



GEORGIA TECH'S SAFETY AND HEALTH CONSULTATION PROGRAM

Fall Protection in the Steel Erection Industry Tech Guide

Introduction

In the Southeast OSHA region IV, there were approximately seven fatalities. The fatalities were either falls (72% of the cases) or struck by events (28% of the cases).

There are several fall hazards related to steel erection activities that include:

- Uncovered floor or roof holes.
- Lack of safe work practices to prevent falls, such as, establishing a controlled decking zone.
- Lack of fall arrest equipment for connectors and decking personnel.

Administration and Engineering Controls

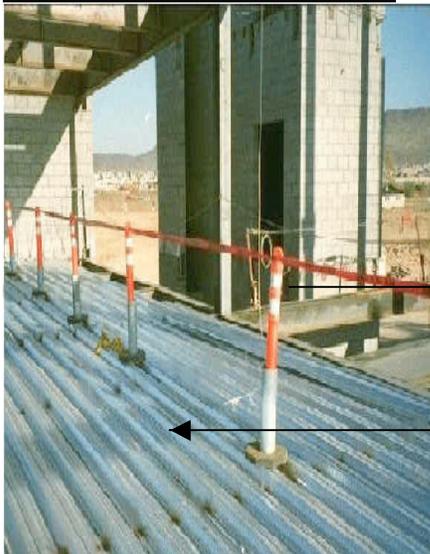
The OSHA steel erection standard, Subpart R, 29 CFR 1926.750, is the minimum standard that has to be practiced for fall protection.

A. Floor Hole Covers

Holes or roof openings must be adequately guarded. The best way to protect steel erectors from openings is to not cut the hole until absolutely necessary. Deck openings must be either protected by a railing system or a cover that meets the following criteria:

- The cover must be strong enough to support twice the weight imposed on them (skylights would not be considered to be an adequate cover).
- The covers have to be secured in place to prevent accidental displacement.
- The cover must be marked with wording “HOLE” or similar.

B. Controlled Decking Zones



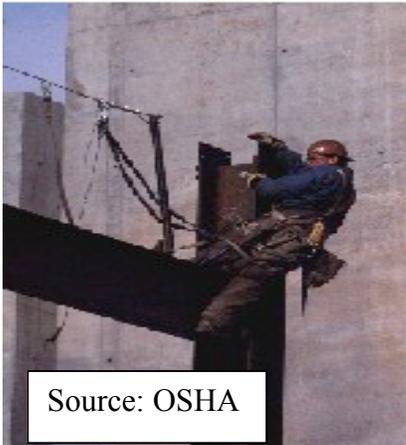
A controlled access zone must be established to protect decking personnel at 15-30 ft. Fall protection must fall protection at two stories or 30 ft. Deck attachments must be installed in CDZ from leading edge back to control line with at least two attachments per panel.

The boundary of the controlled access zone must be clearly defined.

Controlled decking zones must not exceed a width of 90 feet and shall not exceed 90 feet from the ledge. There is a 3,000 square foot limit on unsecured decking.

C. Fall Protection Equipment

There are several types of fall protection equipment, passive and active systems that may be used to protect workers during steel erection. Passive systems consist of guardrails and safety nets. The steel erection company may leave the guardrails in place to protect other trades, if the controlling party directs them, inspects the system, and accepts responsibility and control of the system. Active systems require manipulation by the employee and consist of harnesses, lanyards, and anchorage points.



Source: OSHA

Connectors at more than two stories or 30 feet must be protected with convention fall protection and complete connector training.

Connectors working between 15 ft. and 30 ft. must be provided with a complete fall arrest system and wear the equipment necessary to tie off.

All fall protection, such as nets, guardrails, and fall arrest systems, must meet the requirements of 1926.502.

D. Safety Training

A fall hazard training program must be established and include:

- The recognition and identification of fall hazards,
- Use of and operation of fall protection equipment,
- Setting up and inspecting fall protection system, and
- Implementation of procedures to prevent falls.

Special training may be required for personnel involved in select activities, such as, multiple lifting, connector procedures, and CDZ procedures.

Resources and Web Links:

- Occupational Safety and Health Administration, www.osha.gov/steelerection
- NIOSH, www.cdc.gov/elcosh/docs/d0500/d00523/d00523.html
- NIOSH, www.cdc.gov/elcosh/docs/d0500/d00533/d00533.ppt
- Associated General Contractors, www.agc.org
- American Institute of Steel Construction, www.aisc.org/content/navigationMenu/Safety/Resources1/Resources.htm