



Impalement Hazards

Impalement hazards are especially prevalent in masonry trades with rebar and ground stakes and create a significant risk for employees. Workers must be aware of the hazards associated with protruding impalement hazards and know the importance of correcting impalement hazards.

Understanding the Standard

OSHA's standard, 29 CFR 1926.701(b), states: "all protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement." This applies to all sharp protrusions, not just rebar. Anything with the potential to cause impalement should be capped, guarded, or mitigated so that the hazard no longer exists. All rebar (no matter the height) and anything above 4 inches should be considered an "impalement hazard" such as studs and large screws.

Ways to Reduce Impalement Risks

Rebar caps

Most rebar caps have flat square or circular plastic surfaces. These are usually 4 inches by 4 inches wide. Safex recommends rebar caps over the following alternatives.



Bend the rebar

The most cost effective method, bend the rebar in such a way that the impalement hazard no longer exists. The rebar can be installed "pre-bent" or bent with a tool.



Wood caps

Wood caps or other manufactured troughs can be used only if they are built in accordance to an engineer's drawings and signed off by the engineer. They must be capable of withstanding 250 pounds of force from 10 feet.



What to look out for



- Exposed rebar – The moment that the rebar is installed, it should be capped or bent.
- Exposed studs – If the studs are over 4 inches, they pose a significant risk of impalement and should be protected.
- Water or sports drink bottles – These are not capable of providing adequate protection.
- Mushroom caps or bump caps – These are only designed to prevent cuts and abrasions. They should not be used when there is an impalement hazard.