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## Non-Stop Scaffolding Tie-In Requirements

### Basic Tie-In Concepts

Non-Stop Heavy-Duty scaffolding must be tied to the structure to prevent it from tipping over. Non-Stop differs from other scaffolding in that there is only one work platform that travels up and down the towers. The type, and location, of ties depends on the height of the work platform. When using any type of winter enclosure, the scaffold must be tied more frequently due to increased loads from the effects of wind and weather against the enclosure materials. Contact Non-Stop Scaffolding or an engineer for advice.

### TYPES OF TIES

1. **Stiff Tie.** The Non-Stop Wall Tie-In Bracket is an example of a stiff tie. It restrains the towers from moving toward, or away from, the wall. A stiff tie could also consist of two tension ties pulling in opposite directions, such as guy ropes.
2. **Tension Tie.** A tension tie pulls, but does not push, the scaffold structure. An example of a tension tie would be a guy wire constructed of wire rope and wire rope clamps. Tension ties must be capable of withstanding a force of 1,690 pounds (7.5kN).
3. **Diagonal Tie.** A diagonal tie restrains the scaffold from movement parallel to the wall. It can be a stiff tie or a tension tie installed between the scaffold structure and the building at least 45 degrees in the horizontal plane.

### FREQUENCY OF TIES

The basic spacing is 14 feet (4.3m) horizontally by 24 feet (7.3m) vertically, according to the following guidelines:

4. Tie every 14 feet (4.3m) horizontally in **all** cases. That is, every 14 feet (4.3m) down the length of the wall, whether above or below the work platform. This has the net effect of tying every tower (2 legs x-braced together forms a tower) to the building structure.
5. Tie every 24 feet (7.3m) vertically **under** the work platform (there is one exception - item 9 explained below). Tie alternate legs as you go up. For example, if the left leg of a tower is tied at 24 feet (7.3m), tie the right leg at 48 feet (14.6m). This is the typical usage of the scaffold.
6. Tie every 45 feet (13.7m) vertically **above** the work platform. Ties above the work platform can be tension ties and are mainly stabilizing only the towers above the work platform.
7. Diagonal ties are installed **under** the work platform a maximum of every 54 feet vertically, and every 49 feet horizontally. They must be installed so that they pull against each other if they are tension ties. The angle created between the face of the wall and the tie must be equal to, or less than, 45 degrees in the horizontal plane.

## WHEN TO INSTALL TIES

The horizontal spacing requirement of 14 feet (4.3m) cannot be changed; however, the vertical spacing requirement of 24 feet (7.3m) is the maximum spacing - they can be closer. For example, when tying into brickwork, install the eye-bolt at the end of the day, even if it is only 20 feet (6.1m) high. That way, when the tie is fastened to the eye-bolt the next day, it will be in solid work.

**8. In Service - No Structure to tie to - any wall height up to 552 feet (168m).** Each tower over 45 feet high must be restrained from tipping until the first tie is installed. As the work platform climbs up the towers, the scaffold must be tied to the structure as the platform passes maximum 24-foot (7.3m) vertical increments. No more than 45 feet (7.3m) of unrestrained tower sections are allowed above the work platform. When the work platform exceeds 54 feet, diagonal ties must be installed.

**9. In Service - Building Structure in place - maximum 45-foot (13.7m) wall height.** Before work commences, the scaffold is tied to the structure at the top of the tower. This configuration gives the greatest stability. The wall can be built without installing the intermediate tie at 24 feet. The top tie must not be removed until work is complete and the work platform has been lowered below the 24-foot (7.3m) level. If this method is not practical, the scaffold can be tied in as work progresses exactly as in Item 5 above.

**10. In Service - Building Structure in place - any wall height up to 552 feet (168m).** Each tower over 45 feet high must be restrained from tipping until the first tie is installed. The scaffold structure above the work platform may be as high as desired as long as it is tied according to item 6 above. As the work platform climbs up the towers, the scaffold must be tied to the structure, as in item 5 above, as the platform passes maximum 24-foot (7.3m) vertical increments.

**11. Out of service - Next to structure.** The scaffold must remain tied to the building structure as in item 6 above until the tower sections are actually being removed.

**12. Out of service - In the open.** Any scaffold towers over 18 feet high free-standing, and not in place next to a structure, must be shortened to 18 feet high and guyed down or otherwise restrained from tipping by high winds or other forces.

## SCAFFOLD FOUNDATION

**13. Ground Loads.** It is the user's responsibility to provide a firm foundation for the scaffold structure. At all times the foundation must be capable of supporting the expected load multiplied by 4. Use the following multipliers to calculate expected loads:

Scaffold structure only, 45 feet high: 356 pounds per point (leveling jack). Add 48 pounds per point for each additional 9 feet of height.

Material Load: 1,000 pounds per point (leveling jack). This is using the maximum recommended 4,000 pounds per bay, landed in every other bay.

Men and planks: 200 pounds per point (leveling jack).

For any additional information or clarification please call Non-Stop at 1-800-845-0845