MINIMUM STANDARD

Roof, Slab and Floor Edge Protection

The following Minimum Standard is applicable on all projects

Introduction

Work at Height is one of the causes of injury within our business and as such when planning Work at Height the hierarchy must always be applied:

- Ensure that permanent edge protection, is included within the design where reasonably practicable, and installed as an integral part of the steel frame erection to provide protection.
- Do as much work as possible from the ground
- Ensure workers can get safely to and from where they work at height
- Ensure equipment is suitable, stable and strong enough for the job, maintained and checked regularly
- Make sure you don't overload or overreach when working at height
- Take precautions when working on or near fragile surfaces
- Provide protection from falling objects
- Consider your emergency evacuation and rescue procedures

Planning

Proprietary Temporary Edge Protection Systems designed to BS EN 13374, such as those provided by Combisafe, Easi-edge and Harsco/SGB **must** be considered as the preferred option for fall prevention from roof/slab/floor edges on Unitas projects.

Temporary edge protection systems are required to be designed to BS EN 13374, this standard provides for 3 differing classifications which in simplified terms are:

- Class A – Angle of the working surface is flat or no more than 10 degrees
- Class B – Angle of the working surface is more than 10 degrees but less than 30 degrees
- Class C – Angle of the working surface is between 30 and 45 degrees

Class A can have their load requirements verified by calculation **or** by specified load tests. Class B & C load requirements **must** be verified by specified load testing, **effectively ruling out scaffold tube and fitting solutions.** Note that Class C compliant Net Barrier Systems are available, designed to satisfy edge protection requirements of steep roofs or large span structures.

Any decision to deviate from selection of a proprietary system **must** be justified by risk assessment, clearly identifying the reasoning behind that decision. Tube and fitting solutions **must** be designed and managed in accordance with the Unitas Temporary Works Procedure and **must** be designed to meet the relevant load requirements of BS EN 13374 **Class A protection,** with verification of calculations undertaken independently by a competent engineer not directly involved in the design. **Class B and C protection** tube and fitting solutions are effectively ruled out as these require verification of load requirements by **specified load testing**.

Example of Best Practice:
Illustrations show a proprietary mesh barrier system being installed as edge protection at roof level.
The steel beams were pre–drilled allowing the mesh barrier system to be secured to the beam at ground level and lifted into position.

Preference must be given to installing all edge protection at ground level. If this cannot be achieved then the use of mobile elevated work platforms (MEWP's) or scaffold must be used. A risk assessment and safe system of work for the installation, use and removal

of the edge protection must be produced, approved by Unitas and communicated to all concerned. Use of personal fall arrest equipment (lanyards and harnesses) is at the bottom of the work at height hierarchy and must only be considered as a last resort.
All proprietary systems must be installed in strict accordance with the specific manufacturer's instructions by persons trained in the use of that system. Particular attention must be given to the manufacturer's maximum stated fixing centres and positioning for brackets from the roof/slab edges and post positioning at corner details.

Pedestrian barriers are only to be used at ground level to define pedestrian routes/boundaries where there are no hazards present to preclude their use. They are not to be used as edge protection or at height whether secured by improvised means or not.

Note:
The addition of any non-specified fixings, sheeting, netting, waste chutes, etc. to these edge protection systems will potentially adversely affect the systems integrity and MUST be subject to design and/or approval from the manufacturer or supplier, details of which must be available on site.

Approval from the Permanent Works Engineer must be sought to confirm that any proposed edge protection solution is compatible with the structures design regarding additional loadings and forces imposed.

The position of these systems must be carefully planned to accommodate the installation of cladding, flashings, gutters etc. to eliminate premature removal or unnecessary adaptations. Finished floor levels (including structural toppings) must be considered when establishing the height of edge protection required.

Manufacturer's information must be checked to establish any height/wind, loading or other restrictions which may rule out selection of specific systems or impose additional design approval requirements.

Procurement
These requirements apply equally regardless of whether Unitas or a sub-contractor is responsible for provision of the temporary edge protection.

Where edge protection provision is to be incorporated within a sub-contract package, early confirmation that these standards will be met is vital. **DO NOT assume that a compliant solution will be provided.**

Competence/Training
All persons erecting, altering or dismantling edge protection solutions must have a demonstrable level of competence. Those erecting tube and fitting edge protection must be trained and competent to the Construction Industry Scaffolding Registration Scheme (CISRS) standard and be in possession of an appropriate grade card.

Documentation
A handover certificate is required on completion of the installation and following significant alteration. Prior to first use and at least every 7 days thereafter, the edge protection must be inspected by a competent person with a record maintained in the relevant section of the Project Register. Additional inspections are required following adverse weather or alterations. Monitoring is required to confirm the continued safe use of this equipment.

Further Guidance/Reference

- INDG401(rev2)
- CITB GE 700
- NASC SG27:09 – Temporary Edge Protection on Open Steelwork
- BS EN 13374Combisafe – www.combisafe.co.uk
- Easi-edge – www.easi-edge.co.uk
- Harsco/SGB – www.harsco-i.co.uk
- Trad Safety Systems Ltd – www.tradsafetysystems.co.uk

OPERATION – ROOF/SLAB/FLOOR EDGE PROTECTION CHECKLIST

Project:

Contract No: Date:

Name of Person Undertaking check or safety monitoring:

	Check	Complete	
1	Is permanent edge protection included within the design, an integral part of the steel frame construction?	✓	×
2	Will the temporary edge protection be a BS EN 13374 proprietary system?	✓	×
3	If not has the alternative selection been justified and designed to BS EN 13374 load requirements?	✓	×
4	Have the needs of all trades been considered in the selection process?	✓	×
5	Can the edge protection be pre-fitted at ground level?	✓	×
6	Have the loads imposed on any temporary works and/or the permanent structure been confirmed as acceptable?	✓	×
7	Does the manufacturers' information stipulate any restriction regarding height/wind loadings?	✓	×
8	Is the installation risk assessment & method statement clear?	✓	×
9	If required, is the fall restraint/fall arrest equipment specified?	✓	×
10	Has fall restraint been given priority over fall arrest?	✓	×
11	Where required, are anchor points for fall restraint/fall arrest specified and confirmed as suitable?	✓	×
12	Are the anchors/attachments correctly positioned (edge distance, spacing, base material capacity, correct corners)?	✓	×
13	Are the attachments secured correctly to the base material?	✓	×
14.	Are the posts secured in to the attachments?	✓	×
15.	Are the barriers at the correct height/securely fitted?	✓	×
16.	Is the guardrail at least 1 metre above the working surface (at all times) with no gaps greater than 470mm?	✓	×
17.	Are adequate measures in place to prevent accidental or unauthorised removal of the edge protection?	✓	×
18.	Is the toe board/ mesh barrier suitable and effective?	✓	×
19.	Has the attachment of any ancillary equipment been approved by the manufacturer or a structural engineer?	✓	×
20.	Are all components compatible and/or part of the proprietary system?	✓	×
21.	Are the installers competent?	✓	×
22.	Are regular inspections carried out by a competent person and recorded?	✓	×
23.	Is the dismantling risk assessment and method statement clear?	✓	×

Signature …….

Date ……