

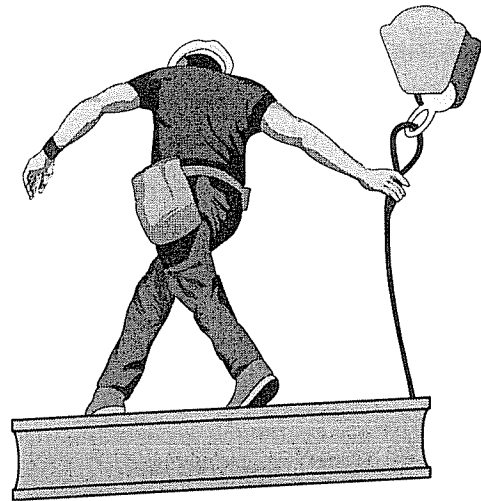
## STEEL ERECTION

### FLOORING REQUIREMENTS - §1926.750

#### Permanent Flooring - Skeleton Steel Construction in Tiered Buildings

The permanent floors shall be installed as the erection of structural members progresses, and there shall be not more than eight stories between the erection floor and the uppermost permanent floor, except where the structural integrity is maintained as a result of the design.

At no time shall there be more than four floors or 48 feet of unfinished bolting or welding above the foundation or uppermost permanently secured floor.



#### Temporary Flooring - Skeleton Steel Construction in Tiered Buildings

The derrick or erection floor shall be solidly planked or decked over its entire surface except for access openings. Planking or decking of equivalent strength, shall be of proper thickness to carry the working load. Planking shall not be less than 2 inches thick full size undressed, and shall be laid tight and secured to prevent movement.

On buildings or structures not adaptable to temporary floors, and where scaffolds are not used, safety nets shall be installed and maintained whenever the potential fall distance exceeds two stories or 25 feet. The nets shall be hung with sufficient clearance to prevent contacts with the surface of structures below.

A safety railing of ½-inch wire rope or equal shall be installed, approximately 42 inches high, around the periphery of all temporary-planked or temporary metal-

decked floors of tier buildings and other multi-floored structures during structural steel assembly.

When skeleton steel erection is being done, a tightly planked and substantial floor shall be maintained within two stories or 30 feet, whichever is less, below and directly under that portion of each tier of beams on which any work is being performed, except when gathering and stacking temporary floor planks on a lower floor, in preparation for transferring such planks for use on an upper floor. Where such a floor is not practicable, paragraph (b)(1)(ii) of this section applies.

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On buildings or structures not adaptable to temporary floors, and where scaffolds are not used, safety nets shall be installed and maintained whenever the potential fall distance exceeds two stories or 25 feet. The nets shall be hung with sufficient clearance to prevent contacts with the surface of structures below.

When gathering and stacking temporary floor planks, the planks shall be removed successively, working toward the last panel of the temporary floor so that the work is always done from the planked floor.

When gathering and stacking temporary floor planks from the last panel, the employees assigned to such work shall be protected by safety belts with safety lines attached to a catenary line or other substantial anchorage.

**Flooring - Other Construction**

In the erection of a building having double wood floor construction, the rough flooring shall be completed as the building progresses, including the tier below the one on which floor joists are being installed.

For single wood floor or other flooring systems, the floor immediately below the story where the floor joists are being installed shall be kept planked or decked over.

### STRUCTURAL STEEL ASSEMBLY - §1926.751

- During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts, or the equivalent at each connection and drawn up wrench tight.
- Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.
- In steel framing, where bar joists are utilized, and columns are not framed in at least two directions with structural steel members, a bar joist shall be field-bolted at columns to provide lateral stability during construction.
- Where longspan joists or trusses, 40 feet or longer, are used, a center row of bolted bridging shall be installed to provide lateral stability during construction prior to slacking of hoisting line.
- No load shall be placed on open web steel joists until these security requirements are met.
- Tag lines shall be used for controlling loads.

## **BOLTING, RIVETING, FITTING-UP, AND PLUMBING-UP - §1926.752**

### **General Requirements**

- Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.
- Pneumatic hand tools shall be disconnected from the power source, and pressure in hose lines shall be released, before any adjustments or repairs are made.
- Air line hose sections shall be tied together except when quick disconnect couplers are used to join sections.
- Eye protection shall be provided in accordance with Subpart E, *Personal Protective and Life Saving Equipment*.

### **Bolting**

- When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.
- Impact wrenches shall be provided with a locking device for retaining the socket.

### **Riveting**

- Riveting shall not be done in the vicinity of combustible material unless precautions are taken to prevent fire.
- When rivet heads are knocked off, or backed out, means shall be provided to keep them from falling.

- A safety wire shall be properly installed on the snap and on the handle of the pneumatic riveting hammer and shall be used at all times. The wire size shall not be less than No. 9 (B&S gauge), leaving the handle and annealed No. 14 on the snap, or equivalent.

### **Plumbing-Up**

- Connections of the equipment used in plumbing-up shall be properly secured.
- The turnbuckles shall be secured to prevent unwinding while under stress.
- Plumbing-up guys related equipment shall be placed so that employees can get at the connection points.
- Plumbing-up guys shall be removed only under the supervision of a competent person.

### **Miscellaneous Requirements**

- Wood planking shall be of proper thickness to carry the working load, but shall be not less than 2 inches thick full size undressed, exterior grade plywood, at least  $\frac{3}{4}$ -inch thick, or equivalent material.
- Metal decking of sufficient strength shall be laid tight and secured to prevent movement.
- Planks shall overlap the bearing on each end by a minimum of 12 inches.
- Wire mesh, exterior plywood, or equivalent, shall be used around columns where planks do not fit tightly.
- Provisions shall be made to secure temporary flooring against displacement.

- All unused openings in floors, temporary or permanent, shall be completely planked over or guarded in accordance with Subpart M, *Fall Protection*.
- Employees shall be provided with safety belts in accordance with §1926.104 when they are working on float scaffolds.