Properly Securing Scaffold Planks and Decking

Many factors determine the wind forces acting upon scaffolding and scaffold components. Scaffold design begins at the scaffold site where common factors such as topography, prevailing wind conditions, and local regulations play an important part.

Caution: A jobsite-specific safety plan should be developed and implemented for each job. This plan should address actions and procedures that account for severe wind events.

As wind forces are imposed on the scaffolding, many different forces are introduced into the system. A scaffold on the leeward side of a building will experience a negative pressure while a scaffold on the windward side of a building will experience positive pressure. These positive and negative pressures are the reason wall ties are critical to a scaffolds ability to withstand the compression and tension forces that move the scaffold.

When an air stream encounters a building wall perpendicularly, the air only has two directions of travel. The air can flow around the building or it can go vertically up the face of the wall and down the backside of the building, eventually remerging with the air stream. There will be upward pressure on the planks and decking, with the amount of pressure being dependent on the shape of the building. This upward pressure is why wind clips or tie downs are recommended on all planks and decking.

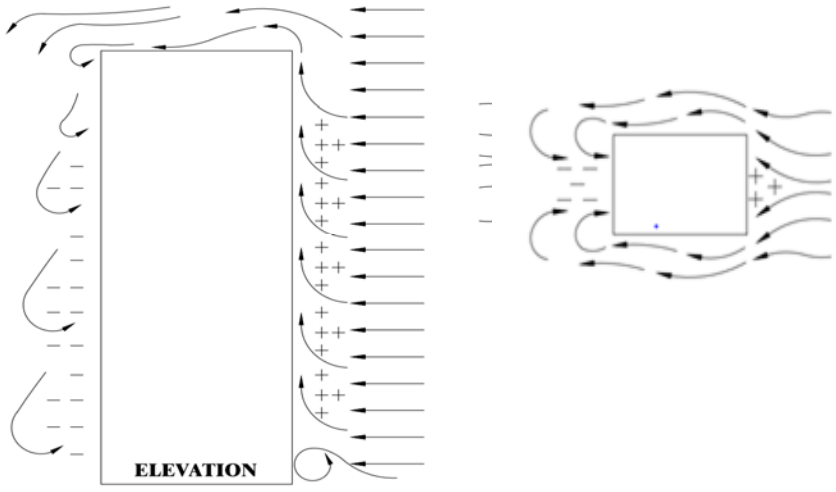

Fig.1-Images of Air Flow as it Travels Around a Typical Building

This Technical Bulletin was prepared by members of the SSFI Plank-Platform Section.

SSFI is a trade association comprising manufacturers of shoring, scaffolding, forming, suspended scaffolding, and planks-platforms. The institute focuses on engineering and safety aspects of scope products.

For instance, the taller the building, the more air that accumulates and moves vertically over the building and the scaffolding. The planks and decks at the top of the scaffold are more susceptible to higher wind pressures; however, it should be recognized that all planks and decks are susceptible 100% of the time to vertical pressures. (Note: In addition to wind clips for decking, it is also important to lock frames and system scaffold legs together using a pin lock or some other method of locking legs to prevent the legs from separating due to wind pressure or any other means.)

There are no specific guidelines regarding how much load a wind clip must withstand. The illustrations below show typical methods of securing scaffold planking:

- Wood Planking is commonly attached to the bearer by wrapping tie around the plank and bearer.

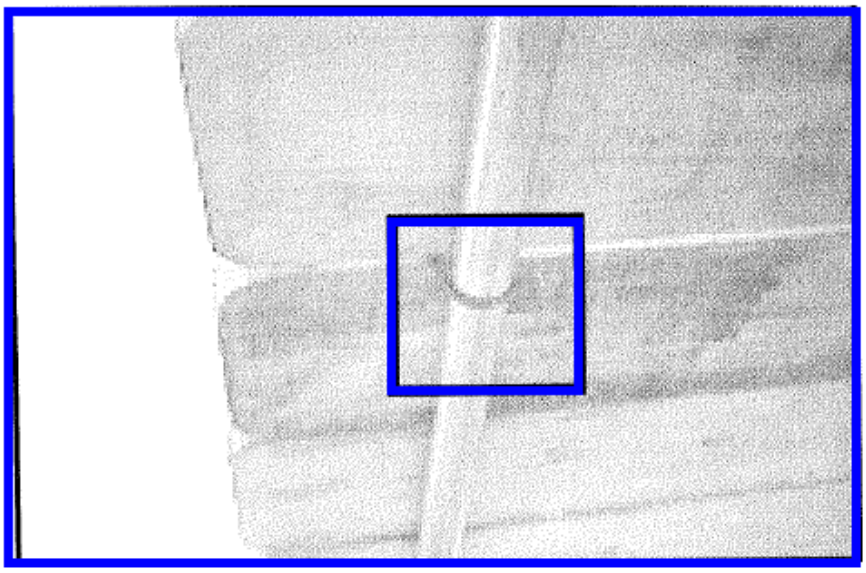

Fig. 2- Wood Plank Lock Against Lift Off

- A fabricated deck often has a clip located on the bottom of the deck which can typically withstand loads anywhere from between 50-300lbs. In instances when no wind clips are provided, tie wire can also be used. The illustration below shows the most common types of wind clips available on fabricated decks:

Fig. 3- Finger Latch

Figure 4- Tab Style Latch

Fig. 5-Hidden Pull Out Latch

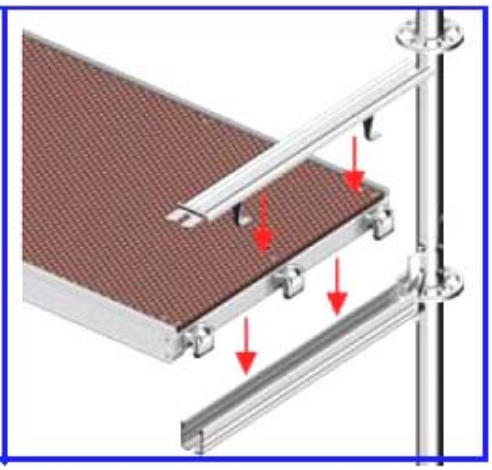

Fig. 6- Lock Against Lift Off Bar for use with channel style bearers typ. found in Europe

- Other methods to prevent uplift include a special style of clamp combination that can be used to counteract uplift. In some frame scaffolds the decks are locked against uplift by the base of the frame above, as shown in the illustration below.

Fig. 7-Frames Locking Decks Against Lift Off

Unsecured planks and decks can create a hazard. Wind clips are vital to a safe working environment on scaffolding and should be in compliance to OSHA 1926.451, subpart L as should the entire scaffolding system.