

Fixing down flooring panels in accordance with BS 4592-1.

1. Fixings Clips.

British Standard BS 4592 recommends where panels are not connected together, a minimum of 4 No. clips shall be used per panel. Lionweld Kennedy Flooring Ltd recommend grating fixing clips are supplied 2 no., per support they are attached to. Lionweld Kennedy Flooring Ltd recommend fixing clips are positioned approximately one quarter of the way in from each secured panels side, reducing panel side rolling from non-uniform imposed loading. Panel side rolling is eliminated by joining adjacent panels together using Lionweld Kennedy Flooring Ltd proprietary Joint Clamps.

1.1 Panel Bowing

Irrespective of fixing clip types, clips shall not be used to remove bowing from a grating panel whilst fixing down to structural supports. Grating shall be firmly pressed down to supports, removing all spaces or gaps between grating and support, before attaching fixing clips. This will ensure fixing clips will hold the panel & it will not loosen under working conditions.

1.2 Fixing Bolts

The minimum diameter of any fixing bolt should be 8mm.

Fixing clip bolts torque values are 5 foot pounds for 8mm bolts.

Fixing bolts shall be supplied with either a lock nut, a nut retaining tab washer, or with a fixing clip designed to retain the nut, e.g. Lionweld 'Type 7' fixing clip.

1.3 Clip - Access

Wherever practicable, clips shall be designed to be fixed or removed by persons working from the upper surface of the flooring secured by those clips.

1.4 Clip Thicknesses

Clip assembly projection above the grating surface shall not be greater than the top clip thickness, or 4mm, whichever is the lesser.

The minimum thickness of any part of the clip assembly should be 3mm; however, this may be reduced if precautions against corrosion are taken.

1.5 Fixing For High Loading / Vibration Levels

In extreme grating deflections areas or when grating is subject to high vibration levels, a Positive Fixing (PF) method should be used by welding, through supports bolting or using suitably designed Hilti type fasteners.

Other recommended methods of Positive Fixing (PF) in lieu of friction grip type fixing clips are, drilling and tapping of supporting steelwork, welding studs or bosses to the supports, or driving studs into the supports using an appropriate tool.

2. Flooring Location

2.1 Extension over Support Structures

The minimum extension of flooring over supports shall be 25mm.

2.2 Lateral Movement Prevention

Flooring should be fixed or contained to prevent lateral movement away from supporting members.

Where flooring possible moves in the span direction away from its supporting structure, the flooring or supporting structure design shall include a suitable method of limiting movement. This movement limiting design may include small pieces of flat or angle bar section, fixed to flooring or support structure in such a manner as to restrict flooring movement. (e.g. a flat or angle bar section protruding below the flooring bottom surface, $\leq 10\text{mm}$ from the support structure). Alternatively, a support structure may be designed to include small pieces of flat bar attached to its top surface to prevent flooring movement until fixed.

2.3 Narrow Grating

Flooring / grating widths should be chosen to ensure no width is $\leq 300\text{mm}$. Where this is unavoidable, the flooring shall be connected to adjacent flooring.

3. Note

3.1 Clips, Scope of Application

In this document the term Clips shall also apply to Hilti & Stainless Steel Fixings as appropriate to the Client's Project Specification.

3.2 Flooring, Scope of Application

This document applies principally to the installation of Steel Products, however it may also be applied to GRP Products as appropriate to the Client's Project Specification.

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