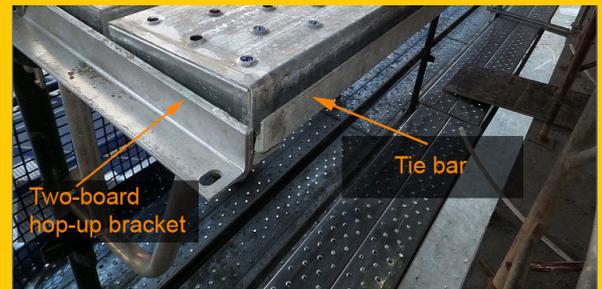


SAFETY ALERT

SCAFFOLDING HOP-UP BRACKET TIE BARS

Background

There have been a number of incidents in Queensland where tie bars have become inadvertently detached and workers have either fallen or been struck by a falling tie bar.



Recommendations

Any single inadvertent force should not be able to dislodge any part of the tie bar. For example, a bouncing motion caused by an object falling down on the scaffolding deck or an inadvertent vertical or horizontal force should not be able to dislodge the tie bar.

The locating pins on tie bars are generally of two types:

- Straight pins
- Pins with a 45 degree bend

half way along the pin.

Pins with the 45 degree bend are usually more effective at helping to prevent inadvertent dislodgement of the pin, particularly when the pin is inserted so that the end of the pin points back towards the scaffolding

The issue of inadvertent dislodgement of tie bars is not specifically discussed in the Queensland Scaffolding Code of

Practice 2009 (the code).

However, section 2.5.3.2 of AS/NZS 1576.1 Scaffolding – General requirements states:

A platform bracket shall be designed so that it cannot be accidentally dislodged or rotated when in use.

Similar principles can be applied to tie bars.

Positions of tie bars

Any tie bar should be installed so that a single distinct action, without a scaffolding plank sitting on top of the bar, cannot dislodge any one pin on the tie bar. Where the scaffolding manufacturer specifically provides documented instructions on the correct installation of tie bars, these instructions must

be followed. In the absence of these instructions, below are a number of examples showing preferred practices and unsafe practices. Not all examples may be highlighted, but the same principles can be used in other scenarios.

In addition to minimising the risk of falling scaffolding

components, the design of the hop-up bracket and tie bar should also reduce the gap between planks. Section 5.7 of the code specifies for working platforms that no single gap between planks exceeds 25 mm and the total gap between all planks does not exceed 50 mm.

Example (a) - Preferred

Tie bar pins with 45 degree bend with end of pin pointing back towards scaffolding.

It is acceptable for the scaffolding plank to be either on top of the horizontal part of the tie bar (refer Photograph 2) or next to the tie bar (refer Photograph 3). When next to the tie bar, the tie bar can either face inwards or outwards (refer Photograph 4). In all of the examples, the tie bar should not become dislodged with one single action. If the tie bar is rotated backwards it will strike the plank.



Example (b) - Preferred

Tie bar with straight pins.

The scaffolding plank is positioned on top of the horizontal part of the tie bar with the plank pushed up against vertical face of the tie bar (refer Photograph 5). In this example, the tie bar is unlikely to become dislodged as both the tie bar and the plank would have to be pushed up vertically at the same time.



Example (c) UNSAFE

Tie bar with straight pins.

Scaffolding plank is positioned next to but not on top of the tie bar. In this example, the tie bar can become dislodged if the bar moves vertically and the plank does not resist movement.



Example (d) UNSAFE

Tie bar pins with 45 degree bend with end of pin pointing away from scaffolding (refer Photograph 8). In this example, the tie bar can become dislodged if it is rotated forwards. There is no plank to resist this movement.



Further guidance can be found from the Scaffolding Code of Practice 2009 & The AS/NZS 1576.1 Scaffolding – General requirements