

Toolbox Talk

Concrete and Masonry - 1926.700

More than 250,000 people work in concrete manufacturing. Over 10 percent of those workers - 28,000 - will experience a job-related injury or illness from exposure to Portland Cement, or the physical demands of placing concrete.

The mixing and placement of concrete comes with many health and safety risks:

- Eye, skin, and respiratory tract irritation from exposure to cement dust
- Inadequate safety guards on equipment
- Inadequate lockout/tag out systems on machinery
- Overexertion and awkward postures
- Slips, trips and falls
- Chemical burns from wet concrete

Dry Portland Cement

Exposure to Portland cement dust can irritate eyes, nose, throat and the upper respiratory system. Skin contact may result in moderate irritation to thickening/cracking of skin to severe skin damage from chemical burns. This hazard exists when mixing concrete or mortar

Solutions:

- Rinse eyes with water if they come into contact with cement dust and consult a physician.
- Use soap and water to wash off dust to avoid skin damage.
- Wear a P-, N- or R-95 respirator to minimize inhalation of cement dust.
- Eat and drink only in dust-free areas to avoid ingesting cement dust.

Wet Portland Cement

Exposure to wet concrete can result in skin irritation or even first, second or third-degree chemical burns. Trace amounts of hexavalent chromium are present which are harmful to the skin.

Solutions:

- Wear alkali-resistant gloves, coveralls with long sleeves and full-length pants, waterproof boots and eye protection.
- Wash contaminated skin areas with cold, running water as soon as possible.
 - Use a pH Neutral soap, do not use alcohol or citrus based soaps
- Rinse eyes with water for at least 15 minutes and then go to the hospital for further treatment.

Heads Up

It's common for people working on the ground or bent over to assume they do not need to wear head protection, but flat-workers are often in a space of overhead dangers. When your focus is on the ground

ahead, you often miss the people and objects around you. Hardhats are required anytime there is an overhead danger present.

- Spread footings and foundations (poured or block)
- Lower level floors (basements and crawl space)
- Work early in process when unfinished elements are present
- Pouring driveways with other trades on site (siding, gutters, etc.)

Solutions:

- Avoid working beneath concrete truck chutes, conveyor belts, pump truck hoses, crane bucketing, access points.
- Stack and store materials properly to limit the risk of falling objects.
- Hard Hats, you can't watch out for others when your focus is on the ground.

1926.702(h) Bull floats

Bull float handles used where they might contact energized electrical conductors, shall be constructed of non-conductive material or insulated with a non-conductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of non-conductive material.

Ergonomics

Ergonomic hazards are the strains, sprains, abrasions, and body aches that come from doing a repetitive or unusual motion. These are the injuries that might not show right away, but cause days away from work or lost time.

Fun Fact: Concrete weighs about 150 lbs per cubic foot. Moving concrete by the shovel or wheelbarrow is asking for a strain injury and blistered hands.

Solutions:

- Use Concrete Buggies when possible.
- Avoid twisting while carrying a load.
- Keep floors clear to avoid slipping and tripping hazards.
- Avoid working in awkward postures.
- Powered trowels and screeds when available

Summary

Wear proper PPE to protect from dry or wet cement dusts during mixing, pouring, or cutting. Check the site for overhead dangers before starting, and use non-conductive tools around electricity. Use powered equipment to minimize Ergonomic Issues, and Administrative Controls ensure everyone is using safe work practices.