



Major Points to Remember Concerning OSHA Steel Erection Standard & VOSH-Specific Standards

Controlling Contractor Provides Steel Erector with:

- Concrete piers & walls field cured test data
- Information on any repairs of anchor bolts
- Adequate roads & equipment pads

Steel Erector needs a Site-Specific plan only when:

- Safety latch on hock cannot be used
- Steel joists at/near column's span is greater than 60 feet
- Must place bundles of decking on joists before all decking is secured

Multiple Lift rules:

- Up to 5 members allowed
- Multiple lift rigging assembly capacity (manufactured or field made) to be certified by manufacturer or rigger
- Crane manufacturer must agree to multiple lifting
- Rigged from top-down with at least 7 feet apart
- Set steel from bottom up only
- Be sure certifications are in writing and on site

Structural Steel Assembly

- Not more than 8 stories between erection floor & uppermost permanent floor except if designed so
- Never more than 4 floors or 48 feet of unfinished bolting/welding above foundation or uppermost permanently secured floor
- Fully planked or decked floor within 2 stories or 30 feet under any erection work being performed (even when using 100% tie off)
- No shear connectors until after metal decking is installed
- After July 2006 must have slip-resistant coated structural steel members

Plumbing up:

- Do this prior to loading structure with bundles of material

Metal Decking:

- Roof holes/floor holes shall have structural members turned down so that can be decked over - if not possible (i.e.: elevator shafts) then protect with fall protection (standard rail or PFAS)
- Decking holes not to be cut until needed
- Covers for roof & floor holes must support 2 times weight of workers/material/equipment; secured; mark with "cover/hole" (also in Spanish if appropriate to site)
- Decking gaps around columns also need covers

Column Anchors:

- Minimum of 4 anchor bolts/rods per column
- No repairs unless approved by project structural engineer

Beams & Columns:

- Load not to be released from hoisting line until secured with at least 2 bolts per member

Falling Objects:

- Secure everything aloft (bolt buckets and tools not in hand/on belt)
- Keep other workers out from under area of steel erection

Fall Protection

- Virginia has a specific rule that overrides the federal standard. Virginia requires fall protection at 10 feet. The only exception to this rule for steel erection is for a connector who is in place and ready to handle steel at which time a connector may make a personal decision that current conditions would make it more dangerous to be tied off while placing and making the first two-bolt connections. (Connectors must be tied off while waiting for steel to be rigged or brought to their level).
- Fall Protection can be achieved by use of one or more options found at Subpart M (Standard Guard Rails, Personal Fall Protection System, Positioning Device, Nets, etc.)
- Perimeter safety cable must meet 1926.502 (b) = $\frac{1}{4}$ inch wire rope, 8-foot stanchions, flagging every 6 feet, less than 3 inch deflection.

- Fall protection stays in place after steel erection only if the controlling contractor has authorized it to stay in place and controlling contractor inspects and accepts control.

Training is required for:

- All workers exposed to fall hazards
- Connectors
- Multiple lift riggers
- Leading Edge Decking Operations

Virginia Leading Edge Decking Operations (LEDO):

- Virginia has a state-specific decking operations rule that overrides the federal Controlled Decking Zone (CDZ). The Virginia-specific LEDO looks similar to the federal CDZ except that whenever there is a fall hazard of 10 feet or more then fall protection must be used. Most likely this will be PFAS using a system of overhead column to column tag lines as anchor points.
- Only employees engaged in LEDO are allowed in the work area
- Boundaries of the LEDO are to be designated and marked
- Not more than a 90-foot x 90-foot area from the leading edge
- Workers must be trained in LEDO
- No shear connector work in LEDO

Demarcation of Leading Edge Decking Operations:

- Control line not less than 6 feet and not more than 90 feet from the leading edge
- Control lines must run parallel along entire length
- Control lines are connected on sides to guard rail or other anchor

In Subpart R we find the following types of fall protection mentioned:

- Standard Guard Rails
- Safety Nets
- Personal Fall Arrest Systems (PFAS)
- Positioning Device (the old body belt)
- Fall Restraint Systems (either a PFAS or Positioning Device)

See OSHA information at www.osha.gov

See VOSH information at www.doli.state.va.us