

## **(Workplace) Deadly Dozen Activities and Hazards**

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The primary cause of fatalities and serious injury on the jobsite can be narrowed down to twelve hazardous conditions. The Ironworkers union refers to these as the Deadly Dozen Hazards and has committed to a long term educational campaign to help workers spot and correct hazards before they become deadly.

### **The Deadly Dozen**

1. Falls through unprotected or inadequate floor opening covers.
  - Contributing factors include: 1) plywood/temporary floor weight requirements; 2) wind displacement; 3) improper use of fall arrest equipment; and, 4) inadequate use of hazard access zone and the cone and bar system. Protecting Floor and Roof Openings.
2. Collapse of unsecured open web steel joists.
  - Contributing factors include: 1) the lack of sufficient guying and bracing; 2) lack of clear regulatory responsibility; 3) other trades on the jobsite prematurely removing column support guys to install formwork; and, 4) Accelerated pour schedules and “fast track” formwork.
3. Lack of fall protection and inadequate use of fall arrest equipment.
  - Contributing factors: 1) lack of training; 2) unprotected side or edge; and, 3) More than 15 ft above lower level.
4. Falls during installation of floor and roof decking—high elevations
  - Contributing factors include 1) a false sense of security; 2) confusion regarding fall protection requirements for connectors; 3) installation of floors and roof; 4) reinforcing steel; and, 5) inadequate use of positioning device and fall arrest equipment.
5. Material handling injuries during steel erection and reinforcing steel activities.

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- Contributing factors: 1) failure to adequately secure the joist ends; 2) inadequately secured landing bundles; and, 3) open web steel joists are not adequately secured prior to landing deck bundles, bridging bundles, or other construction materials.
6. Column collapse due to anchor bolt failure and/or insufficient concrete strength.
- Contributing factors: 1) Use of (4) Anchor Bolts minimum; 2) No Notification of Concrete Strength Prior to Steel Erection (75% level); 3) environmental and site conditions; and, 4) adequate inspection
7. Structural collapse of unsupported reinforcing steel columns, walls, and decks.
- Contributing factors: 1) inadequate braces; 2) unstable trenches; and, 3) imbalanced loads.
8. Struck-by injuries from falling objects, tools, and materials.
- Contributing factors: 1) inadequate use of tool tethers; 2) entanglement from tool lanyards; and, 3) simultaneous construction activities below drop hazard work environments.
9. Caught between injuries during hoisting and rigging operations.
- Contributing factors: 1) aerial lift equipment; 2) poorly planned staging areas; 3) inadequate bracing; 4) collapse; and, 5) clothing or tool catch
10. Impalement from unprotected reinforcing dowels or other vertical projections.
- Contributing factors include 1) Unprotected Rebar Dowels; 2) reliance on mushroom caps; 3) improper wooden trough installment or safety precautions; and, 4) awareness of other impalement dangers.
11. Electrical hazards and injuries from high-voltage power lines.
- Contributing Factors: 1) Crane assembly; 2) rigging operations; and, 3) other activities near electrical wires.
12. Heat illness and toxic exposure to chemicals and air-borne contaminants.
- Contributing factors: 1) high heat; 2) lack of water-rehydration; 3) Long-term exposure to air-borne contaminants; and, 4) welding fumes

Unfortunately these deadly dozen are the cause of most injuries and deaths on jobsites.

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