UK Metal Decking Association
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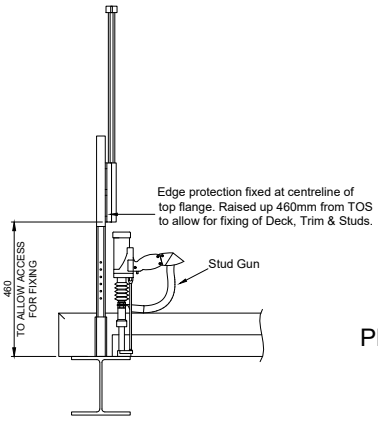
Technical Guidance Bulletin 06

Edge Protection for Metal Decking and Stud Welding

Regular Issues & Solutions

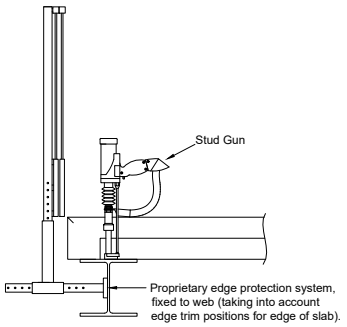
Metal decking and stud welding activities can often be hindered by the inappropriate placement of edge protection systems. Often, the operational and safety issues experienced could be easily avoided if enough consideration was given to the edge protection at the planning stages, in consultation with the metal decking installers / stud welders.

Metal Deckers and Stud Welders need to access the upper face of the structural steel, but this can become difficult and unsafe if the edge protection is placed directly on top of the structural steel or at a height that doesn't allow access with materials and tools. Systems with intermediate protection can also cause access issues and therefore also require consideration.



GOOD PRACTICE

Whether using a proprietary or tubular guardrail edge protection system, the need to adjust the system at different phases of the build should be avoided where possible as this process adds additional safety issues. If adjustment is required, only operatives that have received EPF / FASET Edge Protection Operative Training and system specific training should be permitted to carry out the works, and the Principal Contractor should have arrangements in place for the adjustment to be carried out, supported by appropriate inspections and handovers.



GOOD PRACTICE

> **Note:** EPF training is appropriate where a proprietary edge protection system is being used and FASET training is appropriate where a tubular guardrail system is being used.
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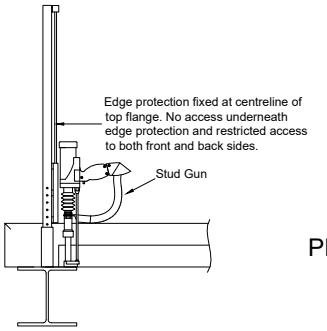
> **Note:** all temporary edge protection systems, including tubular guardrail systems, should comply with *BS EN 13374: 2013+A1: 2018 Temporary edge protection systems. Product specification. Test methods.* Edge protection (including tubular guardrail systems) are not the same as scaffolding which should comply with *BS 12811-1: 2003 Temporary works equipment. Scaffolds. Performance requirements and general design.*



BAD PRACTICE

When selecting an edge protection system for use on floor levels where metal decking and stud welding operations will take place, the following placement considerations should be taken into account.

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Pot Placement

If an edge protection system is placed on the top flange of the structural steel using sacrificial pots, it may not be possible to weld the studs in the necessary location, as shown in Figure 1. To overcome this, it may be necessary to install the edge protection system a height above the structural steel that allows access for the Stud Gun. BS EN 13374: 2013+A1: 2018 allows a maximum gap of 470mm, which is usually sufficient for the stud welding works to be completed. In these cases, it is necessary to progressively install the edge trim which acts as a toeboard and prevents objects (such as studs, screws etc.) falling from the working level.

Consideration should be given to suitable position of the pot on the structural steel, which may give sufficient space for the stud welding operation to be undertaken with the handrail system kept in a lower position. However, consideration for trim installation must still be considered.

Where handrail pots are placed on the top flange of the steel work its highly likely that either decking, flashings or edge trims will need to be notched to fit around the pots. This can be time consuming and the number of necessary handrail pots should be kept to a minimum.

If the system has been installed without toeboards (to allow access to the structural steel), it will usually be appropriate to install these following the concrete placement. Wherever reasonably practicable, the edge protection system should be installed so that it is compliant with BS EN 13374: 2013+A1: 2018 following concrete placement and provide a safe place of work for follow on trades without the need for adjustment.

Cantilevered Systems

Edge protection systems can often be installed cantilevered from the structural steel as shown in Figure 3 and Figure 4, preventing the system from clashing with the footprint of the deck. Thought must be given when designing a cantilevered system so that no part of the system (particularly the upright standards) clash with the designed footprint of the building and the decking drawings. Please note that overhangs from steel can vary throughout a project so it's important to check the decking drawings. This allows for metal decking sheets to be placed to the edge of the structural steel or overhang it without hinderance, as well as allowing studs to be installed on the structural steel. It is necessary to progressively install the edge trim which acts as a toeboard and prevents objects (such as studs, screws etc.) falling from the working level. Wherever reasonably practicable, the edge protection system should be installed so that it is compliant with BS EN 13374: 2013+A1: 2018 following concrete placement and provide a safe place of work for follow on trades without the need for adjustment.

If thought is given to the selection of an edge protection system early on, Metal Deckers and Stud Welders should be able to complete their works without needing to adjust the system (which they may not be trained and competent to do) or working through / over the system. Both of these situations can cause safety issues and delay the progress of works.

Control Measures

Where an edge protection system is installed at a height above the working level and/or there is no toeboard present, the edge trim should be progressively installed as soon as possible to act as a toeboard. The correct placement of trim packs, as detailed on the layout drawing, enables metal deckers / stud welders to quickly install the edge trim, minimising the amount of time the risk of objects falling from the working

level is present. Prior to the edge trim being installed, the risk of falling objects and people should be minimised using appropriate tool/equipment lanyards and personal fall protection equipment.