

# The Advantage of Safety Nets When Installing Metal Decking

Safety Nets, used in isolation, provide effective fall protection for the installation of metal decking at height and have become established metal decking industry best practice since the late 1990s.

Reliance exclusively on a safety netting system that provides passive / collective protection, has resulted in minimal recorded injuries due to falls from height during the installation of decking in the last 10 years. Nets are rigged as close as possible to the underside of the steel frame, which generally results in a potential fall height of 500mm with minimal associated risk in the event of a fall.

Fall Arrest Safety Equipment Training's (FASET's) Three C's of Safety Netting:

- Compliant Product Nets manufactured to BS EN 1263-1
- Comprehensive Maintenance
- Competent Riggers & certified to BS EN 1263-2 and BS 8411

The HSE state a preference for collective, passive fall protection (i.e. safety nets) over personal active solutions (i.e. harnesses).

## Other collective protection options

- Decking systems such as platform decking systems or birdcage scaffolds. These options compromise the work below and have increased manual handling risks associated with them.



Figure 1. Safety netting installed as a collective safety measure during metal decking installation



Figure 2. Scaffolding used as a working area for metal decking

- Soft landing systems such as airbags and bean are mainly used when metal decking is being installed to masonry structures. Increased fall heights, the speed of installation, issues at perimeters adjacent to the handrail and handling concerns make this a less favourable solution than netting.



*Figure 3. Air bags used as a collective fall protection system*

- Staging systems have been considered and should be discounted due to the increased risk when the staging is being installed and moved. If a board is located on the leading edge, they need to be manually moved to allow the next sheet to be installed. This creates a hole through which the operative could fall and also introduces a new manual handling consideration as the staging would need to be a minimum of 7m in length.

### **Personal protection options**

Problems surrounding the use of harnesses / lanyards / inertia reels etc. in conjunction with nets include:

- Storey heights – these are rarely sufficient for a personal fall arrest solution to work, taking into account lanyard lengths, shock absorber tear out, operative's body length, stored materials etc.
- Attachment points – anchorages are rarely available in a suitable location and with sufficient structural capacity for fall loads which are dynamic & considerable.
- Inertia reels – although this system protects the operative from falling from one edge, it may not protect them from a fall from another due to the "pendulum" effect.
- Increased risk of fall – operatives often experience snatch or snagging with running lines & inertia blocks which could cause a fall into the net.
- Added risk – the activity of installing / removing personal fall arrest devices at height may increase the overall risk of the decking activity when compared to the use of nets alone.
- Fall injuries - in the event of a fall into the net, an operative attached to personal fall protection could be injured by the tether / lanyard / inertia line.
- Rescue issues – in the event of a fall into the net, the very fact that operatives are attached would complicate any rescue / recovery.

### **Conclusion**

The installation of metal decking is very similar on numerous projects. Safety nets, used in isolation, provide a suitable, sufficient and robust fall arrest solution that satisfies the requirements of legislation and the Health and Safety Risks would not be reduced by introducing active, personal protection; on the contrary, they could very easily increase.

### **Further Reading**

FASET Technical Bulletin 17 - <http://www.faset.org.uk/guidance/technical-bulletins/>