - To all framing members at perimeter junctions with walls, floors and ceilings, air gaps around openings, and other potential air leakage points.
    - To frame members prior to fitting core boards and around fire stops cloaking horizontal core board joints.
    - To all metal framing around board perimeters of first layer boarding and board perimeters when fixing outer layer board.
- Apply as a continuous bead leaving no gaps.

526A CAVITY BARRIERS (SINGLE FRAME PARTITION):

- Maintain continuity of fire barrier formed by perimeter channels using short lengths of close fitting plasterboard screwed into the web across joints in channel sections and around service holes, except where:
    - The partitions abut plasterboard linings or masonry.
    - Timber sole or head plates are fitted.
- Form continuous vertical barriers using lengths of close fitting plasterboard screwed into the web of individual studs or channels.

526B CAVITY BARRIERS (SHAFTWALL):

- Maintain continuity of fire barrier formed by perimeter channels using short lengths of close fitting plasterboard screwed into the web across joints in channel sections and around service holes, except where partitions abut plasterboard linings or masonry.
- Form continuous vertical barriers using stone mineral wool strip cut neatly to fit across the stud cavity.

526C CAVITY BARRIERS (GYPWALL STAGGERED): Form continuous vertical barriers using stone wool strip cut neatly to fit across stud cavity.

526D CAVITY BARRIERS (TWIN FRAME PARTITION):

- Maintain continuity of fire barrier formed by perimeter channels using short lengths of close fitting Gyproc plasterboard screwed into the web across joints in channel sections and around service holes, except where:
    - The partitions abut plasterboard linings or masonry.
    - Timber sole or head plates are fitted.
- Form continuous vertical barriers using 12.5mm Gyproc plasterboard cut to a good fit and screw fixed to each of a pair of studs, and spanning the whole cavity width.

531A ACCESS PANELS (SHAFTWALL):

- Manufacturer and reference: British Gypsum, Gyproc Profilex FR2 Performance Panel.
  Facing: Flush metal.
  Frame profile: Beaded.
  Locking arrangement: Three point lock – single entry.
- Finish as delivered: Etch primed white _____
- Form framed and lined openings and install access panels as recommended by panel manufacturer.

531B ACCESS PANELS (SHAFTWALL AND GYPLYNER IWL):

- Manufacturer and reference: British Gypsum, Gyproc Profilex FR1 Standard Panel.
  Facing: Flush metal.
  Frame profile: _____
  Locking arrangement: Budget.
- Finish as delivered: _____
- Form framed and lined openings and install access panels as recommended by panel manufacturer.

555A FIRE STOPPING: Seal any gaps at junctions of linings and cavity barriers with perimeter abutments, service penetrations, etc. using tightly packed stone mineral wool or fire resisting / intumescent sealant, to prevent penetration of smoke and flame.

560A JOINTS BETWEEN BOARDS:

- Gyproc plasterboards: Lightly butt boards together.
- Square edged Gyproc plasterboards to be finished with Artex textured compound: 3mm gap.
- Glasroc F fibre reinforced gypsum boards: Lightly butt boards together.

565 VERTICAL JOINTS:

- Centre joints on studs. For partitions, ensure that joints on opposite sides of studs are staggered.
- For two layer boarding, stagger joints between layers.

565A VERTICAL JOINTS (GYPWALL SECURE AND BLASTWALL TS):

- Centre joints on raised section of Gypframe Security Sheet. For partitions, ensure that joints on opposite sides of core are staggered.
- For two layer boarding, stagger joints between layers.

570A HORIZONTAL JOINTS:

- Horizontal joints will not be permitted in surfaces exposed to view except where the height of partition/lining exceeds the maximum available length of board. Agree positions of joints where not specified.
- For two layer boarding, stagger joints between layers by at least 600mm. If previous layer of plank plasterboard, stagger joints between layers by 300mm.
- Ensure that edges of boards are supported by additional framing. For two layer boarding framing must support the outer layer.

580 INSULATION BACKED PLASTERBOARD: Avoid damage to insulation and do not cut away to accommodate services. Carefully cut back insulation or plasterboard as appropriate along edges of boards at angles to give a continuous plasterboard face, with no gaps in the insulation.

591A FIXING PLASTERBOARD TO METAL SUPPORTS:

- Partitions/linings/casings:
  - Face layer: Fix securely to all supports at maximum 300mm centres (reduced to 200mm at external angles where recommended by the board manufacturer).
  - Previous layer of plank plasterboard: Install with long edges at right angles to studs, and fix securely to each stud using two screws.
  - Other previous layers: Fix securely to supports around the perimeter of each board at maximum 300mm centres.
- Ceilings: Fix securely to all supports at maximum 230mm centres (reduced to 150mm at board ends and at lining perimeters where recommended by the board manufacturer).
- Fix working from the centre of each board. Position screws not less than 13mm from cut edges and 10mm from bound edges of boards. Set heads in a depression; do not break paper or gypsum core.

591B FIXING PLASTERBOARD TO METAL SUPPORTS (SHAFTWALL AND STAIRWALL):

- Working from the centre of each board, fix securely to all supports at maximum 300mm centres, reduced to 200mm at external angles.
- Fix working from the centre of each board. Position screws not less than 13mm from cut edges and 10mm from bound edges of boards. Set heads in a depression; do not break paper or gypsum core.

591C FIXING PLASTERBOARD TO METAL SUPPORTS (FIREWALL):

- Fix first and second layers securely to all supports at maximum 300mm centres.
- Where a third layer is specified, fix securely to previous layers at maximum 300mm centres around the perimeter and down the centre of each board.
- Fix working from the centre of each board. Position screws not less than 10mm from the edge of the board. Set heads in a depression; do not break paper or gypsum core.

592A FIXING GYPROC SOUNDBLOC RAPID BOARD TO METAL SUPPORTS: Fix securely to all supports at maximum 400mm centres working from the centre of each board. Position screws not less than 13mm from cut edges and 10mm from bound edges of boards. Set heads in a depression; do not break paper or gypsum core.

595 DEFLECTION HEADS: Do not fix boards to head channels when a deflection head is specified.

597A SINGLE LAYER LININGS TO RECEIVE CERAMIC FINISHES (SHAFTWALL): Fix Gypframe 99 FC 50 Fixing Channel between studs at 1200mm vertical centres to support the back face of the plasterboard.

598A TWO LAYER LININGS TO RECEIVE CERAMIC FINISHES (SHAFTWALL): Bond the two layers together with a continuous bead of Gyproc Sealant applied midway between studs.

671A TAPED SEAMLESS FINISH TO PLASTERBOARD:

- Manufacturer: British Gypsum.
  Joint compound: One or more of the following Gyproc products:
  - Easi Fill
  - Easi Fill 45
  - Joint Filler
  - Joint Cement
  - Ready Mix Joint Cement
  - ProMix LITE Joint Cement.

  Joints/gaps/internal corners: Gyproc Joint Tape.
  External corners: Gyproc Drywall Metal Angle Bead or Gyproc Corner Tape.
  Shadow gaps: BGM105 Styletrim (25 x 10mm) or BGM106 Styletrim (12.5 x 10mm)
  Board ends: Gyproc Drywall Plastic Edge Bead or Gyproc Drywall Metal Edge Bead
  Primer/sealer: Two coats Gyproc Drywall Sealer where vapour control required (will provide vapour resistance only and does not meet performance requirements for moisture resistant grade boards as defined in BS EN520, type H1) and one coat Gyproc Drywall Primer elsewhere. Alternatively, one coat Gyproc Drywall Sealer for simple steam stripping of wall coverings (except for vinyl or other low permeability wall coverings) at a later date.
- Lightly sand cut edges of boards to remove paper burrs.
- Fill all joints, gaps and internal angles with joint compound and cover with continuous lengths of tape, fully bedded. Reinforce external angles, stop ends, etc. with the specified bead/corner tape.
- When set, cover with joint compound, feathered out to give a flush, smooth, seamless surface.
- Spot nail/screw depressions with joint compound to give a flush surface.
- Fill minor indents. After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.

- Apply specified primer/sealer to give a continuous consistent texture to surface of boards.

6 **71B TAPED SEAMLESS FINISH TO RIGIDUR H FIBRE REINFORCED GYPSUM BOARD:**

- Manufacturer: British Gypsum.
  Joint Compound: Gyproc Easi-Fill.
  Joints/gaps/internal corners: Gyproc Joint Tape
  External corners: Gyproc Drywall Metal Angle Bead or Gyproc Corner Tape.
  Shadow gaps: BGM105 Styletrim (25 x 10mm) or BGM106 Styletrim (12.5 x 10mm)
  Board ends: Gyproc Drywall Plastic Edge Bead or Gyproc Drywall Metal Edge Bead
  Primer/sealer: Two coats Gyproc Drywall Sealer where vapour control required (will provide vapour resistance only and does not meet performance requirements for moisture resistant grade boards as defined in BS/EN520, type H1) and one coat Gyproc Drywall Primer elsewhere. Alternatively, one coat Gyproc Drywall Sealer for simple steam stripping of wall coverings (except for vinyl or other low permeability wall coverings) at a later date.
- Reinforce external angles, etc. with the specified bead/corner tape.
- Apply Gyproc Easi-Fill to the joint and bed in Gyproc Joint Tape. Allow to dry and lightly sand to remove any high spots. Gyproc Joint Tape should be used in internal angle joints. Trowel apply a second coat of Gyproc Easi-Fill and feather out to about 200mm width on each side of the joint. Allow to dry and lightly sand.
- Spot nail/screw/staple depressions with two coats of joint compound to give a flush surface.
- Fill minor indents with a single coat of joint compound to give a flush surface.
- After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.

676A TAPED SEAMLESS FINISH TO GLASROC FIBRE REINFORCED GYPSUM BOARD:

- Manufacturer: British Gypsum.
  Joint Compound: Gyproc Joint Cement.
  Joints/gaps/internal corners: Gyproc Joint Tape or Thistle ProTape FT50
  External corners: Gyproc Drywall Metal Angle Bead or Gyproc Corner Tape.
- Apply Gyproc Joint Cement to the joint and bed in Gyproc Joint Tape. Allow to dry and lightly sand to remove any high spots. Gyproc Joint Tape should be used in internal angle joints. Trowel apply a second coat of Gyproc Joint Cement and feather out to about 200mm width on each side of the joint. Allow to dry and lightly sand.
- Spot nail/screw/staple depressions with two coats of joint compound to give a flush surface.
- Fill minor indents with a single coat of joint compound to give a flush surface.
- After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.

681A SKIM COAT PLASTER FINISH: (Hand applied Only):

- Manufacturer and reference: British Gypsum, Thistle Board Finish or Thistle Multi-Finish.
  Thickness: 2mm.
- Pre-Treatment: Thistle Bond-IT (Glasroc H TILEBACKER & Gyproc Moisture resistant grade plasterboards), Thistle GypPrime (required for Rigidur H boards to control suction).

- Reinforcement:
  Joints/gaps/internal corners: Thistle ProTape FT50 or FT100, or any gaps exceeding 3mm pre-filled and reinforced using Gyproc Joint Tape.
  External corners: Thistle Thin Coat Angle Bead or Thin Coat Mini Mesh Bead.
  Edges: Thistle Thin Coat Plaster Stop Bead to all door and window surrounds.
- Fill and tape all joints except where coincident with metal beads.
- Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

681B SKIM COAT PLASTER FINISH (Machine OR Hand applied):

- Manufacturer and reference: British Gypsum, Thistle Durafinish (For improved impact & abrasion resistance).
  Thickness: 2mm.
- Pre-Treatment: Thistle GypPrime (required for Rigidur H boards to control suction).
- Machine spray application: Worm pump plastering machine e.g. M-Tec M100SC or PFT Ritmo.
- Reinforcement:
  Joints/gaps/internal corners: Thistle ProTape FT50 or FT100, or any gaps exceeding 3mm pre-filled and reinforced using Gyproc Joint Tape.
  External corners: Thistle Thin Coat Angle Bead or Thin Coat Mini Mesh Bead.
  Edges: Thistle Thin Coat Plaster Stop Bead to all door and window surrounds.
- Fill and tape all joints except where coincident with metal beads.
- Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

681C SKIM COAT PLASTER FINISH (Machine OR Hand applied):

- Manufacturer and reference: British Gypsum, Thistle Spray Finish.
  Thickness: 2mm.
- Pre-Treatment: Thistle Bond-IT (Glasroc H TILEBACKER & Gyproc Moisture resistant grade plasterboards), Thistle GypPrime (required for Rigidur H boards to control suction).
- Machine spray application: Worm pump plastering machine e.g. M-Tec M100SC or PFT Ritmo.
- Reinforcement:
  Joints/gaps: Thistle ProTape FT50/ FT100 or Gyproc Joint Tape
  Internal corners: Thistle ProTape FT100, or any gaps exceeding 3mm pre-filled and reinforced using Gyproc Joint Tape.
  External corners: Thistle Thin Coat Angle Bead or Thin Coat Mini Mesh Bead.
  Edges: Thistle Thin Coat Plaster Stop Bead to all door and window surrounds.
- Fill and tape all joints except where coincident with metal beads.
- Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

695 BEADS/STOPS GENERALLY:

- Cut neatly using mitres at return angles. Fix securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with background.
- After joint compounds/plasters have been applied, remove surplus material while still wet from surfaces of beads which are exposed to view.

FINISHING

650 LEVEL OF DRY LINING ACROSS JOINTS

- Sudden irregularities: Not permitted.
- Joint deviations: Measure from faces of adjacent boards using methods and straightedges (450 mm long with feet/ pads) to BS 8212, clause 3.3.5.
  - Tapered edge joints:
    Permissible deviation (maximum) across joints when measured with feet resting on boards: 3 mm.
  - External angles:
    Permissible deviation (maximum) for both faces: 4 mm.
  - Internal angles:
    Permissible deviation (maximum) for both faces: 5 mm.

670 SEAMLESS JOINTING TO GYPSUM BOARDS

- Cut edges of boards: Lightly sand to remove paper burrs.
- Filling and taping: Fill joints, gaps and internal angles with jointing compound and cover with continuous lengths of paper tape, fully bedded.
- Protection of edges/ corners: Reinforce external angles, stop ends, etc. with specified edge/ angle bead.
- Finishing: Apply jointing compound. Feather out each application beyond previous application to give a flush, smooth, seamless surface.
- Nail/ screw depressions: Fill with jointing compound to give a flush surface.
- Minor imperfections: Remove by light sanding.

695 INSTALLING BEADS/ STOPS

- Cutting: Neatly using mitres at return angles.
- Fixing: Securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
- Finishing: After joint compounds/ plasters have been applied, remove surplus material while still wet from surfaces of beads exposed to view.

725 REPAIRS TO EXISTING GYPSUM BOARD

- Filling small areas with broken cores: Cut away paper facing, remove loose core material and fill with jointing compound.
  - Finish: Flush, smooth surface suitable for redecoration.
- Large patch repairs: Cut out damaged area and form neat hole with rectangular sides. Replace with matching gypsum board.
  - Fixing: Use methods to suit type of dry lining, ensuring full support to all edges of existing and new gypsum board.
  - Finishing: Fill joints, tape and apply jointing compound to give a flush, smooth surface suitable for redecoration.

L
Windows/Doors/Stairs

L10
Windows/ Rooflights/ Screens/ Louvres

L10 Windows/ Rooflights/ Screens/ Louvres

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

120 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items: all new windows abnd doors .

PRODUCTS

330A ALUMINIUM WINDOWS AND DOORS

This proposal document has been prepared by Kevin Cole of Smart Architectural Aluminium for Project 49-59, Old Street, Islington. EC1V 9HX Reference KJC00142.

PROJECT
Smarts Reference: KJC00142
Project: 49-59, Old Street, Islington. EC1V 9HX
Revision: 24/07/2017

ARCHITECT
Company: Islington Council – Fiona Monkman

MAIN CONTRACTOR
Company: TBA

NOMINATED SMARTS FABRICATOR
Company: TBA

SMARTS ARCHITECTURAL ADVISOR CONTACT DETAILS
Name: Kevin Cole
Address: Smart Systems Limited
BS49 4QN
United Kingdom
Tel: 01934 876100
Fax: 01934 833030
Email: kcole@smartsystems.co.uk

NBS SPECIFICATION
Smart Systems Ltd
Arnolds Way
Yatton
North Somerset
BS49 4QN
Tel: 01934 876 100
Fax: 01934 835 169

L10 WINDOWS/ROOFLIGHTS/SCREENS/LOUVRES
ALUMINIUM WINDOWS

Aluminium profiles are manufactured from grade 6060/6063 T5/T6. Size tolerances are in accordance with DIN and BS standards.
Co-extruded profiles and EPDM seals are tested in accordance with DIN 7863, TV 110, NFP 85301, and ISO 3994. Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre, fitted between aluminium extrusions.

Profiles to be Electrostatic powder coat finished in a RAL colour TBC to APA Qualicoat guidelines with of BI-colour I.E. different internal and external colours -TBC.

ALITHERM HERITAGE WINDOWS
Alitherm Heritage is designed for use as fixed lights and open-out and open-in windows, internally and externally beaded, for domestic and light commercial applications. All opening vents are hung on concealed stainless steel variable angle friction stays and fitted with cockspur/espagnolette locking mechanisms. Open in utilizes Tilt-Turn hardware or butt

hinges.

Internal beads and gaskets will accommodate 28mm units.

Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre, fitted between aluminium extrusions. All profiles are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9:2001.

Manufacturer: Smart Systems Ltd. Arnolds Way, Yatton, North Somerset BS49 4QN.
Tel: 01934 876100.
Fax: 01934 835169.
Email: sales@smartsystems.co.uk
Web: www.smartsystems.co.uk

Product reference: Alitherm Heritage Windows

Materials: All profiles are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9: 2001. Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre sections capable of withstanding temperatures up to 200°C for over painting.

Performance: Product tested to BS6375: Part 1.

Air Permeability Class 4 600Pa.

Watertightness Class 9A 600Pa

Wind resistance Class AE 2400Pa

Parameters: Windows are manufactured to the required design to within the following maximum limitations (subject to location).
Side opening – Max width 700mm.+
Top Opening – Max height 1300mm.
+Weight limit dependent upon hinge selection.
Subject to agreement it is possible to exceed these limitations depending on design criteria, contact Smart Systems Technical Department for details.
Exposure : Design Wind Pressure Proposed 1071Pa

Thermal: All windows, in conjunction with a suitable glazing specification, to achieve an average project U-value to meet the current requirements of the approved Building Regulation Document L1/L2 for England and Wales. Target window U-value 1.5W/m2K.

Construction: All windows shall be manufactured, installed and glazed in strict accordance with Smart Systems instructions and guidelines as set down in the appropriate technical literature, details and specifications. Depth of outer frame sections shall be 47mm stepped internally to 52mm incorporating two 22mm polyamide thermal break sections within the window profiles. All outer frame and vent members to be 45° mitred corner construction, reinforced by means of extruded aluminium cleats and stainless steel corner braces. All corner joints to be secured by gluing & crimping. All mullions and transoms are to be cut/shaped and secured using either stainless steel screws driven into integral screw ports within the sections or special T cleats. All joints are to be sealed during construction using suitable 'small gap' sealant. The windows to incorporate an internal pressure equalized drainage system with concealed down drainage through a sub sill or frontal drainage with snap on cover caps.

Finish as Delivered: Internal Colour: TBA External Colour: TBA

Glazing details: Glazing shall be site glazed as section L40. Windows shall be double glazed and internally beaded. Unit thickness - Overall thickness of 28mm. All windows to be dry glazed using shuffle extruded aluminium beads and EPDM extruded gaskets. With proprietary glazing tape or EPDM gaskets.

Ironmongery / Accessories: (Additional)
All opening vents are hung on concealed stainless steel variable angle friction stays and fitted with cockspur/espagnolette locking mechanisms.
Opening windows with raked heads to be hung on butt hinges with variable angle friction restrictors.

Fixing : All fixings to be in strict accordance with the relevant British Standards, including BS 6262 and BS8213 Part 4 : 2007. Ensure the window is retained securely within the opening without incurring any damage or distortion to the window frame. Generally, fixings to be positioned 150mm from each corner and 100mm from each mullion/transom and at centres not exceeding 600mm. Fixing lugs/straps only to be used where they can be suitably concealed to approval. All fixing of windows to the supporting structure to be achieved using a suitable lug and/or frame anchor fixing method capable of accommodating all applicable loads, deflection, tolerances and expansion expected on site **or direct fix through frame to avoid disruption to internal finishes.**
Details of the proposed fixing method shall be submitted to the project architect for approval prior to installation.

The DOW CORNING® 797 WEATHERPROOFING SEALANT (colour to be confirmed) external low modulus silicon sealant to be neatly tooled against a closed-cell polyethylene backing rod placed between window frame and structure.
Use backer rod that is wider than the gap, so it can be pressed firmly into the gap and create a tight seal.

For the internal frame sealant apply an emulsion based sealant/acrylic decorators caulk i.e. Polycell Trade Polyfilla Decorators Caulk and then overpaint to all reveals & heads of windows as per spec M60/117. Do not use silicon.

Allow for internal making good of internal plastering to FULL HEIGHT OF ALL WINDOW REVEALS and HEADS as the existing steel windows are likely to have been fitted with steel lugs which are buried behind plaster.

Shop Drawings
Detailed shop drawings are to be produced for submission to and comment by CA prior to manufacturer.

Site Dimensions
Contractor to take full set of site dimensions and take responsibility to ensure the correct size of windows are delivered to site

L20 DOORS/SHUTTERS/HATCHES
280 DOORS
Smart Systems are a major supplier to the window and door fabrication industry and are active members of The Council for Aluminium in Building (CAB) and members of CWCT. Smart Systems aluminium and composite profile product range includes, doors, windows, glazed screens, curtain walling, roof glazing and conservatories, for both the commercial and domestic markets. An extensive range of ancillary items such as balustrades is available to complement each product range.
Door and door frames are manufactured from grade 6060/6063 T5/T6. Size tolerances are in accordance with DIN and BS standards.
Co-extruded profiles and EPDM seals are tested in accordance with DIN 7863, TV 110, NFP 85301, and ISO 3994. Thermal breaks are formed with polyamide strips PA 6.6 25

reinforced with glass fibre, fitted between aluminium extrusions.
Profiles can be Electrostatic powder coat finished in a range of RAL colours to APA Qualicoat guidelines with the option of BI-colour, different internal and external colours.
Other finishes include anodised in satin with EWAA/EURAS-Qualanod quality label.
Powder-coated woodstructure finishes are available on request.

SMARTWALL DOOR
Security rated to LPS1175 Level 2, EN1627 Level 3. And PAS 24-2012
Designed for use as thermally broken open out or open in, single or double doors, internally and external beaded, with sidelight options, for domestic and light / medium / heavy commercial applications.
Door and door frames are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9: 2001. Profiles can be Electrostatic powder coat finished in a range of RAL colours to APA Qualicoat guidelines. Other finishes include anodised with EWAA/EURAS-Qualanod quality label. All doors are hung on aluminium butt / face hinges or transom / floor closer and fitted with hook bolt or roller latch locking mechanisms.
Centre pivot doors are available with an anti-finger trap device.
Glazing conforms to the requirements of BS 6262 and Part 'N' of the Building Regulations for both thickness and type. Weatherseals are EPDM set in undercut channels.
Product tested to BS6375: Part 1. Weathertightness classification:

Air Permeability – Class 2 300Pa (Door) & Class 4 600Pa (Screen)

Water Tightness – Class 7A 150pa. (Door) & Class 9A 600Pa (Screen).

Wind resistance – Class A5 2000Pa (Door) & Class A4 100Pa (Screen)

Double glazing profiles accommodate 23mm to 32mm units.
Doors are manufactured according to customer requirements from a range of standard profiles and are designed to incorporate a range of options, therefore it is advisable to contact Smart Systems technical design department early in the design process.
Doors are manufactured to the required design to within the following maximum limitations (subject to location).
Single door – Max sash width 1150mm. Max height 2500mm.
Double door – Max width 2415mm (overall frame). Max height 2500mm.
Subject to agreement it is possible to exceed these limitations depending on design criteria, contact Smart Systems Technical Department for details.
Consult Smart Systems Ltd technical literature for details. Smart Systems Ltd can also provide design and specification guidance and it is recommended that they are consulted early in the design process.

Manufacturer : Smart Systems Ltd., North End Road, Yatton, North Somerset. BS49 4AW. Tel: 01934 876100. Fax: 01934 835169.
Email: sales@smartsystems.co.uk Web: www.smartsystems.co.uk

Product reference: Smart Wall Door.

Materials: All profiles are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9: 2001.

Exposure: Design Wind Pressure Proposed 1071Pa

Thermal: All doors, in conjunction with a suitable glazing specification, to achieve an average project U-value to meet the current requirements of the approved Building Regulation Document L1/L2 for England and Wales. Target window U-value 1.5W/m2K

Structure: All structural profiles to be designed so as the maximum deflection of any

glass edge into a framing member under wind load shall not exceed L/175 of its span with no evidence of any permanent deformation once the load has been removed. All horizontal framing members to restrict dead load deflection to L/400, up to a maximum of 3mm. Construction: All doorsets shall be manufactured, installed and glazed in strict accordance with Smart Systems instructions and guidelines as set down in the appropriate technical literature, details and specifications. Smart Wall outer frame sections shall be 53mm width with a depth of 100mm. Door profiles are square cut and a suitable small gap sealer is applied to abutments and joined using mechanical corner cleats. Drip bar shall be used to all doors. Fixed framing thermally broken can be Pocket or Bead glazed. Main framing profiles are square cut. A suitable small gap sealer is applied to abutments prior to jointing with self-tapping screws driven into integral screw ports within the sections. Door profiles are square cut and joined using mechanical corner cleats with a suitable small gap sealer applied to abutments.

Finish as Delivered: Internal Colour: TBA External Colour: TBA

Glazing details: All doors to be dry glazed using 'snap in' or shuffle extruded aluminium beads and EPDM extruded gaskets.

Glazing details: Glazing shall be site glazed as section L40. Windows shall be double glazed and internally beaded. Unit thickness - Overall thickness of 24mm. All windows to be dry glazed using shuffle extruded aluminium beads and EPDM extruded gaskets. With proprietary glazing tape or EPDM gaskets.

Windows to be factory assembled with fitted glazing beads and delivered to site unglazed. On-site glazing with Argon Gas filled sealed units with grey or black Warmedge spacer and low-e coating to comply with current building regulations.

Non-critical locations:	4mm float outer, 4mm float inner.
Critical locations:	4mm toughened outer, 4mm toughened inner

Ironmongery / Accessories: To suit specific contract.

Fixing: All fixings to be in strict accordance with the relevant British Standards, including BS 6262 and BS8213 Part 4 : 2007, and shall ensure the door frame is retained securely within the opening without incurring any damage or distortion to the frame. Generally, fixings to be positioned 150mm from each corner and each mullion/transom and at centres not exceeding 600mm. Fixing lugs/straps only to be used where they can be suitably concealed to approval. All Fixing of door frames to the supporting structure to be achieved using a suitable lug and/or frame anchor fixing method capable of accommodating all applicable loads, deflection, tolerances and expansion expected on site. Details of the proposed fixing method shall be submitted to the project engineer for approval prior to installation.

Shop Drawings
Detailed shop drawings are to be produced for submission to and comment by CA prior to manufacturer.

Site Dimensions
Contractor to take full set of site dimensions and take responsibility to ensure the correct size of windows are delivered to site.

The DOW CORNING® 797 WEATHERPROOFING SEALANT (colour to be confirmed) external low modulus silicon sealant to be neatly tooled against a closed-cell polyethylene backing rod placed between window frame and structure.

Use backer rod that is wider than the gap, so it can be pressed firmly into the gap and create a tight seal.

For the internal frame sealant apply an emulsion based sealant/acrylic decorators caulk i.e. Polycell Trade Polyfilla Decorators Caulk and then overpaint to all reveals & heads of windows as per spec M60/117. Do not use silicon.

Allow for internal making good of internal plastering to FULL HEIGHT OF ALL WINDOW REVEALS and HEADS as the existing steel windows are likely to have been fitted with steel lugs which are buried behind plaster.

APPENDIX
SMART ACHITECTURAL ALUMINIUM

Smart Architectural Aluminium has grown over the past 40 years to become one of the UK's leading suppliers of aluminium glazing systems and bespoke aluminium extrusions. The company has built a reputation for product innovation, design expertise, technical competence and quality.
Located in Yatton, North Somerset, at their impressive 30,000sq/m purpose built building housing their offices, extrusion presses, powder coating paint line and distribution facilities, the company has an annual turnover of over £65million and employs 280 people.

Smart Systems Ltd
Arnolds Way
Yatton
North Somerset
BS49 4QN
Tel: 01934 876 100
Fax: 01934 835 169
Email: sales@smartsystems.co.uk

ENVIRONMENTAL POLICY
Minimising environmental impact has always been at the heart of development and Smart is leading the way with the greenest manufacturing operation of its kind in the country.
Smart Architectural Aluminium is fully committed to working towards a greener environment and so every aspect of our activities, from the procurement of raw materials to the delivery of finished goods, is conducted in accordance with sound environmental practices and in line with UK and EU environmental regulations and legislation. Our aim is to achieve a completely carbon neutral production operation, and we are working towards this through a combination of continued investment in efficient machinery; the operation of effective environmental management systems; the use of waste capture and recycling techniques and the introduction of sustainable power generation from natural resources.
To help realise this goal, we are also continuing to build a high level of understanding of the key environmental issues amongst our staff, customers, suppliers and stakeholders – recognising our responsibilities to deliver long term, sustainable benefits within our business and the local community and striving to continually improve the environmental impact of our total global activities. As a responsible business, we formally publish an annual environmental statement as a commitment by both our management and staff to minimise the impact of our total operations on the environment.
Working Towards a Carbon Neutral Production
It is our aim to achieve 100% carbon neutral production operation
Sustainable Power Generation
As part of our aim we are committed to generating 100% of our power requirements from sustainable natural resources
Smart have attained the following accreditations:

IS0 9001 Quality Management Systems
ISO 14001 Environmental Management Systems
ISO 18001 Occupational Health and Safety

ALUMINIUM EXTRUSION

We currently operate two modern extrusion presses:
" 1 x 8 inch, 2,200 tonne extrusion press
" 1 x 8 inch 2,500 tonne extrusion press
These combine to deliver a total annual extrusion capacity of over 20,000 tonnes.
SUSTAINABLE BILLET FROM RESPONSIBLE SOURCES

To ensure that we consistently deliver aluminium extrusions to the highest possible quality standards, we source our aluminium billet only from three of the world's leading suppliers, Emirates Aluminium, Dubai Aluminium and Hydro Aluminium. Sourcing from these responsible and highly reputable companies guarantees continuity of quality and performance for each and every one of our extruded aluminium profiles.

EXTRSION QUALITY STANDARDS

Our extrusions fully conform to all the relevant British Standards. Covering the mechanical property limits, tolerances and temper designations of aluminium extrusions as well as the testing requirements, the specific British Standards include the following:
BS EN 515:1993 Aluminium and aluminium alloys. Wrought products. Temper designations
BS EN 573-3:2009 Aluminium and aluminium alloys. Chemical composition and form of wrought products.
BS EN 755-1:2008 Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Technical conditions for inspection and delivery
BS EN 755-2:2008 Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Mechanical properties.
BS EN 755-7:2008 Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Seamless tubes, tolerances on dimensions and form.
BS EN 755-8:2008 Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles. Porthole tubes, tolerances on dimensions and form
BS EN 12020-2:2008 Aluminium and aluminium alloys Extruded precision profiles in alloys EN AW 6060 and EN AW 6063
BS EN 10204:2004 Metallic products Types of inspection documents
BS EN ISO 6892-1 Metallic materials. Tensile testing
BS EN ISO 6892-2 Metallic materials. Tensile testing
BS 1139-1.2:1990 Metal scaffolding

QUALITY ASSURANCE

Our market-leading, in-house tensile testing facility is able to meet customers' specific requirements and to test to whatever standards are requested. If required, we are also able to offer external, independent testing by Zurich Laboratory Services, a UKAS registered testing facility.
POLYESTER POWDER COATING

Smart Architectural Aluminium is committed to the highest standards of product quality and workmanship. That is why we operate a stringent policy of Quality Inspections and Controls to ensure that our powder coated products comply with all the requirements of the following British and European and Qualicoat Standards:

POLYESTER POWDER COATING QUILITY STANDARDS

BS 6496:1984: 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
EN 12206-1:2004: Paints and varnishes. Coating of aluminium and aluminium alloys for architectural purposes. Coatings prepared from coating powder
EN ISO 2409:2013: Paints and Varnishes, Cross Cut Test.
QUALICOAT: Qualicoat is a quality label organisation committed to maintaining and promoting the quality of coating on aluminium and its alloys for architectural applications.
(13th EDITION 1ST JANUARY 2013)
SMART ACHITECTUAL ALUMINIUM QUALITY INSPECTIONS

Our Quality Inspectors carry out the following examinations in line with the criteria in these standards:
QUALICOAT 2.1: Visual inspection at 3 metres for internal and 5 metres for external extrusions
(Our Inspectors visually inspect at 1 metre as standard)
QUALICOAT 2.2: Gloss level check to within 5% +/- of the manufacturers stated level. [EN ISO 2813]
QUALICOAT 2.4.1: Cross Hatch cuts are made at 2mm spacing with one being at 90° to the other cut, tape is then applied, left for 2 minutes and removed to check for Adhesion of paint. [EN ISO 2409 2013]
QUALICOAT 2.3 Thickness checks to see that the material is coated with at least 60 microns of powder, average. [EN ISO 2360]
QUALICOAT 2.6 Cupping test is carried out to check for adhesion with the substrate [EN ISO 1520]
QUALICOAT 2.8 Impact test with an energy of 2.5Nm to ensure that the coating adheres to the substrate [EN ISO 6272 / ASTM D2794],
QUALICOAT 2.7 Bend test on a 5mm Mandrel to ensure adhesion after bending [EN ISO 1519],
QUALICOAT 2.11 Machu test (Accelerated corrosion test) in a solution made up of Sodium Chloride, Acetic Acid and Hydrogen Peroxide at 37°C. Duration 48 hours
QUALICOAT 2.14 Polymerisation test (Wipe with MEK for 30 seconds)
QUALICOAT 2.16 Resistance to boiling water in a pressure cooker. Duration 1 hour 100Kpa
QUALICOAT 2.18 Sawing and drilling to ensure that there is no flaking after cutting (using sharp tools)
Curing Oven temperatures are checked and recorded on a daily basis

External checks carried out by the powder suppliers and our Laboratory in Belgium on random samples of extrusion:
ISO9227: Acetic Acid Salt Spray Test to
EN ISO 3231: Resistance to Humid atmospheres containing Sulphur Dioxide
EN ISO 11341: Accelerated weathering test
EN ISO 2810: Natural weathering test (Florida Test) (Carried out on Powder type)
EN ISO 12206-1: Resistance to mortar (Carried out on Powder type)
EN ISO 6270-2: Constant Climate Condensation Water test to

It is the company's commitment to continually monitor product quality and comply with the latest requirements of British and European Standards.

Glazing details: Glazing shall be site glazed as section L40. Windows shall be double glazed and internally beaded. Unit thickness - Overall thickness of 24mm. All windows to be dry glazed using shuffle extruded aluminium beads and EPDM extruded gaskets. With proprietary glazing tape or EPDM gaskets.

Windows to be factory assembled with fitted glazing beads and delivered to site unglazed. On-site glazing with Argon Gas filled sealed units with grey or black

Warmedge spacer and low-e coating to comply with current building regulations.

Non-critical locations:	4mm float outer, 4mm float inner.
Critical locations:	4mm toughened outer, 4mm toughened inner

EXECUTION

710 PROTECTION OF COMPONENTS

- General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
- Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 PRIMING/ SEALING

- Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

760 REPLACEMENT WINDOW INSTALLATION

- Standard: To BS 8213-4.

765 WINDOW INSTALLATION GENERALLY

- Installation: Into prepared openings.
- Gap between frame edge and surrounding construction:
  - Minimum: 3mm.
  - Maximum: 10mm.
- Distortion: Install windows without twist or diagonal racking.

766 LOCATION OF OPENABLE WINDOWS IN NATURALLY VENTILATED BUILDINGS

- Location: Over 10 m from sources of external pollution.

782 FIXING OF ALUMINIUM FRAMES

- Standard: As section Z20.
- Fasteners: Fixings to be lugs or a direct fix - contractor to supply and fix windows.
  If direct fix is possible contractor to supply suitable fixing screws through frame and into the structure.
  If fixing lugs, contractor to supply and fix. .
  - Spacing: When not predrilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

810 SEALANT JOINTS

- Sealant:
  - Manufacturer: Contractor's choice.
    Product reference: low modulus silicon sealant .
  - Colour: TBC.
  - Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 IRONMONGERY

- Fixing: In accordance with any third party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
- Checking/ Adjusting/ Lubricating: Carry out at completion and ensure correct functioning.

L20
Doors/ shutters/ hatches

L20 Doors/ shutters/ hatches

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

112 TIMBER PROCUREMENT

- Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations in accordance with:
  - The laws governing forest management in the producer country or countries.
  - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
  - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
  - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
- Certification scheme: Forest Stewardship Council (FSA).
  - Other evidence: None.

115 FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

- Door products: As defined in BS EN 12519.
- Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ door assembly/ doorset supplied will comply with the specified requirements for fire or smoke resistance if tested to BS 476-22, BS EN 1634-1 or BS EN 1634-3. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
- Components and assemblies will be marked to the relevant product standard and/ or third party certification rating.

120 NON FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

- Provide certified evidence, in the form of a product conformity certificate or engineering assessment, that each door/ doorset/ assembly supplied will comply with the specified requirements to BS EN 14351-1. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
- Components and assemblies will be marked to the relevant product standard and/ or third party certification rating.

150 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items: **All doors that are to be fitted into existing openings**.

PRODUCTS

410A WOODEN DOOR SETS

Drawing reference(s): Refer to plans, door elevations and Door Schedule.
Supplied by: Aspex UK, Unit E, Winchester Avenue, Blaby, Leicester LE8 4GZ. Contact: Simon Broadley (tel: 07464-546677 or email simon@aspex-uk.co.uk).
Sustainability: All timber products certified FSC full chain of custody.
Fire performance: See Door Schedule. Certification: BM-TRADA.
Smoke control: Required if fire-rated.
Mechanical durability: Successfully tested to BS EN 1192 Class 4 severe duty.
Door leaf:
Facings: Prepared for paint.
Lippings: Hardwood to all edges.
Finish as delivered: Primed for painting on site by others.
Paint Finish: As spec M60/121
Vision panel, if required:
Aperture size: See Door Schedule.
Beading: Hardwood bolection bead, pinned, finish to match door leaf.
Glass: Clear to suit fire performance.
Frame: Aspex Frame Type Two, 44mm section including 12mm rebate.
Material: Sustainable softwood/hardwood to suit fire performance.
Class (to BS EN 942): J30.
Finish as delivered: Primed for painting on site by others.
Moisture content on delivery: 10 to 12%.
Ironmongery: As per Aspex UK schedule.
Morticed items: Hinges, locks and strike plates, factory morticed and supplied by doorset manufacturer.
Fire seals, if required: Standard type for this doorset, with intumescent seals rebated into frame.

480 DOORSETS TO EXTERNAL DOORS D2, D3, D4, D5.

- Manufacturer: Assa Abloy.
  - Product reference:
    Powershield Security Doorsets
    Donard
    Security Class 2

    Application:
    Powershield Donard offers enhanced security featuring upgraded 2mm thick leaf skins and door frame.
    The Powershield Donard door has the capability to provide protection against persistent or organised burglar and vandal attack. This security is provided while the product still retains the aesthetic and practical benefits of a steel door and frame.
    Typical applications for this type of door include
    Banks
    Shopping centres
    High value warehousing
    Pharmaceutical premises
    The doorset is configurable with a wide range of options and features, providing a high quality door to meet a wide range of needs.

    Specification:
    Single and double leaf and a half configurations
    Inward and outward opening
    Overhead panels and side panels
    Project specific frame profiles with a variety frame fixing options
    Full range of ASSA ABLOY hardware options
    Available with a range of Vision Panels including single, double and triple glazed with a variety of window beading styles
    Upgradable for fire rating
    Upgradable for increased sound reduction
    Galvanised steel construction with an optional upgrade to stainless steel
    Powershield Donard doorsets are available in a wide range of customisable options. Please refer to the Technical Brochure for more information, or contact us on 0044 28 9266 2200.

    Finish:
    Powershield Security Doors to be powder coated to a RAL colour TBC

    Technical Data:
    Typical insulation value: Preexpanded, small cell honeycomb core 3.7 4.6W/ m2k depending on hardware and glazing options
    Typical insulation value: High density mineral wool core 3.1 4.8 W/m2k depending on hardware and glazing options
    Stainless steel dog bolt hinges to increase resistance to attack
    Standard Leaf Construction

Two skins of 2mm thick Zintec steel
44mm thick door leaf with no face seams
The core is insulated and sound deadened with preexpanded,
small cell honeycomb core material and
laminated under heat and pressure to the face skins
Doors are complete with lock and hardware reinforcements engineered to give high performance throughout
the life of the door
Door edges are bevelled for ease of operation and close fit
Doors are morticed, reinforced, drilled and tapped for three templated hinges
An integral astragal is folded into the leading edge of one leaf to increase security
Standard Frame Construction
Powershield bespoke frame adjuster system which provides enhanced security, ease of installation and a
durable and permanent fixing.
Manufactured from 2mm (14 ga.) thick steel Zintec
Supplied in either knock down for easy site assembly or fully welded smooth finish
Frames are morticed, reinforced, drilled and tapped for hinges and strikes
Frames are provided with a minimum of four fixings per jamb. Fixing holes are covered with either polymer
cover caps or metal flush discs

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- Door leaf: AS Above.
  - Finish as delivered: Polyester powdercoated.
- Frame and architraves: Polyester powdercoated.
  - Finish as delivered: Polyester powdercoated.
- Glazing/ Infill details: Not applicable.
  - Manifestation: Not applicable.
  - Beading: Not required.
- Ironmongery: PC sum- TBC.
- Perimeter seals: EPDM weatherseal.
- Thermal performance (U-value maximum): Manufacturer's standard.
- Other requirements: NONE.
- Fixing: Built in with cramps.

480A RISERS-INTERIOR PAINTED STEEL DOORSETS-NOVISTA RISER 4-SIDED HIDDEN FRAME -

- Drawing References: Refer to plans, door elevations and door schedule
- Manufacturer: Aspex UK, Unit E, Wincester Avenue, Blaby, Leicester LE8 4GZ. Contact Simon Broadley (tel 07464-546677 or email simon@sapex-uk.co.uk.
  - Product reference: NOVISTA RISER 4-SIDED HIDDEN FRAME.
- Fire Performance: See Door Schedule . Certification: BM-TRADA
- Smoke control: Required if fire-rated.
- Mechanical durability:Sucessfully tested to BS EN 1192 Class 4 severe duty
- Steel door leaf:
- Facings: Prepared for paint . Finish coats undertaken by main contractor.to spec M60/118
- Frame: 4-sided Novista Steel Riser hidden frames.
- Ironmongery: As schedule
  Morticed items: Pivot sets, locks and flush bolts supplied and fixed by doorsets manufacturer
  Fire seals, if required: Standards type for this doorset, with intumescent seals rebated into frame.

491 AUTOMATIC FRONT ENTRANCE DOOR

1 OFF TORMAX iMotion 1301 SWING DOOR UNIT,

1 No ARM, 2No 100 X 100 STAINLESS STEEL PUSH BUTTONS, 1 No EYETECH ON DOOR SAFETY SENSORS (Closing side safety),1 No CABLE
LOOP SET up as Low energy operator. Activation in and out by means of 100mm X 100mm stainless steel push buttons (surface mounted) Unless cable ways provided by others the cable will be fitted in surface mounted trunking.
1 OFF PRESENCE SENSOR CLOSING SIDE
1 10mm TOUGHENED DOOR (SWING)
1 OFF 10mm TOUGHENED SCREEN
1 OFF FINGERGUARD FOR TOUGHENED DOOR
1 OFF HANDLES- 600 CTRS STRAIGHT ST STEEL PER PAIR
1 OFF LOCK
1 OFF ST STEEL COVERS - DOOR ONLY
1 OFF ST STEEL COVERS DOOR ONLY
1 OFF SLIMFRAME ELECTRIC LOCK (SINGLE DOOR)
1 OFF Miscellaneous item(s) as described above
1 NOTE : To allow the automatic door to open in the event of a fire alarm a normally open voltage free pair of contacts is required.

1 OFF TORMAX iMotion 1301 SWING DOOR UNIT,1 No ARM, 2No 100 X 100 STAINLESS STEEL PUSH BUTTONS, 1 No EYETECH ON DOOR SAFETY SENSORS (Closing side safety),1 No CABLE
LOOP SET up as Low energy operator. Activation in and out by means of 100mm X 100mm stainless steel push buttons (surface mounted) Unless cable ways provided by others the cable will be fitted in surface mounted trunking.

The TORMAX iMotion 1301 operator is suitable for operating single leaf swing door up to 240Kg at 1.0m wide and will provide continuous operation under the most arduous conditions. The operator is electro- mechanical and incorporates the microprocessor controls within the casing, where opening and closing speeds, damping at each end of the travel are all fully adjustable. A 150mm transom is required to which this unit will fix. The Transom must be suitable to provide structural fixing of the unit.

Electromechanical swing door drive with wear-free synchronous motor technology and processor control system the iMotion1301 unit uses a frequency controlled drive system (Asynchronous 48 Volt A.C. motor with frequency converter) combined with highly intelligent MCU32 microprocessor electronics which is the most advanced door automation available in the world.
The system is fully programmable using the 7 segment display panel which permits custom design the operation of each system according to the customer's specific requirements on site.
In the event of power failure, acting as power-free door closer or door opener with motion control.

The doors open by electric motor power, transmitted via a drive arm connected to the door and close by means of spring force. The drive arm is included but needs to be specified to suit the lintel construction. The standard control switch provides for three functions OFF/AUTO/OPEN, which is fitted to the endplate of the master unit. This switch can be fitted remote at an extra cost.

The overall size of the TORMAX iMotion1301 operator is 100high x 135 deep x 640 mm long. A matching extruded aluminium cover is included finished as standard in silver anodised.
Warning - It should be noted that the performance of Automatic Swing Doors will be affected by high wind conditions, where the topography for the location must be checked

by our client. Wind speed charts giving maximum loadings are available for each TORMAX Product. Should the product installed be unsuitable due to climatic conditions our company can accept no responsibility. For further advised please contact you Area Sales Manager

The user friendly TORMAX CONTROL PANEL allows you to enter the desired functions by pressing one of the touch sensitive buttons. The illuminated indication on the control panel shows the chosen operating mode which allows the following functions.

OFF/CLOSED Doors are closed but not locked unless fitted with the TORMAX programmable electric lock (available as an extra over) which is controlled by the microprocessor and programmed to suit the client's requirements.

AUTOMATIC Doors automatically open from both directions and incorporates as standard, a highly sensitive automatic reverse safety feature for closing directions.

OPEN The doors remain in the fully open position.

SAFETY - CONNECTION TO FIRE ALARM The microprocessor control, as an option, can be linked to a fire alarm system by a pair of normally open voltage free contacts to automatically open the doors should the alarm sound. These contacts must be provided by others terminated in a relay box at transom level of the door entrance. Each door requires an independent signal.

ELECTRICAL CONNECTION A 240v 13amp switched fused spur connector unit with flex outlet is to be provided by others adjacent to the operator at Transom level (within 1.5m). This fused spur must be protected by a residual current circuit breaker at source conforming to BS4293:1983. The spur should be readily accessible as detailed within the Health and Safety at Work Regulations

SIGNAGE to comply with BS 7036 will be fitted.
It is recommended to comply with BS 7036 that barriers and finger guards are fitted to the above automatic doors. These products can be supplied direct by the client or are available as an optional extra from TORMAX UK Limited.

1 OFF PRESENCE SENSOR CLOSING SIDE

The presence sensor comprises of one unit installed to the top of the door closing face only. This provides additional safety during the door closing cycle over and above the requirements stated in BS7036 and BS EN 16005.

A cable loop carries the wiring through the door hinge area. Surface wiring may be applied to solid doors.

Should a body or object be present within the space into which the door is designed to swing it will inhibit an open door from closing.

Presence detectors are required for the installation to comply with BS7036:1996 and the directives specified by the Health ahd Safety Executive.

1 10mm TOUGHENED DOOR (SLIDING OR SWING)

The door up to 1500mm wide x 2300mm high has polished edges and 73mm top and bottom clamp rails. The glass is 10mm clear toughened. A frame will be supplied with swing door if required.

1 OFF 10mm TOUGHENED SCREEN

The screen up to 1000mm wide x 2300mm high has polished edges and 73mm top and bottom rails.

1 OFF FINGERGUARD FOR TOUGHENED DOORS

consists of 2 off 12mm channels applied to glass with rubber insert to give 25mm finger protection. 1 OFF HANDLES- 600 CTRS STRAIGHT ST STEEL PER PAIR
1 OFF LOCK

1 OFF ST STEEL COVERS - DOOR ONLY

1 OFF ST STEEL COVERS DOOR ONLY

1 OFF SLIMFRAME ELECTRIC LOCK (SINGLE DOOR)

The slimframe electric lock is designed to be concealled in Architectural aluminium transoms. The unit consists of a powerful electro magnet mounted in the door frame which when activated attracts a moveable steel armature plate rim fixed in the top of rail of the door.

The armature and shoe has a groove that engages in a deadlock condition with the magnet, thus not only ensuring a strong magnetic shear but also a mechanical one.

A door position sensor detects automatically the armature position to ensure positive locking only when the door is closed.

The unit is suitable for single leaf swing doors. A surface applied model is available for existing swing doors.

Tormax to also supply both brushed stainless steel side screens to include and accommodate the brushed ss letter box and also an opening in the ss side panel for the Chubb Security access panel .
The edges of the stainless steel to be sealed with Dow Corning sealant as NBSC section Z22/310

Tormax to supply stainless steel letterbox to match existing, set in brushed stainless steel side panels

1 OFF Miscellaneous item(s) as described above

1 NOTE : To allow the automatic door to open in the event of a fire alarm a normally open voltage free pair of contacts is required.

These contacts to terminate in a relay box are to be installed by others adjacent to the transom of the automatic door unit.

NOTE:

The automatic door operator requires a power source to be supplied and installed adjacent to the transom of the automatic door unit by others. This power supply must be a 240V single phase switch fused spur connector unit which is protected by a residual circuit breaker at source. The RCD device needs to be positioned to enable the doors to be easily switched off for resetting, maintenance or servicing purposes, approximately 2100mm from finished floor level.

NOTE:

The additional cost for remote fixing of the automatic door control panel will be 90.00 pounds sterling (144.00 Euros) for each automatic door operator.

630 HATCHES **FIRE**-RATED TILED WALL PANELS TO SERVICE VOIDS

- Manufacturer: Jakdor.
  - Product reference: Fire Rated Tile Wall Access Panel ref: **JAK.CTD/FR60**.
- Performance: Fire resistance: 60 minutes.
- Operation: Three-way locking system..
- Other requirements: Mastic seal gap around new hatch and NEW opening with intumescent sealent by Arbosil 1071
- Size (Made to Order) 403 (h) x 306 (w) mm to match tile layout .

631 HATCHES NON-FIRE-RATED WALL PANELS TO WC/WASHROOMS SERVICE VOID

- Manufacturer: Jakdor.
  - Product reference: Fire Rated Tile Wall Access Panel ref: **JAK.CTD**.
- Performance: NONE.
- Operation: Three-way locking system..
- Other requirements: Seal gap around new hatch and existing opening with mastic sealant - contractor's choice
  Size: (Made to Order) 403 (h) x 306 (w) mm to match tile layout .

632 HATCHES **FIRE**-RATED WALL PANELS TO SERVICE VOIDS

- Manufacturer: Jakdor.
  - Product reference: Fire Rated Wall Access Panel ref: **JAK.MD.PF/FR60**.
- Performance: Fire resistance: 60 minutes.
- Operation: Three-way locking system..
- Other requirements: Mastic seal gap around new hatch and existing opening with intumescent sealent by Arbosil 1071
- Size: (Made to Order) 403 (h) x 306 (w) mm to match tile layout .

642 DRY RISER CUPBOARD DOORS
Manufacturer: **Fire Protection Online**

Web:
http://www.fireprotectiononline.co.uk/stainless-steel-architrave-and-door-outlet-cabinet.html?gclid=CjwKCAjw_8jNBRB-EiwA96Yp1nVW4cFNpOpD5gWN1m55_KenrRpANNrL5OYOxDctsDjCX8oiA2Ow7xoCWcIQAvD_BwE

Tel: 0800 321 3154.

Stainless Steel Architrave & Door Outlet Cabinet
Model number: **E024SS**

The stainless steel architrave & door outlet cabinet comes with a Yale slam lock and 6mm Georgian wired glass.
Technical Specification
"Made from 16swg Zintec Steel
"30mm Architrave all round
"6mm Georgian wired glass
"Yale Slam lock
"Stainless Steel piano hinge
"Measures 630mm high x 460mm wide x 80mm deep

Fixing into existing opening:
" Manufacturer:
Adshead Ratcliffe & Co Ltd.
- Web: www.arbo.co.uk.
- Email: arbo@arbo.co.uk.
- Product reference: Arbosil 1070

EXECUTION

710 PROTECTION OF COMPONENTS
- General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
- Stored components: Stacked on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 PRIMING/ SEALING
- Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

760 BUILDING IN
- General: Not permitted unless indicated on drawings.

790 FIXING OF WOOD FRAMES
- Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

809 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS/ ROLLER SHUTTERS/ CURTAINS
- Installation: By a firm currently registered under a third party accredited fire door installer scheme in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

820 SEALANT JOINTS

- Sealant:
  - Manufacturer:
    Adshead Ratcliffe & Co LtdCompany banner bannerwww.arbo.co.uk
    arbo@arbo.co.uk
    T: +44 (0)1773 826661
    F: +44 (0)1773 821215
    Derby Road,
    Belper,
    Derby. DE56 1WJ .
    Product reference: Arbosil 1070 .
  - Colour: White .
  - Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 FIXING IRONMONGERY GENERALLY

- Fasteners: Supplied by ironmongery manufacturer.
  - Finish/ Corrosion resistance: To match ironmongery.
- Holes for components: No larger than required for satisfactory fit/ operation.
- Adjacent surfaces: Undamaged.
- Moving parts: Adjusted, lubricated and functioning correctly at completion.

840 FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES

- General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
- Holes for through fixings and components: Accurately cut.
  - Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
  - Lock/ Latch cases for fire 60 doors requiring ≥ 60 minutes integrity performance: Coated with intumescent paint or paste before installation.

850 LOCATION OF HINGES

- Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
- Third hinge: Where specified, positioned with centre line 250mm below centre line of top hinge. .
- Hinges for fire resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

L30
Stairs/ ladders/ walkways/ handrails/ balustrades

L30 Stairs/ ladders/ walkways/ handrails/ balustrades

To be read with Preliminaries/ General conditions.

PRELIMINARY INFORMATION/ REQUIREMENTS

107 COMPLETION OF DESIGN TO STAIRCASE TO ROOF

- Requirement: Complete the detailed design to satisfy specified performance criteria and coordinate with the detailed design of related and adjacent work.
  - Standard: Straight stairs and winders to BS 5395-1 and To Building Regulations (Eng) Approved Documents K and M.
- Structural requirements: As section B50.
- Additional requirements:
  " Responsibility and coordination at design interfaces.
  " Location of service openings and plant.
  " Location of movement joints.
  " Arrangements for supervision, checking or tolerance.
  " Reporting of discrepancies between the general arrangement drawings and the requirements of the .
- Design and production information: "
  Fabrication drawings showing, e.g. fixings between units, anchorages to supporting structure, joint details, formation of upstands and lifting details.
  " Method statements and quality plan for transportation and installation. .
- Timing of submissions: 1-WEEK BEFORE END OF COMMENTS .

130 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
  - Designated items: staircase to roof level.

COMPONENTS

270 STAIRS TO ROOF LEVEL see dwg A4.100 FOR DETAILS

- Component material, grade, finish as delivered:
  - Treads: Corroded and chemically blackened steel surface finishes. Staircase to be constructed using a custom made perforated folded steel sheet with a solid steel plate for balustrade, with "Gun Metal" surface finish finished with a 32mm circular section handrai.
    Slip resistance value of integral tread – water wet (minimum): PTV of 49 to BS 7976.
    Slip resistance value of integral nosing – water wet (minimum): PTV of 49 to BS 7976.
    Colour of integral nosing: LRV to BS 8493 contrast of 30 (minimum) with tread. Submit proposals.
  - Risers: Corroded and chemically blackened steel surface finishes. Staircase to be constructed using a custom made perforated folded steel sheet with a solid steel plate for balustrade, with "Gun Metal" surface finish finished with a 32mm circular section handrail .
  - Strings: material as risers.
  - Newels: n/a.
  - Guarding: 1100mm high x 10mm thk. corroded and chemically blackened steel surface balustrade welded to treads and risers to form inner string to each flight.
  - Handrails: as risers.
    Lower handrail: none.
- Workmanship:
  - Joinery: n/a.
  - Metalwork: To section Z11.
- Other requirements: Nosing contrast LRV to BS 8493: 30 (minimum)..

560 PROPRIETARY BALUSTRADES TO ALL ROOFS

- Manufacturer: Q-railing UK
  Unit 707, Centre 500, Lowfield Drive
  Wolstanton / Newcastle-under-Lyme
  Staffordshire ST5 0UU
  United Kingdom
  T. + 44 (0) 800 7814 245 / 01782 711676
  F. + 44 (0) 800 7814 246
  M: + 44 (0) 779 5534 056
  nathan.beard@q-railing.com
  www.q-railing.com.
  - Product reference: Easy glass Pro system with 21.52mm toughened laminated glass and a 48.3mm cap rail to the head of the glass.
- Component material and finish as delivered:
  - Guarding: 21.52mm toughened laminated glass.
  - Handrails: 48.3mm SS cap rail to the head of the glass.
    Lower handrail: N/A.
- Other requirements: none.
- Fixing: Anchor fixed to steelwork as drawing A5.100 & A5.101.
  - Centres: As shown on A5.100 & A5.101 .

INSTALLATION

620 PRIMING/SEALING/PAINTING

- Surfaces inaccessible after assembly/installation: Before fixing components, apply full protective/decorative treatment/coating system.

640 INSTALLATION GENERALLY

- Fasteners and methods of fixing: To section Z20.
- Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
- Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.
- Applied features (finishes, inserts, nosings and the like): Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as applied feature manufacturer's recommendations before application.

COMPLETION

910 INSPECTION

- Timing: Two weeks after request by Contract Administrator.
- Period of notice (minimum): 3 working days.

L40
General glazing

L40 General glazing

To be read with Preliminaries/ General conditions.

GENERAL REQUIREMENTS

130 REMOVAL OF GLASS/ PLASTICS FOR REUSE

- Existing glass/ plastics and glazing compound, beads, etc: Remove carefully, avoiding damage to frame, to leave clean, smooth rebates free from obstructions and debris.
- Deterioration of frame/ surround: Submit report on defects revealed by removal of glazing.
  - Affected areas: Do not reglaze until instructed.
- Reusable materials: Clean glass/ plastics, beads and other components that are to be reused.

150 WORKMANSHIP AND POSITIONING GENERALLY

- Glazing generally: In accordance with BS 6262 series.
- Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
- Dimensional tolerances: Panes/ sheets to be within ± 2 mm of specified dimensions.
- Materials:
  - Compatibility: Glass/ plastics, surround materials, sealers, primers and paints/ clear finishes to be used together to be compatible. Avoid contact between glazing panes/ units and alkaline materials such as cement and lime.
  - Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

152 PREPARATION

- Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing; ensure compliance with any certified installation requirements.

155 GLASS GENERALLY

- Standards: To BS 952 and relevant parts of:
  - BS EN 572 for basic soda lime silicate glass.
  - BS EN 1096 for coated glass.
  - BS EN 1748-1 for borosilicate glass.
  - BS EN 1748-2 for ceramic glass.
  - BS EN 1863 for heat strengthened soda lime silicate glass.
  - BS EN 12150 for thermally toughened soda lime silicate safety glass
  - BS EN 12337 for chemically strengthened soda lime silicate glass.
  - BS EN 13024 for thermally toughened borosilicate safety glass.
  - BS EN ISO 12543 for laminated glass and laminated safety glass.
- Panes/ sheets: Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.
  - Edges: Generally undamaged. Shells and chips not more than 2 mm deep and extending not more than 5 mm across the surface are acceptable if ground out.

180 BEAD FIXING WITH PINS

- Pin spacing: Regular at maximum 150 mm centres, and within 50 mm of each corner.
- Exposed pin heads: Punched just below wood surface.

181 BEAD FIXING WITH SCREWS

- Screw spacing: Regular at maximum 225 mm centres, and within 75 mm of each corner.

TYPES OF GLAZING

370 BEAD FIXED INSULATING GLASS UNITS TO ALL ALITHERM ALUMINIUM WINDOWS AND FRENCH DOORS TO ROOFS

- IGU: As clause 655.
  - Perimeter taping: Do not use.
- Surround/ bead: Aluminium.
  - Preparation: Paint primer.
  - Bead location: Inside.
  - Bead fixing: countersunk brass screws.
- Glazing system: Loadbearing tapes with sealant capping..
- Thermal performance (U-value maximum): Manufacturer's standard.
- Glazing installation:
  - Insulating unit: Located centrally in surround using setting and location blocks.
  - Gaskets and beads: Installed as recommended by frame manufacturer.
    Gasket fit at corners: Tight, without gaps.
  - Drainage and ventilation holes: Unobstructed.

550 GLASS MIRRORS TO ALL WASHROOMS, SHOWER ROOM & WCs

- Standard: To BS EN 1036.
  - BS EN 1036-2 characteristics: None relevant..
- Mirror material: Float glass, silvered to give maximum reflection, free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions.
  - Thickness: 4 mm.
    Size: The postion of the mirrors are shown on drawing A4.200 **Length and Height dimensions are must be taken on site and agreed with architect**.
  - Backing: Lead foil.
  - Edge treatment: Polished arris.
- Background: Plastered masonry and plasterboard and 18mm WBP plywood- see drawing A4.200.
- Fixing method: Double sided self-adhesive pads at 400 mm centres.
- Installation: Fixed accurately and securely without overtightening fasteners, to provide a flat surface giving a distortion free reflection.

630 MANIFESTATION TO ENTRANCE DOORS AND OTHER FULLY GLAZED DOORS

- Design: As drawing A6.100.
  - Art work: Supplied by design.
  - Media: n/a.
- Technique: Acid etched..

655 INSULATED GLASS UNITS (IGUS) TO ALL ALITHERM ALUMINIUM WINDOWS - Glass Type : Vison 1

- Manufacturer:
  GlasTroesch UK Ltd
  Project : Old Street London
  Glass Type : Vison 1
  Product : SilverStar Combi Lowe Zero
  Contact : Mr Paul J Anderson
  Phone : 0208 366 1662
  Email: p.anderson@glastroesch.com or specification.uk@glastroesch.com

  Windows shall be double glazed and internally beaded. Unit thickness - Overall thickness of 28mm.
  All windows to be dry glazed using shuffle extruded aluminium beads and EPDM extruded gaskets. With proprietary glazing tape or EPDM gaskets.
  Windows are to be factory framed with Argon Gas filled sealed units with grey or black Warmedge spacer and low-e coating.

  Windows to be factory assembled with fitted glazing beads and delivered to site unglazed. On-site glazing with Argon Gas filled sealed units with grey or black Warmedge spacer and low-e coating to comply with current building regulations.

  .
  - Product reference: Coating : SilverStar Combi Lowe Zero

  .
- Standard: BS EN 1279.
- Thermal performance (centre pane): 1.1 W/m²K to give an overall U value to the window of 1.5W/m2k .
- Construction:
  - Inner pane: nner Pane – 4mm SilverStar Lowe Zero (Surface3) Toughened and Heat Soaked Tested Clear Float Glass with arrised edges.
  - Cavity: Cavity - 20mm Warm Edge Spacer Bar with 90% Argon Gas 10% Air .
  - Intermediate pane: Not applicable.
  - Cavity: Not applicable.
  - Outer pane: Outer Pane- 4mm Toughened and Heat Soaked Tested Clear Float Glass with arrised edges .
  - Spacer: 20mm WARMEDGE SPACER BAR.
- Unit thickness: 28mm.
- Other requirements: Coating : SilverStar Combi Lowe Zero .

656 INSULATED GLASS UNITS (IGUS) TO ALL ALITHERM FRENCH DOORS TO ROOFS - Glass Type - Vision 2 Doors at High Level and WT10 / 6FW11 (adjacent to staircase open balustrade)

- Manufacturer:
  Project : Old Street London
  Glass Type : Vision 2
  Client : Islington Council – Fiona Monkman
  Product : SilverStar Lowe Combi Zero
  Company : GlasTroesch UK Ltd
  Contact : Mr Paul J Anderson
  Phone : 0208 366 1662
  Email: p.anderson@glastroesch.com or specification.uk@glastroesch.com

  Windows shall be double glazed and internally beaded. Unit thickness - Overall thickness of 28mm. All windows to be dry glazed using shuffle extruded aluminium beads and EPDM extruded gaskets. With proprietary glazing tape or EPDM gaskets.
  Windows are to be factory framed with Argon Gas filled sealed units with grey or black Warmedge spacer and low-e coating.

  Windows to be factory assembled with fitted glazing beads and delivered to site unglazed. On-site glazing with Argon Gas filled sealed units with grey or black Warmedge spacer and low-e coating to comply with current building regulations. .
  - Product reference: Coating : SilverStar Combi Lowe Zero

  .
- Standard: BS EN 1279.
- Thermal performance (centre pane): 1.0 W/m²K to give an overall U value to the door of 1.5W/m2k.
- Construction:
  - Inner pane: Inner Pane – 6mm SilverStar Combi Lowe Zero (Surface3) Clear Toughened and Heat Soaked Tested Clear Float Glass with arrised edges .
  - Cavity: Cavity - 16mm Cavity with 90% Argon Gas 10% Air .
  - Intermediate pane: Not applicable.
  - Cavity: Not applicable.
  - Outer pane: Outer Pane - 6mm Toughened and Heat Soaked Tested Clear Float Glass .
  - Spacer: 20mm WARMEDGE SPACER BAR.
- Unit thickness: 28mm.
- Other requirements: Coating : SilverStar Combi Lowe Zero .

M
Surface finishes

M20
Plastered/ Rendered/ Roughcast coatings

M20 Plastered/ Rendered/ Roughcast coatings

To be read with Preliminaries/ General conditions.

TYPES OF COATING

220A LIGHTWEIGHT GYPSUM PLASTER - TO AREAS OF MAKING GOOD WHERE PARTITIONS ARE DEMOLISHED
Manufacturer: British Gypsum, East Leake, Loughborough, Leicestershire LE12 6HX
www.british-gypsum.com
Tel: 0844 800 1991
email:bgtechnical.equiries@bpb.com
British Gypsum contact: Chris Greve - tel: 07973 752080
chris.greve@bpb.com
Location: Walls
Background
Preparation: Apply ThistleBond-it to smooth low suction blocks. Moisture resistant boards cast in-situ & pre-cast concrete & painted/tiles surfaces as clause 542A.
Dampen dry undercoats accordingly to control background suction prior to skimming Undercoats-
Proprietary reference: British Gypsum, Thistle Bonding Coat
Thickness: Excluding Drubbing-out: 11mm
Final Coat: Smooth as clause 777
Accessories: Thistle Plaster Angle Beads & Thistle Plaster Stop Beads as required (see sections 11, 13 and 14 British Gypsum White Book)
[.] [.].

280 GYPSUM PLASTER SKIM COAT ON PLASTERBOARD

- Plasterboard: 15 mm Duraline.
  - Preparation: Gyproc Drywall Adhesive.
- Plaster: Board finish/ finish plaster to BS EN 13279-1, class B.
  - Manufacturer: www.british-gypsum.com
    bgtechnical.enquiries@bpb.com
    T: +44 (0)844 800 1991
    F: +44 (0)844 561 8816
    Drywall Academy, East Leake, Loughborough, Leicestershire. LE12 6HX.
    Product reference: Thistle Durafinish.
  - Thickness: follow manufacturer's recommendations – typically 2–5 mm..
  - Finish: Smooth.
- Accessories: beads, stops TO SUIT.

MATERIALS AND MAKING OF MORTAR

495 MIXING

- Render mortars (site-made):
  - Batching: By volume. Use clean and accurate gauge boxes or buckets.
  - Mix proportions: Based on damp sand. Adjust for dry sand.
  - Lime:sand: Mix thoroughly. Allow to stand, without drying out, for at least 16 hours before using.
- Mixes: Of uniform consistence and free from lumps. Do not retemper or reconstitute mixes.
- Contamination: Prevent intermixing with other materials.

497 COLD WEATHER

- General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
- External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
- Internal work: Take precautions to enable internal coating work to proceed without damage when air temperature is below 3°C.

PREPARING SUBSTRATES

510 SUITABILITY OF SUBSTRATES

- Soundness: Free from loose areas and significant cracks and gaps.
- Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
- Tolerances: Permitting specified flatness/ regularity of finished coatings.
- Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

541 BONDING AGENT APPLICATION

- General: Apply evenly to substrate to achieve effective bond of plaster/ render coat. Protect adjacent surfaces.

566 REMOVING DEFECTIVE EXISTING PLASTER

- Plaster for removal: Detached, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
  - Hollow, detached areas: Obtain instructions.
- Stained plaster: Submit proposals.
- Removing defective plaster. Cut back to a square, sound edge.
- Faults in background (structural deficiencies, damp, etc.): Submit proposals.
- Cracks:
  - Fine hairline cracking/ crazing: Leave.
  - Other cracks; Obtain instructions.
- Dust and loose material: Remove from exposed substrates and edges.

568 EXISTING DAMP AFFECTED PLASTER/ RENDER

- Plaster affected by rising damp: Remove to a height of 300 mm above highest point reached by damp or 1 m above dpc, whichever is higher.
- Perished and salt contaminated masonry:
  - Mortar joints: Rake out.
  - Masonry units: Submit proposals.
- Faults in substrate (structural deficiencies, additional sources of damp, etc.): Submit proposals.
- Drying out substrate: Established drying conditions. Leave walls to dry for as long as possible before plastering.
- Dust and loose material: Remove from exposed substrate and edges.

BACKINGS/ BEADS/ JOINTS

612 JOINTS IN PLASTERBOARD BACKINGS

- Ceilings:
  - Bound edges: At right angles to supports and with ends staggered in adjacent rows.
  - Two layer boarding: Stagger joints between layers.
- Partitions/ walls:
  - Vertical joints: Centre on studs. Stagger joints on opposite sides of studs.
    Two layer boarding: Stagger joints between layers.
  - Horizontal joints:
    Two layer boarding: Stagger joints between layers by at least 600 mm. Support edges of outer layer.
- Joint widths (maximum): 3 mm.

630 BEADS/ STOPS FOR INTERNAL USE

- Material: Galvanized steel to BS 13658-1.

640 BEADS/ STOPS GENERALLY

- Location: External angles and stop ends, except where specified otherwise.
- Corners: Neat mitres at return angles.
- Fixing: Secure, using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
  - Beads/ stops for external render: Fix mechanically.
- Finishing: After coatings have been applied remove surplus material, while still wet, from surfaces of beads/ stops exposed to view.

659 PLASTERBOARD JOINTS

- Joints and angles (except where coincident with metal beads): Reinforce with continuous lengths of jointing tape.

INTERNAL PLASTERING

710 APPLICATION GENERALLY

- Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
- Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
  - Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
- Drying out: Prevent excessively rapid or localised drying out.

715 FLATNESS/ SURFACE REGULARITY

- Sudden irregularities: Not permitted.
- Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.
  - Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

720 DUBBING OUT

- General: Correct substrate inaccuracies.
- New smooth, dense concrete and similar surfaces: Dubbing out prohibited unless total plaster thickness is within range recommended by plaster manufacturer.
- Thickness of any one coat (maximum): 10 mm.
- Mix: As undercoat.
- Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Cross scratch surface of each coat.

725 UNDERCOATS GENERALLY

- General: Rule to an even surface. Cross scratch to provide a key for the next coat.
- Undercoats on metal lathing: Work well into interstices to obtain maximum key.
- Undercoats gauged with Portland cement: Do not apply next coat until drying shrinkage is substantially complete.

777 SMOOTH FINISH

- Appearance: A tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Avoid water brush, excessive trowelling and over polishing.

M40
Stone/ concrete/ quarry/ ceramic tiling/ mosaic

M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with Preliminaries/ General conditions.

TYPES OF TILING/ MOSAIC

110 TILING TO PREVIOUSLY PLASTERED WALLS AND NEW PARTITIONS

- Tiles: Ceramic .
  - Manufacturer/ Supplier: H&R Johnson.
    Product reference: Bevel Brick tile.
  - Colour: white.
  - Finish: Glazed.
  - Size: 200 x 100 mm.
  - Thickness: 6.8mm.
  - Slip potential:
    Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: Not applicable .
    Surface roughness (Rz) (minimum) BS 1134: Not applicable .
    Ramp test class: Not applicable.
  - Recycled content: Not applicable.
- Background/ Base: existing plastered walls; new plastered walls.
  - Preparation: Spatterdashing, as clause ???clause 310 anmd 330.
- Intermediate substrate: Not required.
- Bedding: Adhesive bed - notched trowel and buttering method, as clause 651.
  - Reinforcement: none.
  - Adhesive to BS EN 12004: Not applicable.
- Joint width: 2mm.
- Grout: grey.
  - Type/ classification: Not applicable.
  - Admixture: none.
- Movement joints: As clause 815 at internal corners of rooms..
- Accessories: polished stainless steel Tile edge trim.

GENERAL

210 SUITABILITY OF BACKGROUNDS/ BASES

- Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
- New background drying times (minimum):
  - Concrete walls: 6 weeks.
  - Brick/ block walls: 6 weeks.
  - Rendering: 2 weeks.
  - Gypsum plaster: 4 weeks.
- New base drying times (minimum):
  - Concrete slabs: 6 weeks.
  - Cement:sand screeds: 3 weeks.

215 FALLS IN THE BASES

- General: Give notice if falls are inadequate.

250 SAMPLES

- General: Submit representative samples of the following: Each type of tile.

PREPARATION

310 EXISTING BACKGROUNDS/BASES GENERALLY
- Efflorescence, laitance, dirt and other loose material: Remove.
- Deposits of oil, grease and other materials incompatible with the bedding: Remove.
- Tile, paint and other nonporous surfaces: Clean.
- Wet backgrounds: Dry before tiling.

330 EXISTING PLASTER
- Defective areas: Remove plaster that is loose, soft, friable, badly cracked or affected by efflorescence. Cut back to straight horizontal and vertical edges.
- Making good: Use plaster or nonshrinking filler.

360 EXISTING PAINT
- Paint with unsatisfactory adhesion: Remove so as not to impair bedding adhesion.

380 NEW PLASTER
- Plaster: Dry, solidly bedded, free from dust and friable matter.
- Plaster primer: Apply if recommended by adhesive manufacturer.

390 PLASTERBOARD BACKGROUNDS
- Boards: Dry, securely fixed and rigid with no protruding fixings and face to receive decorative finish exposed.

FIXING

510 FIXING GENERALLY
- Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
  - Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
- Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
- Cut tiles: Neat and accurate.
- Fixing: Provide adhesion over entire background/ base and tile backs.
- Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
- Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

550 FLATNESS/ REGULARITY OF TILING/ MOSAICS
- Sudden irregularities: Not permitted.
- Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 6 mm, i.e. a tolerance of $\pm$ 3 mm.

560 LEVEL OF TILING ACROSS JOINTS
- Deviation (maximum) between tile surfaces either side of any type of joint:
  - 1 mm for joints less than 6 mm wide.
  - 2 mm for joints 6 mm or greater in width.

570 MORTAR BEDDING

- Bedding mix:
  - Cement: Portland to BS EN 197-1, type CEM I/42.5.
  - Sand for walls: Fine aggregate to BS EN 13139.
    Grading designation: 0/2 (CP or MP) category 2 fines.
  - Sand for floors: Fine aggregate to BS EN 13139.
    Grading designation: 0/4 (MP) category 1 fines and between 20%-66% passing a 0.5 sieve.
- Batching: Select from:
  - Batch by weight.
  - Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.
- Mixing: Mix materials thoroughly to uniform consistence. Use a suitable forced action mechanical mixer. Do not use a free fall type mixer.
- Application: At normal temperatures use within two hours. Do not use after initial set. Do not retemper.

651 ADHESIVE BED - NOTCHED TROWEL AND BUTTERING METHOD (WALLS)

- Application: By floated coat of adhesive to dry background in areas of about 1 m². Comb surface.
- Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.
- Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.

MOVEMENT JOINTS/ GROUTING/ COMPLETION

875 GROUTING

- Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
- Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
- Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
  - Profile: Flush.
- Polishing: When grout is hard, polish tiling with a dry cloth.

885 COLOURED GROUT

- Staining of tiles: Not permitted.
- Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

M50
Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

M50 Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

To be read with Preliminaries/ General conditions.

TYPES OF COVERING

111 **TILING WOVEN VINYL:**

Location: To entrance, stairs, half-landings lobbies and washrooms/WCs.
Base:

To Rooms: Existing timber flooring, new 6mm plywood as clause 560 .
- Preparation: Remove all existing coverings sheeting.
  Fabricated underlay: Plywood as clause 560.
  Tiles: Woven Vinyl

- **Manufacturer:**
  Bolon
  www.flooring-concepts.co.uk
  sales@flooring-concepts.co.uk
  08445610918

  Chris Abay
  Senior Project Consultant
  BOLON UK PARTNER - FLOORING CONCEPTS

  T 0844 561 0918
  M 07876 713 226
  E chris@flooring-concepts.co.uk

  2 Northburgh Street, London EC1V 0AY
  .
  Product reference:

  Artisan Coal TILE FOR:
  Entrance and Staircase, landings and lobbies with stair nosings to all stairs: Gradus ref: AS12 Trim with CLAY colour inserts

  Graphic Gradient ROLL FOR:
  WC's/washrooms

- BS EN ISO 10874 class: 22+.
- Slip potential:
  Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: R9 - R10.
  Surface roughness (Rz) (minimum) to BS 1134: R9 - R10.
- Recycled content: Submit proposals.
- Size: 667 X 222 mm.
- Thickness: 3mm.
- Colour/ pattern: n/a .
  Adhesive (and primer if recommended by manufacturer): As clause 640.
  Accessories: Door Thresholds throughout -
  Gradus ET356 Trim to Bolon Floor & Parquet Floor junctions
  Gradus JT365 Trim at door thresholds where Bolon meets Bolon WCs/landing lobbies / staicases .
  Finishing: Seal and polish as recommended by manufacturer.
  Other requirements:
  Include for stair nosings to all stairs: Gradus ref: AS12 Trim with CLAY colour inserts

157 VINLY FLOORING TO COMMS ROOM & BOOSTER PUMP ROOM
Location: [Comms Room and Water Booster tank room in Basement].
Base: [Existing Screed].
- Preparation: [remove existing applied finishes].
  Fabricated underlay: [9mm Plywood as clause].
  Flooring roll: PVC to BS EN 13553.
- Manufacturer:
  Polyflor Ltd
  www.polyflor.com
  info@polyflor.com
  T: +44 (0)161 767 1122
  F: +44 (0)161 767 1128
  PO Box 3, Radcliffe New Road, Whitefield, Manchester. M45 7NR].
  Product reference: [Altro Maxis II.].
- Identity code: [W1].
- BS EN ISO 10874 class: [32].
- Slip potential:
  Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: [-].
  Surface roughness (Rz) (minimum) to BS 1134: [-].
- Recycled content: [Submit proposals].
- Width: [2000 mm].
- Thickness: [2.5 mm.].
- Colour/ pattern: [TBC].
  Adhesive (and primer if recommended by manufacturer): [And primer if recommended by manufacturer; As recommended by manufacturer - 2-part adhesive A19].
  Seam welding: [Hot welding with complimentary coloured rod].
  Accessories: [Cove former CF 38R and Capping Seal C8 (where tiling comes down to coveing - maximum tile+adhesive depth is 6.1mm); threshold strip].
  Finishing: [None].
  Other requirements: [None].

195 FLOOR FINISH MATERIALS SPECIFICATION
- Minimum BRE 'Green Guide to Specification Online' rating: A+.

GENERAL REQUIREMENTS

210 WORKMANSHIP GENERALLY
- Base condition after preparation: Rigid, dry, sound, smooth and free from grease, dirt and other contaminants.
- Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks and stains.

250 LAYOUT - ROLL MATERIALS
- Setting out of seams: Agree setting out for sheeting types M50/ 157 .

330 COMMENCEMENT
- Required condition of works prior to laying materials:
  - Building is weathertight and well dried out.
  - Wet trades have finished work.
  - Paintwork is finished and dry.
  - Conflicting overhead work is complete.
  - Floor service outlets, duct covers and other fixtures around which materials are to be cut are fixed.
- Notification: Submit not less than 48 hours before commencing laying.

340 CONDITIONING

- Prior to laying: Condition materials by unpacking and separating in spaces where they are to be laid. Maintain resilient flooring rolls in an upright position. Unroll carpet and keep flat on a supporting surface.
- Conditioning time and temperature (minimum): As recommended by manufacturer with time extended by a factor of two for materials stored or transported at a temperature of less than 10°C immediately prior to laying.

350 ENVIRONMENT

- Temperature and humidity: Before, during and after laying, maintain approximately at levels which will prevail after building is occupied.
- Ventilation: Before during and after laying, maintain adequate provision.

PREPARING BASES

420 EXISTING BASES

- Notification: Before commencing work, confirm that existing bases will, after preparation, be suitable to receive coverings.
- Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

460 SMOOTHING/ LEVELLING UNDERLAYMENT COMPOUND

- Type: Contractor's choice.
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.

470 BASES FROM WHICH EXISTING FLOOR COVERINGS HAVE BEEN REMOVED

- Substrate: Clear of covering and as much adhesive as possible. Skim with smoothing underlayment compound to give smooth, even surface.

560 PLYWOOD UNDERLAY

- Standard: An approved national standard.
- Bonding quality: To BS EN 314-2 class 1.
- Appearance: To BS EN 635 class I.
- Finish: Sanded.
- Thickness: 6 mm.
- Sheet size: 1200 x 1200 mm.
- Substrate: Existing floor boards securely fixed and acceptably level with no gross irregularities or protruding fasteners.
- Laying sheets: Stagger cross joints such that no joint within base and underlay is coincident and with a 0.5-1 mm gap between sheets.
- Fasteners: 25 mm ringed shank or twisted shank nails or divergent staples.
  - Spacing: Commencing at centre of one side of each sheet, at 150 mm grid centres over area of each sheet and at 100 mm centres along perimeter, set in 12 mm from edge.
  - Placement: Driven with heads set flush with surface, and not projecting through underside of base. Not deformed.

LAYING COVERINGS

640 ADHESIVE FIXING GENERALLY

- Adhesive type: As specified, as recommended by covering/ underlay manufacturer or as approved.
- Primer: Type and usage as recommended by adhesive manufacturer.
- Application: As necessary to achieve good bond.
- Finished surface: Free from trowel ridges, high spots caused by particles on the substrate, and other irregularities.

720 DOORWAYS

- Joint location: On centre line of door leaf.

780 TRAFFICKING AFTER LAYING

- Covering types: ALL.
- Traffic free period: 7 hours.

COMPLETION

820 FINISHING PLASTICS FLOORING

- Cleaning operations:
  - Wash floor with water containing neutral (pH 6-9) detergent. If necessary, lightly scrub heavily soiled areas.
  - Rinse with clean water, removing surplus to prevent damage to adhesive. Allow to dry.
- Emulsion polish: Two coats of a type recommended by covering manufacturer.

880 WASTE

- Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

M60
Painting/ clear finishing

M60 Painting/ clear finishing

To be read with Preliminaries/ General conditions.

COATING SYSTEMS
For all coating systems see AkzoNoble specification in **Appendix M**

180A FLOOR COATING TO ALL PARQUET FLOORING

- Manufactuer:

Bona Limited
6 Thornton Chase, Linford Wood
Milton Keynes, United Kingdom, MK14 6FD

Alec Stacey BSc (Hons) | Technical Manager
Tel: +44 (0)1908525161 | Fax: +441908311677 | Mobile: +44 (0)7866719997
Alec.Stacey@bona.com| www.bona.com

As this floor has possibly been previously finished using an oil-based product it will be important that all of this treatment is removed by sanding to ensure the required level of adhesion.

" The floor should be sanded back to bare timber to a clean, even surface. The final belt and edge sanding should be made with abrasives grade 120

" A finishing sanding method such as the Bona Scrad system should then be used in conjunction with a rotary buffing machine to produce a uniform level of abrasion and a smoother surface.

" The surface should be vacuumed followed with wiping the surface with a lightly dampened lint-free cloth/mop etc.

" A single application of Bona Prime Classic should be made at a coverage rate of 8-10M² per Litre.

" After approx 2hrs the surface may be lightly sanded to remove any raised grain, should this occur.

" Apply three coats of Bona Traffic HD (Extra matt) (at a coverage rate of 8-10M² per Litre per coat)

" Eight hours after the final application the floor may receive light foot traffic. Full, heavy use should be avoided for 12hrs.

" The surface should not be covered with any protective sheeting/Correx etc for the first week following lacquer application. Similarly, the use of maintenance products should be avoided for this period.

" For maintenance, please refer to the attached Bona recommendations.

GENERAL

210 COATING MATERIALS

- Manufacturer: Obtain materials from any of the following:
  Dulux and Bono.
- Selected manufacturers: Submit names before commencement of any coating work.

215 HANDLING AND STORAGE

- Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
- Materials from more than one batch: Store separately.

280 PROTECTION

- 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

PREPARATION

400 PREPARATION GENERALLY

- Standard: In accordance with BS 6150.
- Refer to any pre-existing CDM Health and Safety File.
- Refer to CDM Construction Phase Plan where applicable.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
- Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts: Remove.
- Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
- Surface irregularities: Remove.
- Joints, cracks, holes and other depressions: Fill flush with surface, provide smooth finish.
- Dust, particles and residues from preparation: Remove and dispose of safely.
- Water based stoppers and fillers:
  - Apply before priming unless recommended otherwise by manufacturer.
  - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.
- Doors, opening windows and other moving parts:
  - Ease, if necessary, before coating.
  - Prime resulting bare areas.

425 IRONMONGERY

- Removal: Before commencing work remove ironmongery from surfaces to be coated.
- Hinges: Remove.
- Replacement: Refurbish as necessary; refit when coating is dry.

430 EXISTING IRONMONGERY

- Refurbishment: Remove old coating marks. Clean and polish.

440 PREVIOUSLY COATED SURFACES GENERALLY

- Preparation: In accordance with BS 6150, clause 11.5.
- Contaminated or hazardous surfaces: Give notice of:
  - Coatings suspected of containing lead.
  - Substrates suspected of containing asbestos or other hazardous materials.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
- Significant rot, corrosion or other degradation of substrates.
- Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
- Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
- Alkali affected coatings: Completely remove.
- Retained coatings:
  - Thoroughly clean to remove dirt, grease and contaminants.
  - Gloss coated surfaces: Provide key.
- Partly removed coatings:
  - Additional preparatory coats: Apply to restore original coating thicknesses.
  - Junctions: Provide flush surface.
- Completely stripped surfaces: Prepare as for uncoated surfaces.

456 PREVIOUSLY COATED SURFACES - BURNING OFF

- Risk assessment and method statement: Prepare, and obtain approval before commencing work.
- Adjacent areas: Protect from excessive heat and falling scrapings.
- Exposed resinous areas and knots: Apply two coats of knotting.
- Removed coatings: Dispose of safely.

461 PREVIOUSLY COATED WOOD

- Degraded or weathered surface wood: Take back to provide suitable substrate.
- Degraded substrate wood: Repair with sound material of same species.
- Exposed resinous areas and knots: Apply two coats of knotting.

471 PREPRIMED WOOD

- Areas of defective primer: Take back to bare timber.

481 UNCOATED WOOD

- General: Provide smooth, even finish with arrises and moulding edges lightly rounded or eased.
- Heads of fasteners: Countersink sufficient to hold stoppers/fillers.
- Resinous areas and knots: Apply two coats of knotting.

490 PREVIOUSLY COATED STEEL

- Defective paintwork: Remove to leave a firm edge and clean bright metal.
- Sound paintwork: Provide key for subsequent coats.
- Corrosion and loose scale: Take back to bare metal.
- Residual rust: Treat with a proprietary removal solution.
- Bare metal: Apply primer as soon as possible.
- Remaining areas: Degrease.

500 PREPRIMED STEEL

- Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.

511 GALVANIZED, SHERARDIZED AND ELECTROPLATED STEEL

- White rust: Remove.
- Pretreatment: Apply one of the following:
  - Mordant solution to blacken whole surface.
  - Etching primer recommended by coating system manufacturer.

521 UNCOATED STEEL - MANUAL CLEANING

- Oil and grease: Remove.
- Corrosion, loose scale, welding slag and spatter: Remove.
- Residual rust: Treat with a proprietary removal solution.
- Primer: Apply as soon as possible.

541 UNCOATED ALUMINIUM/ COPPER/ LEAD

- Surface corrosion: Remove and lightly key surface.
- Pretreatment: Etching primer if recommended by coating system manufacturer.

552 UNCOATED PVC-U

- Dirt and grease: Remove. Do not abrade surface.

570 UNCOATED MASONRY/ RENDERING

- Loose and flaking material: Remove.

580 UNCOATED PLASTER

- Nibs, trowel marks and plaster splashes: Scrape off.
- Overtrowelled 'polished' areas: Key lightly.

590 UNCOATED PLASTERBOARD

- Depressions around fixings: Fill with stoppers/ fillers.

601 UNCOATED PLASTERBOARD - TO RECEIVE TEXTURED COATING

- Joints: Fill, tape and feather out with materials recommended by textured coating manufacturer.

611 WALL COVERINGS

- Retained wall coverings: Check that they are in good condition and well adhered to substrate.
- Previously covered walls: Wash down to remove paper residues, adhesive and size.

622 ORGANIC GROWTHS

- Dead and loose growths and infected coatings: Scrape off and remove from site
- Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
- Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

651 EXISTING GUTTERS

- Dirt and debris: Remove from inside of gutters.
- Defective joints: Clean and seal with suitable jointing material.

APPLICATION

711 COATING GENERALLY

- Application standard: In accordance with BS 6150, clause 9.
- Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
- Overpainting: Do not paint over intumescent strips or silicone mastics.
- Priming coats:
  - Thickness: To suit surface porosity.
  - Application: As soon as possible on same day as preparation is completed.
- Finish:
  - Even, smooth and of uniform colour.
  - Free from brush marks, sags, runs and other defects.
  - Cut in neatly.
- Doors, opening windows and other moving parts: Ease before coating and between coats.

730 WORKSHOP COATING OF CONCEALED JOINERY SURFACES

- General: Apply coatings to all surfaces of components.

751 STAINING WOOD

- Primer: Apply, if recommended by stain manufacturer.
- Application: Apply in flowing coats and brush out excess stain to produce uniform appearance.

N
Furniture/Equipment

N10
General fixtures/ furnishings/ equipment

N10 General fixtures/ furnishings/ equipment

To be read with Preliminaries/General conditions.

PRODUCTS

110 PURPOSE MADE VANITY UNIT TO WASHROOMS

- Manufacturer: DuPont™ Corian®
  www.corian.co.uk
  info@cdukltd.co.uk
  T: +44 0800 96 21 16
  Distributor : CD(UK) Ltd, Wakefield House, Thistle Way, , Gildersome Spur, Morley, , Leeds, Yorkshire. LS27 7JZ.
- Standard: Not applicable.
- Timber: To BS EN 942.
  - Species: N/A.
  - Appearance class: Not applicable.
  - Moisture content on delivery: N/A.
- Wood-based boards: N/A..
- Metal: None.
  - Grade: N/A.
- Other materials: Corian for work surface and splashback.
- Finishes: As manufactured.
- Adhesive: To BS EN 204 durability class D1..
- Fixings: MDF/plywood frame to suit - vanity unit and splashback screwed to MDF/Plywood framing. Fabricated and installed by Quality Network Fabricator.
  - Fasteners: 75 x 3.5 mm coach screws..
- Joinery workmanship: As section Z10.
- Metalwork materials and workmanship: As section Z11.
- Other requirements: 180° concealed door hinges; magnetic door catches to .

160 SHELVING SYSTEM TO GF SHOWER ROOM

- Manufacturer: Worktop Express
  sales@worktop-express.co.uk.
  0345 22 22 644 or 01452 881 372.
  - Product reference: Solid Oak Floating Shelf .
- Dimensions: 900 (w) x 200 (d) x 40 (h).
  - Shelf Spacing: n/a.
- Shelves:
  - Material: solid oak.
  - Finish/ Colour: self finished.
- Carcass or frame:
  - Material: n/a.
  - Finish/ Colour: n/a.
- Other components: none.

240 BLINDS TO ALL BUSINESS UNIT WINDOWS ONLY

Specifications for Silent Gliss Products
Roller Blinds for Office Refurb 49-59 Old St

Manufacturer and reference: Silent Gliss Ltd, Pyramid Business Park Poorhole Lane, Broadstairs, Kent CT10 2PT Tel 01843 863571
tombrownson@silentgliss.co.uk
Mobile: 07802 907527

Operation: 4910 chain operated roller blind with spring assistance for smooth effortless control.
Material/Finish/Colour: Fabric to be selected from the Silent Gliss fabric range price group 2. Bottom bar to be silver anodised aluminium.
Accessories: 41mm diameter headbarrel fixed with new 10542/10543 easy click brackets complete with bracket covers. System includes safety chain retainer 10400.

Detailed Spec

Silent Gliss chain operated roller blind system 4910 for blinds up to 2.4m wide by 3.0m drop. . Supplied made to measure and complete comprising anodised aluminium headrail with counterbalancing triple spring and planetary gear set ensuring light, precise movement. Finger touch raising of blind by stainless steel bead chain, right or left-hand operation. Aluminium bottom weight bar 4221 in white supplied as standard (other shapes available). Fixed to wall / ceiling inside recess with clamp 3044 or optional 10539 click bracket and installation profile 10534. Optional adjustable endstop 10559 / 10560 allows upper or lower limit setting. Compliant to Child Safety legislation EN 13120 when used in conjunction with either the Chain / Cord Retainer 10400 or Child Safety Device 10482. Fabric to be chosen from the Silent Gliss fabric ranges.

Fabric Choice
Newlife Screen colour 5 – charcoal with a Tv of 4.6%,

- Standard: To BS EN 13120.
- Manufacturer: see above.
  - Product reference: see above.
- Type: Vertical roller.
- Dimensions:

Dimensions of ***openings*** requiring blinds (blind sizes required **to suit:** *Contractor to confirm blind sizes with manufacturer*): :

Numbers and sizes required

Ground Floor Unit:
12no. 1730 (w) x 900 (h)
2 No. 2250 (w) x 950 (h)

Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
12no. 1730 (w) x 1510 (h)
2 No. 2250 (w) x 1500 (h)

Units 11 & 12:
12no. 1730 (w) x 1510 (h)
2 No. 2250 (w) x 1500 (h)
3No. 2350 (w) x 1300(d)

to suit all windows to business units.

- Material: Fabric - see above.
  - Finish/ Colour: white.
- Operation: Manual, stainless steel ball chain.
- Operating effort: Class 1.
- Testing: Not required.
- Mechanism endurance: Not required.
- Accessories/ Other requirements:
  .

300A BARRIER MATTING

- Manufacturer: Gradus.
  - Web: www.gradusworld.com.
  - Email: imail@gradusworld.com.
  - Product reference: Esplanade 1500 Barrier Matting
- Construction: Closed
  Thickness: 16.5mm
  Warranty: 10 years
  Application: Exterior Material
  Wiper: PVC scraper - Black
  Base: Aluminium with pvc bridging strip
  Linking Strip: Pvc
  Preparation: Provide and lay **levelling screed** to area where existing terrazzo has been removed to form new matwell.
  Accessories
  Divider Bar: ADB018
  Edging Strip: ESP15ES40 .
- Wiper colour: Black.

301 BARRIER MATTING TO BUSINESS UNITS

Manufacturer: Gradus Accessories, Park Green, Macclesfield, Cheshire, SK11 7LZ.
Tel: 01625 428922 Fax: 01625 433939
Website: www.gradusworld.com Email: sales@gradusworld.com

Reference: Boulevard Stripe HD Secondary Barrier Carpet
Colour (select as required): Raven (LRV: 2.48)
Fixing: adhesive – as per manufacturers instructions

Gradus Detailed Specification

Manufacturer: Gradus Accessories, Park Green, Macclesfield, Cheshire, SK11 7LZ.
Tel: 01625 428922 Fax: 01625 433939
Website: www.gradusworld.com Email: sales@gradusworld.com

Reference: Boulevard Stripe HD Secondary Barrier Carpet
Product construction: Tufted Cut Pile
Surface yarn: 100% Aquafil Alto Chroma Solution Dyed Nylon
Dimensions / backing: Broadloom Roll 2m x 25m, pvc non-woven primary backing
Stitches: 26.0 per dm
Gauge: 31.5 per dm
Pile height: 5mm nominal
Tufted pile weight: 800g/m2
Total height: Broadloom: 9mm nominal
Total weight: Broadloom: 4300g/m2
Colour (select as required): Magpie (LRV: 3.85), Raven (LRV: 2.48)
Performance Specification - Classification: Tested to BSEN 1307
Flammability - Fire rating – BSEN 13501-1: Cfl-s1
Static Electrical Propensity (Body Voltage Walk Test): ISO 6356: <2kV
Warranty: 5 years wear warranty
Fixing: Recommended adhesive. F. Ball & Co. 01538 361633. Product: F45

Description
Boulevard Stripe HD is a tufted cut pile, high performance barrier carpet manufactured from 100% Aquafil solution dyed nylon. Boulevard Stripe HD is a linear design and incorporates a heavy scraper fibre for optimum dirt removal and has excellent moisture retention properties in most contract environments.

460A SEALANT

- Manufacturer: Adshead Ratcliffe & Co Ltd.
  - Web: www.arbo.co.uk.
  - Email: arbo@arbo.co.uk.
  - Product reference: Arbosil 1081
- Code: SL8130CWH.
- Accessories: Arbo Primer 2172.

EXECUTION

710 MOISTURE CONTENT OF WOOD AND WOOD-BASED BOARDS

- Standard: BS EN 942 .
- Moisture content on delivery: 6-10%.
- Temperature and humidity: During delivery, storage, fixing and to handover maintain conditions to suit specified moisture contents of timber components.

720 INSTALLATION GENERALLY

- General: As preliminaries section A33.
- Fixing and fasteners: As section Z20.
- Services: As Engineering Services specification.

760 SEALANT BEDDING AND POINTING

- Application: As section Z22.
- Bedding: Sinks to top of worktop.
- Pointing: Joints between units and floor finish.

770 TRIMS

- Lengths: Wherever possible, unjointed between angles or ends of runs.
- Running joints: Where unavoidable, obtain approval of location and method of jointing.
- Angle joints: Mitred.

COMPLETION

910 GENERAL

- Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
- Ironmongery: Checked, adjusted and lubricated to ensure correct functioning.

920 APPLIANCES

- Test: Run for a full cycle, ensure that all functions and features work correctly.
- Documentation: Submit guarantees, instruction manuals, etc.

N11
Domestic kitchen fittings, furnishings and equipment

N11 Domestic kitchen fittings, furnishings and equipment

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FITTED BASE UNITS TO KITCHENETTES

- Standard: To BS 6222-2 and -3, and BS EN 14749.
- Manufacturer: The Symphony Group PLC
  Pen Hill Estate, Park Spring Road
  Barnsley, S72 7EZ.
  - Product reference: Laura Ashley Collection - Range MARLOW - Colour of the units - Anthracite MATT.
- Structural performance: To BS 6222-2, test level H.
- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
  - Material: see product ref.
  - Finish and colour: see product ref.
  - Edges: see product ref.
  - Other requirements: Concealed door hinges.
- Side panels, plinths and shelves:
  - Material: see product ref.
  - Finish and colour: see product ref.
  - Edges: see product ref.
- Accessories: n/a.

320 FITTED WALL UNITS TO KITCHENETTES

- Standard: To BS 6222-2 and -3, and BS EN 14749.
- Manufacturer: The Symphony Group PLC
  Pen Hill Estate, Park Spring Road
  Barnsley, S72 7EZ.
  - Product reference: Laura Ashley Collection - Range MARLOW - Colour of the units - Anthracite MATT.
- Structural performance: To BS 6222-2, test level H.
- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
  - Material: see product ref.
  - Finish and colour: see product ref.
  - Edges: see product ref.
  - Other requirements: see product ref.
- Side panels and shelves:
  - Material: see product ref.
  - Finish and colour: see product ref.
  - Edges: see product ref.
- Accessories: n/a.

340 WORKTOPS TO KITCHENETTES

- Standard: Not applicable.
- Manufacturer: Dupont Corian.
  - Product reference: Corian colour reference: **Glacier White**.
- Material: Corian.
- Dimensions: as shown on drawing A4.300.
- Exposed edges: Finished as delivered.
- Support: supported on base units, with battens off existing walls or structure, individual legs.
- Other requirements: none.

350 SINKS, TAPS, TRAPS AND WASTES TO FOOD PREPARATION AREA KITCHENETTES

- Sinks:
  - Standard: To BS EN 13310.
  - Manufacturer: DuPont Corian.
    Product reference: Sparkling 9504.
  - Configuration: Single sink with left hand drainer channels formed into Corian worktop.
  - Overall size: 440 x 440 x 200mm.
  - Material: Corian & stainless steel.
    Colour and finish: Glacier White & stainless steel .
- Tap/ chainstay/ overflow holes: Overflow hole..
- Taps: Mixer.
  - Manufacturer: BLANCO.
    Product reference: Deck Mixer Tap with lever Handle Chrome.
  - Operation: Lever handle..
  - Material: Chromed steel.
- Wastes: Pop up.
  - Standard: To BS EN 274-1, -2 and -3.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Size: DN40.
  - Material: Chromed steel.
  - Tail: Slotted.
- Traps: P type.
  - Standard: To BS EN 274-1, -2 and -3.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Size: DN40.
  - Material: Plastic.
  - Depth of seal (minimum): 75 mm.
- Accessories: none.

360 APPLIANCES

- Item: Integrated Refrigerator and Laura Ashley Marlow collection integrated door..
- Manufacturer: Zanussi.
  - Product reference: Zanussi ZQA12430DA Integrated Built Under Fridge with Freezer Compartment, A+Energy Rating,60cm Wide .
- Colour and finish: white .
- Service connections: Mains electricity .

361 APPLIANCES

- Item: Integrated dishwasher and Laura Ashley Marlow collection integrated door..
- Manufacturer: Zanussi.
  - Product reference: Zanussi ZDT26030FA Integrated Dishwasher.
- Colour and finish: white.
- Service connections: Mains electricity.

380 PURPOSE MADE UNITS TO WALL MOUNTED MIRRORRED CUPBOARDS TO WASHROOMS

- Standard: To BS 6222-2 and -3 and BS EN 14749.
- Manufacturer: Contractor's choice.
  - Product reference: Submit proposal.
- Structural performance: To BS 6222-2, test level G.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
  - Material: MDF painted M60/121.
  - Thickness: 12mm.
  - Finish and colour: Painted M60/ Brilliant white.
  - Edges: MDF.
  - Other requirements: Concealed door hinges and magnetic door catches.
- Side panels, plinths and shelves:
  - Material: MDF.
  - Thickness: 12mm.
  - Finish and colour: Painted M60/121 Brilliant white.
  - Edges: MDF.
- Accessories: Mirrors SECURELY attached with suitable adhesive to each hinged door as L40/551.
  2no. Atelier Sedap 737 MicroBlade PLINTHE high strength plaster profiles top and bottom to receive linear LED lighting i.e. incorporate integral uplighters and downlighters.

390 SEALANT

- Standard: To BS EN ISO 11600, class F20 HM.
- Type: One part siliconepart silicon.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
- Colour: clear.

EXECUTION

610 MOISTURE CONTENT OF WOOD AND WOOD BASED BOARDS

- Control and monitoring:
  - Method statement: Submit.

620 INSTALLATION GENERALLY

- Fixings and adhesives: As section Z20.
- Services: As Engineering Services specification.

630 INSTALLING UNITS AND WORKTOPS

- General: Well fitting, stable and secure.

640 INSTALLING APPLIANCES

- Connections: Provide to electric, gas, and hot and cold water services.

650 INSTALLING SINKS, TAPS AND WASTES

- Water supply: To BS EN 806-2 and -4.
- Taps:
  - Fixing: Secure, watertight seal with the appliance.
  - Positioning: Hot tap to left of cold tap as viewed by the user of the appliance.
- Wastes:
  - Bedding: Waterproof jointing compound.
  - Fixing: With resilient washer between appliance and backnut.

660 SEALANT BEDDING AND POINTING

- Application: As section Z22.
- Bedding: n/a.
- Pointing: Joints between units and floors..

670 INSTALLING TRIMS AND MOULDINGS

- Lengths: Un-jointed between angles or ends of runs.
- Angle joints: Mitred.

COMPLETION

910 GENERAL

- Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
- Ironmongery: Checked, adjusted and lubricated to ensure correct functioning.

920 APPLIANCE COMMISSIONING

- Appliance operation, functions and controls: Verify.
- Documentation: Submit guarantees, instruction manuals, etc

N13
Sanitary appliances and fittings

N13 Sanitary appliances and fittings

To be read with Preliminaries/ General conditions.

PRODUCTS

300 WCS AND CISTERNS WALL HUNG TO ALL UNITS

- WC standard: To Defra WC suite performance specification or equivalent approved by relevant water company.
- Type: Wall hung, concealed cistern.
- Pan:
  - Standards: To BS EN 33 and BS EN 997, Class 2.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: THE GAP CLEAN-RIM WC WH WHTE - Code: A34647L000.
  - Material: Vitreous china, white.
- Seat and cover:
  - Standard: To BS 1254.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: THE GAP WC SEAT SOFT CLOSE WHTE - Code: A801472004.
  - Material: as delivered.
  - Finish/ Colour: White.
  - Soft close: Required.
- Pan connector:
  - Standard: To BS 5627.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: Contractor's choice.
  - Colour: To match pan.
- Cistern:
  - Standard: To BS EN 14055, Class 2..
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: DUPLO WC (DN100) Code: A89009000K.
  - Material: as delivered.
  - Finish/ Colour: Not applicable.
- Inlet valve: Cistern manufacturer's standard.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: As Cistern.
  - Water supply connection: as recommended by WC & Cistern supplier.
- Flushing arrangement: Drop valve, WRAS approved.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: PL3 DUAL INOX - Code:A890097004 .
  - Operating control: Push buttons stainless steel.
  - Flush volume: Dual flush 6 or 4 L.
- Flush pipe: as recommended and supplied by WC & Cistern manufacturer.
  - Manufacturer: Roca UK, Samson Road, Hermitage Industrial Estate, LE67 3FP Coalville Leicestershire.
    Product reference: Contractor's choice.
  - Material: Stainless steel, satin.
- Accessories: Cistern support brackets.

311 UNISEX ACCESSIBLE CORNER WC EQUIPMENT PACKAGES (DOCUMENT M) TO GROUND FLOOR

- Manufacturer: San Ceram, The Sanitaryware Company, Chartwell Court, West Mill Imperial Business Park, Gravesend, Kent, DA11 ODL. Tel: 01474 335430 www: theswc.co.uk.
  - Product reference: San Ceram close coupled WC RIGHT handed Doc M pack with white seat and rails Ref: SCDMCCRW.
- Type approval certificate: Submit.
- Finish/ Colour:
  - Pan: Vitreous china, white.
  - Cistern: Plastics, white (concealed).
  - Seat: Plastics, grey.
  - Basin: Vitreous china, white.
  - Handrails and grab bars: Stainless steel.
- Transfer handing: Right hand.
- Water supply fittings (basin): Lever operated basin mixer tap.
  - Water supply temperature (maximum): 43 deg C.
- Accessories: Hand cleansing gel dispenser & Paper towel dispenser.

329 CLOTHES HOOKS TO SHOWER ROOM
Manufacturer: Franke Stratos
product reference: Wall-mounted single coat hook SS
Material: stainless steel
Finish: Stain SS

331A WASH HAND SINKS

- Manufacturer: DuPont™ Corian® .
  - Web: www.corian.co.uk.
  - Email: info@cdukltd.co.uk.
  - Product reference: Oval symetrical Bathroom Basin: Relax 7330 dims: 565 x 396mm.
- Colour/ Finish: Glacier white.
- Mounting: Classical undermount
  Taps:
  ARMITAGE SHANKS
  CONTOUR RANGE
  BASIN MIXER
  S7422A2T
  Accessories: Adjustable bath overflow kit; Branded flush drain cover; Chromed brass lever controlled pop-up waste .

375 SHOWER UNITS TO GROUND FLOOR SHOWER

- Tray:
  1200x800mm Rectangular Easy Plumb Stone Shower Tray
  "10 Year Warranty
  "Low profile easy plumb design
  "Gel coated stone resin tray for pristine mirror finish
  "Made in UK
  "Includes stone tray, supporting legs and plinth

  Beautifully built our white trays look fantastic in any bathroom no matter what style of shower you have. The stone resin gives it absolute strength while the gel coating gives it a bright pristine look. It is highly durable and can easily refurbish if chipped accidentally. If your bathroom floor is uneven, our range features EasyPlumb trays with adjustable feet so you can modify your fitting to get the perfect installation.

  Product Specification

  SKU: R1208SET
  Height: 135mm
  Width: 1200mm
  Depth: 800mm
  Internal Depth: 10-25mm
  Weight: 38kg
  Tray Shape: Rectangular
  Tray Type: Easy Plumb
  Material: Stone Resin
  Fitting Type: Centre
  Easy Plumb: Yes
  Finish: Stone Resin
  Waste Includes: No .
  - Standard: BS EN 14527.
    Class: 1.
  - Manufacturer: Soak.com Call 0333 004 6333.
    Product reference: SKU: R1208SET .
  - Size: 1200x800mm.
  - Material: stone resin .
- Shower fittings: Electric shower unit - Mira Alero thermostatic 9.8kw white glass electric shower unit.
  - Manufacturer: Mira Alero.
    Product reference: Mira Alero Electric Shower.
  - Finish: glass.
  - Operating control: Lever and temperature ring .
  - Water supply temperature (maximum): 43°C.
  - Flow rate: not exceeding 9 litres per minute.
- Wastes:
  Summary: Wirquin 90mm Shower Tray Waste With ABS Chrome Dome
  Wirquin 90mm shower tray waste comes with a hair trap which is accessible from the chrome plated ABS dome. The dome offers easy top access to remove hair stuck in the trap. This waste offers a flow rate of 29 l/min.
  Product Specification
  SKU: 34080101
  Diameter: 90mm
  Seal Depth: 50mm
  Flow Rate: 29l/min
  Height: 78mm
  Type: Shower Tray Waste .

- Standards: To BS EN 274-1, -2 and -3.
- Manufacturer: Wirquin .
  Product reference: Quick Code: 34080101.
- Size: DN 50.
- Material: chrome plated ABS dome.
- Tail: Unslotted.

- Traps: Tubular, P type.
  - Standards: To BS EN 274-1, -2 and -3.
  - Manufacturer: Soak.com Call 0333 004 6333.
    Product reference:
    Summary: Fast Flow Shower Tray Waste
    Product Specification
    SKU: TA200
    Height: 80mm
    Type: Shower Tray Waste .
  - Size: DN 50.
  - Material: Plastics, self colour.
  - Depth of seal (minimum): 50 mm.
- Enclosure: 1200mm - 8mm -8mm Tempered Safety Glass- Premium EasyClean Hinged Shower Door.
  - Standard: BS EN 14428.
  - Manufacturer: Soak.com Call 0333 004 6333.
    Product reference: Quick Code: JHB1200.
- Accessories: Product Specification

  SKU: JHB1200
  Height: 1950mm
  Width: 1200mm
  Weight: 47kg
  Shower Door Type: Hinged
  Glass Thickness: 8mm EasyClean Safety Glass
  Frame Material: Aluminium
  Handle Material: Stainless Steel
  Door Style: Alcove
  Reversible: Yes
  Tray Included: No
  Glass EasyClean: Yes
  Glass Style: Clear

  Accreditations & Testing
  " Fully waterproof tested
  " Tested to BS6206 standards
  " ISO 9001:2008 registered manufacturer
  Additional Information
  Includes: Shower Glass
  Fixtures and Fittings

  Excludes: Shower Tray
  Shower Waste

  Please Note:

  "This unit weighs 25 kg or more and would require more than one person to handle it
  "This shower enclosure is reversible, so the entrance can be fitted either left or right handed.
  "In most cases across all enclosures & bath screens, the inward adjustment will be around 10mm for out of wall alignment. It is advised that it is the installer responsibility to counter

check the specific wall adjustment required to ensure the installation of this enclosure is safe and secured. (This excludes walk in showers where there is no profile)..

436 HANDRAILS AND GRAB BARS TO LFT ROOM

- Manufacturer: Contractor's choice.
  - Product reference: 600mm in length - Contractor's choice.
- Diameter: 32 mm.
- Material: polyester powder coated.
- Finish/ Colour: Contractor's choice.

442A PAPER TOWEL DISPENSERS

- Manufacturer: Allgood plc.
  - Web: www.allgood.co.uk.
  - Email: info@allgood.co.uk.
  - Product reference: Modric 2462 surface mounted paper towel dispenser.
- Finish: SS.

446 SANITARY TOWEL DISPOSAL BINS TO ALL WCs

- Manufacturer: Kennedy Hygiene, Brookside, Uckfield, East Sussex, TN22 1YA
  E sales@kennedy-hygiene.com
  T 01825 768 141
  M Jade Hyland 07831 506 999.
  - Product reference: compact 23 litre model INTIMA - electronic no-touch version.
- Material: Designer Grey.
- Finish/ Colour: Designer Grey.

458A SOAP DISPENSERS

- Manufacturer: Allgood plc.
  - Web: www.allgood.co.uk.
  - Email: info@allgood.co.uk.
  - Product reference: 6653
- Finish: SS.

462 TOILET PAPER HOLDERS TO ALL WCs

- Manufacturer:
  Allgood plc
  18 Holborn
  London
  EC1N 2LE
  T: 020 7387 9951.
  - Product reference:
    2440 Modric toilet roll holder.
- Material/ finish: SS.
- Finish/ Colour: SS.

472A HAND DRIERS

- Manufacturer: Venesta Washroom Systems Ltd.
  - Web: www.venesta.co.uk.
  - Email: marketing@venesta.co.uk.
  - Product reference: 0302520 Slimline warm air hand drier.

580A SEALANT
- Manufacturer: Adshead Ratcliffe & Co Ltd.
  - Web: www.arbo.co.uk.
  - Email: arbo@arbo.co.uk.
  - Product reference: Arbosil 1081
- Code: SL8130CTR.
- Accessories: None.

EXECUTION

610 INSTALLATION GENERALLY
- Assembly and fixing: Surfaces designed to falls to drain as intended.
- Fasteners: Nonferrous or stainless steel.
- Supply and discharge pipework: Fix before appliances.
- Fixing: Fix appliances securely to structure. Do not support on pipework.
- Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
- Appliances: Do not use. Do not stand on appliances.
- On completion: Components and accessories working correctly with no leaks.
- Labels and stickers: Remove.

620 NOGGINGS AND BEARERS
- Noggings, bearers, etc. to support sanitary appliances and fittings: Position accurately. Fix securely.

630 TILED BACKGROUNDS OTHER THAN SPLASHBACKS
- Timing: Complete before fixing appliances.
- Fixing appliances: Do not overstress tiles.

670 INSTALLING CISTERNS
- Cistern operating components: Obtain from cistern manufacturer.
- Inlet and flushing valves: Match to pressure of water supply.
- Internal overflows: Into pan, to give visible warning of discharge.
- External overflows: Fix pipes to falls and locate to give visible warning of discharge. Agree location where not shown on drawings.

710 INSTALLING TAPS
- Fixing: Secure against twisting.
- Seal with appliance: Watertight.
- Positioning: Hot tap to left of cold tap as viewed by user of appliance.

720 INSTALLING WASTES AND OVERFLOWS
- Bedding: Waterproof jointing compound.
- Fixing: With resilient washer between appliance and backnut.

725 INSTALLING HAND DRIERS
- Fused connection units:
  - Type: Switched.
  - Engraving: With 'HAND DRIER'.
  - Location: Immediately below ceiling.
- Final connection: Concealed.
  - Containment: 25 mm PVC-U rigid conduit.

755 SEALANT BEDDING AND POINTING

- Bedding: none.
- Pointing: Joints between appliances and walls..

N15
Internal fire and safety signage systems

N15 Internal fire and safety signage systems

To be read with Preliminaries/ General Conditions.

GENERAL

110 FIRE AND SAFETY SIGNAGE SYSTEMS FOR FIRE EQUIPMENT

- System manufacturer: Fire Mart
  Telephone: 0845 519 2135 (Monday to Friday 8:30 - 17:00)
  Email: info@firemart.co.uk (Monday to Friday 7:30 - 21:00 and Saturday to Sunday 10:00 - 18:00)
  Live Chat: If any member of the Firemart team are online please feel free ask us anything.
  Head Office Address: Firemart, 3rd Floor, 82 King Street, Manchester. M2 4WQ.
  - System reference:
    Carbon Dioxide Aluminium Fire Extinguisher ID Sign 150mm x 100mm
    Foam Aluminium Fire Extinguisher ID Sign 150mm x 100mm .
- Location and layout: Above Foam & CO2 extigishers.
  - Language: English.
- Material: Aluminium plate.
  - Other properties: none.

SYSTEM PERFORMANCE

PRODUCTS

EXECUTION

610 FIXING SIGNS GENERALLY

- Installation:
- Secure, plumb and level.
- Fasteners and adhesives: As section Z20.
- Strength of fasteners: Sufficient to support live and dead loads.
- Fixings showing on surface of sign: Must not detract from the message being displayed.

COMPLETION

910 DOCUMENTATION

- Submit:
  - Manufacturer's maintenance instructions.
  - Guarantees, warranties, test certificates, record schedules and logbooks.

N17
Portable fire fighting systems

N17 Portable fire fighting systems

To be read with Preliminaries/ General Conditions.

GENERAL

SYSTEM PERFORMANCE

220 COLOUR CODING
- Portable fire extinguishers: Colour code in accordance with BS 7863.

PRODUCTS

310 CARBON DIOXIDE EXTINGUISHERS
- Standard: To BS EN 3-10.
- Manufacturer: Fire Protection On-line.
  - Product reference: Chrome 2kg CO2 extinguisher.

330 FOAM EXTINGUISHERS
- Standard: To BS EN 3-10.
- Manufacturer: Fire Protection On-line.
  - Product reference: 6 LITRE Chrome litre Foam Extinguisher.

EXECUTION

610 INSTALLING PORTABLE FIRE EXTINGUISHERS
- Mounting height above finished floor level: Stainless Steel Bracket fixed at 1 m.

COMPLETION

910 CLEANING
- Protective wrappings: Remove.
- Cleaning: Clean off and wipe down container finishes.

920 TESTING
- Test standard: To BS 5603-0.
- Test times: At completion.
- Notice for testing (minimum): 4 days.

930 TRAINING
- Training: Submit instruction manuals or supply other appropriate resources to train the users of the building in the safe and appropriate use of the fire extinguishers and fire blankets.
- Fire brigade: Submit contact details.

940 MAINTENANCE
- Servicing: Arrange the first annual service of the portable fire fighting systems.
- Maintenance standard: To BS 5603-0.

P
Building fabric sundries

P10
Sundry insulation/ proofing work

P10 Sundry insulation/ proofing work

SUNDRY INSULATION/ PROOFING WORK

To be read with Preliminaries/ General conditions

TYPES OF INSULATION

190 INSULATION FITTED BETWEEN OR TO THE FACE OF STUDS

- Location: Insert Between studs.
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice..
- Material: Mineral wool to BS EN 13162..
  - Facing: Not required.
- Recycled content: 50% (minimum) to BS EN ISO 14021.
- Thickness: 50 mm.
- Installation requirements:
  - Joints: Butted, no gaps.
  - Fasteners: Use where necessary to retain insulation and/ or prevent slumping.

P12
Fire stopping systems

P12 Fire stopping systems

To be read with Preliminaries/ General conditions.

GENERAL

130 FIRE STOPPING SYSTEM TO INDIVIDUAL SERVICES PENETRATIONS THROUGH ALL FIRE-RESISTING WALLS AND FLOORS see DWG A2.200 A2.201.
- Fire resistance: As clause 240.
- Penetration seal: Intumescent foam as clause 335.
  - Size: Fire resisting silicone..
- Capping sealant: Fire resisting silicone..
  - Colour: White .

160 LINEAR GAP SEALING IN FIRE RESISTING WALLS
- Fire resistance: As drawing A2.200 & A2.201 .
- Gap width or height (nominal): 25 mm.
- Gap filler: Mineral wool strips.
- Capping sealant: Two-part fire resisting polysulfide as clause - contractor's choice.
  - Colour: Contractor's choice .

PRODUCTS

240 FIRE PERFORMANCE TO WALLS AND FLOOR
- Resistance to fire: To BS 476-20 and -22, 30 minutes integrity and insulation.
- Reaction to fire: To BS EN 13501-1, class A1.
- Smoke resistance:
  - Air leakage rate (maximum): 3 $m^3/m^2 \cdot hr$.

305 PRODUCT CERTIFICATION
- Certification: For products specified generically, submit evidence of compliance with the specification.
- Acceptable evidence: Agrément certificate.

330 FIRE STOP LAMINATE
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .
- Strip width: 25mm.

335 INTUMESCENT FOAM
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

338 INTUMESCENT MASTIC
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

340 INTUMESCENT MORTAR
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

342 FIRE RESISTING MORTAR
- Manufacturer: Contractor's choice .
  - Product reference: Contractor's choice .

360 MINERAL WOOL RIGID BATTS
- Standard: To BS EN 13162.
- Manufacturer: as dry lining details DWG A7.100.
  - Product reference: as dry lining details DWG A7.100.
- Recycled content: 50% (minimum) to BS EN ISO 14021.

370 PIPE COLLAR - CONCEALED INTUMESCENT
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

375 PIPE COLLAR - INSULATED WRAP
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

385 SEALANT BACKING MATERIAL
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

390 SEALANT - FIRE RESISTING SILICONE
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

395 SEALANT - ONE-PART FIRE RESISTING ACRYLIC
- Manufacturer: Contractor's choice.
  - Product reference: To BS EN 11600, class ???.

410 SEALANT - TWO-PART FIRE RESISTING POLYSULFIDE
- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice .

EXECUTION

620 WORKMANSHIP GENERALLY
- Gaps: Seal gaps between building elements and services, to provide fire resistance and resist the passage of smoke.
- Adjacent surfaces: Prevent overrun of sealant or mortar on to finished surfaces.

650 INSTALLING FIRE STOP LAMINATE
- Fitting of strips: Compress strips and fit into gap, so that, as they decompress, the strips wedge themselves in the void.
- Shrink wrapping: Do not remove.
- Joints:
  - Ends of strips: Fit intumescent 'end piece' at both ends of run of stop laminate.
  - Joints between strips: Fit two intumescent 'end pieces' at each butt joint.

660 APPLYING INTUMESCENT FOAM

- New joints: Remove builder's debris, mortar droppings, grease, and other contaminants.
- Old joints: Clean and remove existing sealant from each joint.
- Priming: Lightly moisten substrate with water.
- Application: Fill joint to approximately half its depth, and allow foam to expand to face of joint.
- Trimming: Do not trim or cut the face of the cured foam.

670 APPLYING INTUMESCENT MORTAR

- Sequence: Install mortar after services are permanently installed.
- Loose dust and combustible materials: Remove from the opening.
- Shuttering: Install suitable shuttering panels to the faces of the opening.
- Temperature: Do not apply mortar when it could be damaged by frost.
- Powder:water ratio: 1 kg:1.2-1.3 L.
- Mortar cure: Do not disturb mortar before final set has taken place.
- Shuttering: Remove after mortar has cured.

710 INSTALLING MINERAL WOOL BATTS

- Installing batts: Fit tight into void between the penetrating services and the surrounding construction to form a solid barrier.
  - Brackets: Impale batts on proprietary pressed steel brackets at 500 mm maximum centres and not greater than 250 mm from ends of batts..
    Bracket fixing: Not applicable.
- Face of batts: Flush with the surface of wall, floor or soffit.
- Joints between batts: Close butt joints; seal with acoustic intumescent sealant.
- Gaps between services and barrier: Seal with fire resisting sealant.

730 FIXING PIPE COLLAR

- Collar fixing: Adhesive .
- Gap around collar: Seal with gap filler and sealant.
- Length of wraps: Not applicable.

740 INSERTING SEALANT BACKING MATERIAL

- Preparation: Removed debris from service penetration.
- Installation: Build-in joint filler as the work proceeds.

745 APPLYING SEALANTS GENERALLY

- Application: As section Z22.

750 APPLYING CAPPING SEALANT

- Preparation: De-grease using cleaner recommended by sealant manufacturer.
- Priming: Primer recommended by sealant manufacturer.
- Depth of sealant: 15 mm.
- Temperature: Do not apply water based sealants when they could be damaged by frost.

COMPLETION

910 CLEANING

- Masking tapes: Remove.
- Cleaning: Clean off splashes and droppings. Wipe down finishes.

920 INSPECTION

- Notice for inspection (minimum): 3 working days .

P20
Unframed isolated trims/ skirtings/ sundry items

P20 Unframed isolated trims/ skirtings/ sundry items

To be read with Preliminaries/General conditions

110 SOFTWOOD BATTENS FOR BOXING IN TO WASTEPIPES & FRAMING TO CORIAN VANITY WORKTOPS

- Quality of wood and fixing: To BS 1186-3.
  - Species: Contractor's choice.
  - Class: 3.
- Moisture content at time of fixing: 10-14%.
- Preservative treatment: Water-based microemulsion as section Z12, service life 30 years.
- Fire rating: Not applicable.
- Profile: As shown on drawing A4.200 38 X 38mm.
  - Finished size: 38 x 38mm .
- Finish as delivered: Natural.
- Fixing: Nailed at 400mm centres.

111 SOFTWOOD NEW SKIRTINGS THROUGHOUT AND WINDOW BOARD TO OLD PLANT ROOM

- Quality of wood and fixing: To BS 1186-3.
  - Species: European redwood.
  - Class: 1.
- Moisture content at time of fixing: 10-14%.
- Preservative treatment: Water-based microemulsion as section Z12, service life 30 years.
- Fire rating: Not applicable.
- Profile: As shown on drawing A4.200 12 X 100mm and 150 x 20mm to window board (cut to suit).
  - Finished size: 12 X 100mm .
- Finish as delivered: Natural.
- Fixing: 38 mm No 10 woodscrews at 450 mm centres and pelleted..

120 HARDWOOD CISTERN BOXING-IN SHELF

- Quality of wood and fixing: To BS 1186-3.
  - Species: American white oak.
  - Class: 1.
- Moisture content at time of fixing: 9-13%.
- Preservative treatment: Water-based microemulsion as section Z12, service life 30 years.
- Fire rating: Not applicable.
- Profile: Pencil rounded edges.
  - Finished size: 30 x 300 mm.
- Finish as delivered: seal with 5no. light coats of Danish Oil with a very light sanding or wire -wooling in between. Follow manufacturer's instructions with regard to the period required between the applications..
- Fixing: Brass cups and screws at 400 centres.

200 MEDIUM DENSITY FIBREBOARD SKIRTING BOARDS

- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
- Standard: To BS EN 622-5.
  - Type: MDF – general purpose, dry conditions.
  - Formaldehyde class: To BS EN 622-1, Class E1.
- Fire rating: Not applicable.
- Thickness: 12mm x 100mm.
- Edges: square.
- Finish: Prepared and primed & painted as M60/121.
- Recycled content: 60% (minimum) to BS EN ISO 14021.
- Support/ Fixing: Fix to partitions with lost head nails at 600 mm centres..

201 MEDIUM DENSITY FIBREBOARD CILL TO GLASS ENCLOSE

- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
- Standard: To BS EN 622-5.
  - Type: MDF – general purpose, dry conditions.
  - Formaldehyde class: To BS EN 622-1, Class E1.
- Fire rating: Not applicable.
- Thickness: 12mm x 200mm.
- Edges: square.
- Finish: Prepared and primed & painted as M60/121.
- Recycled content: 60% (minimum) to BS EN ISO 14021.
- Support/ Fixing: Fix to softwood grounds with lost head nails at 600 mm centres..

240 PLYWOOD TO BOXING IN TO WC CISTERNS, PARTITIONS, PIPEWORK BOXING-IN GENERALLY

- Face ply species: Contractor's choice.
- Appearance class to BS EN 635: Class II/lll.
- Bond quality to BS EN 314-2: Class 2.
- Fire rating: To BS EN 13501-1, Class A2.
- Thickness: 19 mm.
- Edges: 15 x 6 mm birch lipping, pinned and glued.
- Support/ Fixing: Pinned and glued to softwood grounds.

510 INSTALLATION GENERALLY

- Joinery workmanship: As section Z10.
- Metal workmanship: As section Z11.
- Methods of fixing and fasteners: As section Z20 where not specified.
- Straight runs: To be in one piece, or in long lengths with as few joints as possible.
- Running joints: Location and method of forming to be agreed where not detailed.
- Joints at angles: Mitre, unless shown otherwise.
- Position and level: To be agreed where not detailed.

P31
Holes, chases, covers and supports for services

P31 Holes, chases, covers and supports for services

To be read with Preliminaries/General conditions.

PRODUCTS

EXECUTION

620 HOLES, RECESSES AND CHASES IN IN SITU CONCRETE

- Cast in: Holes larger than 10 mm diameter, recesses and chases.
- Cutting and drilling:
  - Permitted for holes not larger than 10 mm diameter.
  - Not permitted for holes larger than 10 mm diameter except as indicated on drawings.

640 HOLES IN STRUCTURAL STEELWORK

- Cutting and drilling: Not permitted except as indicated on drawings.

650 HOLES, RECESSES AND CHASES IN MASONRY

- Locations: To maintain integrity of strength, stability and sound resistance of construction.
- Sizes: Minimum needed to accommodate services.
  - Holes (maximum): 300 mm².
- Walls of hollow or cellular blocks: Do not chase.
- Walls of other materials:
  - Vertical chases: No deeper than one third of single leaf thickness, excluding finishes.
  - Horizontal or raking chases: No longer than 1 m. No deeper than one sixth of the single leaf thickness, excluding finishes.
- Chases and recesses: Do not set back to back. Offset by a clear distance at least equal to the wall thickness.
- Cutting: Do not cut until mortar is fully set. Cut carefully and neatly. Avoid spalling, cracking and other damage to surrounding structure.

670 NOTCHES AND HOLES IN STRUCTURAL TIMBER

- General: Avoid if possible.
- Sizes: Minimum needed to accommodate services.
- Position: Do not locate near knots or other defects.
- Notches and holes in the same joist: Minimum 100 mm apart horizontally.
- Notches in joists:
  - Position: Locate at top. Form by sawing down to a drilled hole.
  - Depth (maximum): 0.15 x joist depth.
  - Distance from supports: Between 0.1 and 0.2 x span.
- Holes in joists:
  - Position: Locate on neutral axis.
  - Diameter (maximum): 0.25 x joist depth.
  - Centres (minimum): 3 x diameter of largest hole.
  - Distance from supports: Between 0.25 and 0.4 of span.
- Notches in roof rafters, struts and truss members: Not permitted.
- Holes in struts and columns: Locate on neutral axis.
  - Diameter (maximum): 0.25 x minimum width of member.
  - Centres (minimum): 3 x diameter of largest hole.
  - Distance from ends: Between 0.25 and 0.4 of span.

690 INSTALLING PIPE SLEEVES

- Sleeves: Fit to pipes passing through building fabric.
- Material: Match pipeline.
- Size: One or two sizes larger than pipe to allow clearance.
- Finish: Install sleeves flush with building finish. In areas where floors are washed down, install protruding 100 mm above floor finish.
- Masking plates: Fit at visible penetrations, including through false ceilings of occupied rooms.

740 INSTALLING METER CABINETS

- Fixing: Heavy duty masonry fixing bolts.
- Keys: Hand over to Employer at completion.

Q
Paving/Planting/Fencing/Site furniture

Q41
Barriers/ guardrails

Q41 Barriers/ guardrails

To be read with Preliminaries/ General conditions.

TYPES OF BARRIERS/ GUARDRAILS

190 VEHICLE ACCESS POINT BARRIERS

- Manufacturer: Mark.Darlaston@edsuk.com
  EDS (Electrical-Data-Security) Ltd
  Waterside Business Park
  1649 Pershore Road, Kings Norton
  Birmingham. West Midlands United Kingdom B30 3DR UK
  Tel: 08707355050 Fax: 08707355533
  Int Tel: +448707355050 Fax: +448707355533
  edsuk.com.
  - Product reference: Custom made Manual Barriers EDSUKBAM9 Heavy Duty Mild Steel Powdercoated Vehicle Barrier

    6mtrs mild steel powdercoated swing barrier with closing and opening posts.
- Boom:
  - Span: 6mtrs.
  - Type: Horizontal swing gate - Box Section 200mm x 100mm mild steel .
  - Operation: Powered:
    Type 2 power assisted motion; servo-positioning drive/ two directions electrically controlled. Own choice of access side inwards right or inwards left.
    External control unit size (h x w x d):
    600 x 600 x 300 mm.
    Power supply:
    230 V AC, 50/60 Hz.
    Standby power consumption:
    15 VA.
    IP rating (HTS-E01):
    Housing: IP 43.
    Components conducting supply voltage: IP 54..
  - Control system: Proximity card.
  - Colour: Yellow and black.
- Fixings/ Foundations: Expanding anchors grouted into concrete foundation.
- Other requirements: Manual release key.

PERFORMANCE/ INSPECTION/ TESTING

INSTALLATION

405 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
  - UKAS Sector Scheme 2A sub categories: Not required.
  - UKAS Sector Scheme 2C sub categories: (a).

410 WORK ON OR ADJACENT TO HIGHWAYS

- Requirement: Comply with the Department for Transport's 'Safety at street works and road works. A code of practice'. Retain a copy of this document on site at all times during the course of the works.

420 ALIGNMENT

- Erection: Fences/ barriers to present a flowing alignment. Tops of posts to follow ground profile.
- Tolerance: ±30 mm of prescribed alignment and, within any 10 m length, ±15 mm from the straight or required radius.

430 ERECTION GENERALLY

- Protection: Coat all internal and external surfaces of aluminium and steel posts below and up to 150 mm above ground level, with two coats of bituminous paint to BS 6949 type 2, unless other applied surface finish is specified.
- Prevention of electrolytic corrosion: Isolate dissimilar metals.
- Steel components: Do not drill, cut or weld after galvanizing.

470 DRIVING POSTS

- Heads of posts: Protect to prevent damage when driving.

480 CONCRETE FOUNDATIONS FOR POSTS

- Excavations: To have vertical sides. Dispose of all arisings. Blind excavation bottoms with a 50 mm layer of concrete.
- Concrete mix: To BS 8500-2, Designated mix not less than GEN 4 or Standard mix not less than ST5. Do not use admixtures.
- Placing concrete: Fill holes to not less than the specified depth and fully compact. Do not backfill for at least four days.
- Temporary support to posts: Provide for at least four days after placing concrete.

490 DAMAGE REPAIR TO GALVANIZED SURFACES

- Areas of repair: Minor damage, including fixings and fittings.
  - Total area of repair not to exceed 0.5% of total surface area.
  - Each area not to exceed 1000 mm^2.
- Renovation: Use low melting point zinc alloy repair rods or powders or at least two coats of zinc-rich paint to BS 4652.

COMPLETION

900 DOCUMENTATION

- Contents:
  - General product information.
  - Installation information.
  - Inspection and maintenance reports.
- Number of copies: 2 on CDM file on CD & MEMORY STICK.
- Submission: Two weeks prior to date when principal contractor expects work to be practically complete..

Q50
Site/ street furniture/ equipment

Q50 Site/ street furniture/ equipment

To be read with Preliminaries/ General conditions.

GATES AND BARRIERS

SITE AND STREET FURNITURE

210 CYCLE STANDS

- Manufacturer:
  The Bike Storage Company,
  239 Kensington High Street,
  London, W8 6SA
  Company Registration – 9189322
  Tel: 0800 015 7520
  Tel: hello@thebikestoragecompany.co.uk.
  - Product reference: 20 Space Amazon Eco Cycle Enclosure .
- Type: Rack of 20 stands.
- Material: Steel.
  - Finish: Hot dip galvanised to BS EN ISO 1461 AND powder coated to a RAL colour.
  - Colour: RAL 7021.
- Accessories:
  Push button digi lock mechanism
  Sliding mesh gates. .
- Method of fixing: Base plate bolted to 400 x 400 x 400 mm concrete base 100 mm below paving surface. Make good surounding paving to match existing.

INSTALLATION

510 CONCRETE FOUNDATIONS GENERALLY

- Standard: To 8500-2.
- Mix: Designated concrete not less than GEN 1 or standard prescribed concrete not less than ST2.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Holes: 800 x 800 x 800mm .
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

Q55
External decks, boardwalks and bridges

Q55 External decks, boardwalks and bridges

To be read with Preliminaries/ General conditions.

GENERAL

110 DECK TO FIRST AND SEVENTH FLOOR ROOFS

- Base preparation: For supporting steel structure - see layout drawings for steelwork positioning; Roof Repairs as per IKO repai schedule
  ITT 13Appendix K – IKO Roof Report Polimar EC_UV Remedial Specification .
- Structure, other than surfacing: NONE.
  - Fasteners: As drawing A5.106.
- Post setting: Not required.
- Subframing: As drawing A5.106.
- Surfacing: Deck boards as clause 380.
  - Method of attachment: fixed to the timber batten sub-frame using exterior grade screws.
- Guarding: Q-Railing glass balustrade - see L30/560.
- Accessories: Pelleting to deck board fixing holes.

PRODUCTS

305 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests and/ or plantations in accordance with:
  - The laws governing forest management in the producer country or countries.
  - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
  - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
  - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.
- Certification scheme: Forest Stewardship Council (FSC).
- Other evidence: none.

380 DECK BOARDS TO ALL ROOFS

- Manufacturer: Silva Timber Products Ltd.
  tel: 01895 271 300
  www.silvatimber.co.uk
  .
  - Product reference: FSC certified Yellow Balau.
- Material: Hardwood.
- Treatment: Not required.
- Profile: smooth with bevelled edges as supplied.
- Finished size: 145w x 21d x 3350l (cut into quaters to give 795mm lengths) mm.
  - Length: to suit deck design.
- Finish: site-cut ends to be treated with Osmo Wax End Sealer, or similar..
- Features:
  - Pre-drilled 25mm finger holes for lifting/ maintenance purposes - positions as shown on roof layouts.
  - Fasteners: 5.0 x 60mm R4 Stainless Steel; fix two screws into every joist at quater points on the deckboard (36mm from each edge), align fixings across all boards.
  - Pilot holes to be drilled prior to inserting thr screws
  - Recess the screws and use plugs to hide the screw heads
  .

395 SUPPORT PEDESTALS TO SUPPORT DECKING MATERIAL TO ROOF DECK
Manufacturer:
CARO SYSTEMS
Edge Barn, 11 Market Hill, Royston, Hertfordshire SG8 9JN
T +44(0)1763 244446
F +44(0)1763 244111
E info@caro.co.uk
MAIN CONTACT: Roger Wood (Director)].

- Product reference: Adjustable Balcony Pedestal - PV5/9&CP.
  Type: Not applicable.
  Material: Recycled polypropylene.
  Dimensions: 52-84 mm.
  Accessories: CP Support Plate for timber decking.

FABRICATION

510 FABRICATION GENERALLY

- Design: Complete the detailed design and obtain approval prior to commencing fabrication.
- Shop drawings: Submit.
- Structural calculations: Submit.
- Frameworks: Assemble and brace, including temporary members required for installation.
- Contact between dissimilar metals: Avoid.
- Fixings: Fully bolt together. Tighten bolts.
- Temporary support: Do not subject members to non-design loadings.

EXECUTION

610 LOADING

- Site activities: Restrict, to ensure that design loads are not exceeded, or submit proposals for temporary supports.

657 INSTALLATION OF PEDESTALS

Ensure that surface to accept pedestals is clean and free of debris.

Setting out: Mark centre-point of pedestal on substrate surface, with guidelines to ensure square layout.

- Orientation: Align parallel with adjacent features.
- Spacing: [400MM CTRS MAX].
- Additional pedestals: [At perimeters where shown].

Overall movement tolerance (maximum): 3 mm.

660 PRESERVATIVE TREATED TIMBER

- Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
- Heavily worked sections: Re-treat.

665 INSTALLATION GENERALLY

- Fasteners and methods of fixing: As section Z20.
- Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
- Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.

670 INSTALLATION OF SURFACING

- Heading joints: Kept to a minimum, and formed only as butt joints situated over joists.
- Length: Each board must span not less than two bays between joists with joints in adjacent boards staggered.
- Gaps between boards: 4-6mm.

COMPLETION

950 DOCUMENTATION

- Contents:
  - General product information.
  - Installation information.
  - Inspection and maintenance reports.
- Number of copies: 2.
- Submission: 2 weeks prior to date when principal contractor expects work to be practically complete.

Z
Building fabric reference specification

Z10
Purpose made joinery

Z10 Purpose made joinery

To be read with Preliminaries/ General conditions.

110 FABRICATION

- Standard: To BS 1186-2.
- Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
  - Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
- Joints: Tight and close fitting.
- Assembled components: Rigid. Free from distortion.
- Screws: Provide pilot holes.
  - Screws of 8 gauge (4 mm diameter) or more and screws into hardwood: Provide clearance holes.
  - Countersink screws: Heads sunk at least 2 mm below surfaces visible in completed work.
  - Adhesives: Compatible with wood preservatives applied and end uses of timber.

120 CROSS SECTION DIMENSIONS OF TIMBER

- General: Dimensions on drawings are finished sizes.
- Maximum permitted deviations from finished sizes:
  - Softwood sections: To BS EN 1313-1:-
    Clause 6 for sawn sections.
  - Hardwood sections: To BS EN 1313-2:-
    Clause 6 for sawn sections.
    Clause NA.3 for further processed sections.

130 PRESERVATIVE TREATED WOOD

- Cutting and machining: Completed as far as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thicknessed, planed, ploughed, etc.
- Surfaces exposed by minor cutting and/ or drilling: Treat as recommended by main treatment solution manufacturer.

140 MOISTURE CONTENT

- Wood and wood based products: Maintained within range specified for the component during manufacture and storage.

250 FINISHING

- Surfaces: Smooth, even and suitable to receive finishes.
  - Arrises: Eased unless shown otherwise on drawings.
- End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.

Z11
Purpose made metalwork

Z11 Purpose made metalwork

To be read with Preliminaries/ General conditions.

PRODUCTS

310 MATERIALS GENERALLY

- Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
- Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
- Fasteners: To appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

FABRICATION

515 FABRICATION GENERALLY

- Contact between dissimilar metals in components: Avoid.
- Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
  - Moving parts: Free moving without binding.
- Corner junctions of identical sections: Mitre.

520 COLD FORMED WORK

- Profiles: Accurate, with straight arrises.

FINISHING

745 PREPARATION FOR APPLICATION OF COATINGS

- General: Complete fabrication, and drill fixing holes before applying coatings.
- Paint, grease, flux, rust, burrs and sharp arrises: Remove.

780 GALVANIZING

- Standard: To BS EN ISO 1461.
- Preparation:
  - Vent and drain holes: Provide in accordance with BS EN 14713-1 and -2. Seal after sections have been drained and cooled.
  - Components subjected to cold working stresses: Heat treat to relieve stresses before galvanizing.
  - Welding slag: Remove.
  - Component cleaning: To BS EN ISO 8501-3.
  - Grade: St 2.

Z12
Preservative/ fire retardant treatment

Z12 Preservative/ fire retardant treatment

To be read with Preliminaries/ General conditions.

110 TREATMENT APPLICATION
- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
- Operatives: Must have completed the PCA training scheme.
- Certification: For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

120 COMMODITY SPECIFICATIONS
- Standard: Current edition of the Wood Protection Association (WPA) publication 'Industrial wood preservation specification and practice'.

130 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/ TREATMENT CYCLES
- General: Select to achieve specified service life and to suit treatability of specified wood species.

150 WATER-BASED ORGANIC PRESERVATIVE TREATMENT
- Solution:
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Application: High pressure impregnation.
- Moisture content of wood:
  - At time of treatment: Not more than 28%.
  - After treatment: Timber to be surface dry before use.

160 ORGANIC SOLVENT PRESERVATIVE TREATMENT
- Solution:
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Application: Double vacuum + low pressure impregnation, or immersion.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be surface dry before use.

210 FIRE RETARDANT TREATMENT
- Solution type: Dry interior.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Application: Vacuum + pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be redried slowly at temperatures not exceeding 65°C to minimize distortion and degradation.

610 MAKING GOOD TO PRESERVATIVE TREATMENT ON-SITE
- Preservative solution: Compatible with off-site treatment.
- Application: In accordance with preservative manufacturer's recommendations.

620 MAKING GOOD TO FIRE RETARDANT TREATMENT ON-SITE

- Fire retardant: Compatible with off-site treatment.
- Application: In accordance with fire retardant manufacturer's recommendations.

Z20
Fixings and adhesives

Z20 Fixings and adhesives

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FASTENERS GENERALLY
- Materials: To have:
  - Bimetallic corrosion resistance appropriate to items being fixed.
  - Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

320 PACKINGS
- Materials: Noncompressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

340 MASONRY FIXINGS
- Light duty: Plugs and screws.
- Heavy duty: Expansion anchors or chemical anchors.

350 PLUGS
- Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

390 ADHESIVES GENERALLY
- Standards:
  - Hot-setting phenolic and aminoplastic: To BS 1203.
  - Thermosetting wood adhesives: To BS EN 12765.
  - Thermoplastic adhesives: To BS EN 204.

410 POWDER ACTUATED FIXING SYSTEMS
- Types of fastener, accessories and consumables: As recommended by tool manufacturer.

EXECUTION

610 FIXING GENERALLY
- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
- Appearance: Fixings to be in straight lines at regular centres.

620 FIXING THROUGH FINISHES
- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 FIXING PACKINGS
- Function: To take up tolerances and prevent distortion of materials and components.
- Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
- Locations: Not within zones to be filled with sealant.

640 FIXING CRAMPS

- Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
- Fasteners: Fix cramps to frames with screws of same material as cramps.
- Fixings in masonry work: Fully bed in mortar.

670 PELLETED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
- Finished level of pellets: Flush with surface.

680 PLUGGED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Plugs: Glue in to full depth of hole.
- Finished level of plugs: Projecting above surface.

690 USING POWDER ACTUATED FIXING SYSTEMS

- Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
- Operatives: Trained and certified as competent by tool manufacturer.

700 APPLYING ADHESIVES

- Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
- Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Z22
Sealants

Z22 Sealants

To be read with Preliminaries/General conditions.

PRODUCTS

310 JOINTS BETWEEN STRUCTURAL GLASS ASSEMBLY AT ROOF AND EXISTING ROOF UPSTAND STRUCTURE - and EXTERNAL SEALANT TO SS PANELS TO FRONT ENTRANCE DOOR
DOW CORNING® 795 SILICONE BUILDING SEALANT

- Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.

EXECUTION

620 PREPARING JOINTS

- Surfaces to which sealant must adhere:
  - Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
  - Clean using materials and methods recommended by sealant manufacturer.
- Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
- Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
- Protection: Keep joints clean and protect from damage until sealant is applied.

630 APPLYING SEALANTS

- Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
- Environmental conditions: Do not dry or raise temperature of joints by heating.
- Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
- Sealant profiles:
  - Butt and lap joints: Slightly concave.
  - Fillet joints: Flat or slightly convex.
- Protection: Protect finished joints from contamination or damage until sealant has cured.