

Concrete Work

Learn the hazards, precautions, and best safety practices for concrete work in construction.

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Concrete work is a tough and physically demanding job with a high risk of injuries because of the many hazards it presents. There are more than 250,000 people who work with concrete everyday, and of those workers, around 28,000 are injured each year.

Hazards of concrete work

There are several common hazards of concrete work that can pose a risk to employees working with both wet and dry concrete.

Dry concrete hazards

Dry concrete can irritate the eyes, nose, throat, and upper respiratory system. Skin contact may result in "concrete burns" and ailments ranging from moderate irritation to thickening or even cracking of the skin.

If employees are exposed to silica dust for long periods of time, they also run the risk of developing [silicosis](#) and/or lung cancer.

Wet concrete hazards

Wet concrete can pose health hazards like skin irritation or chemical burn with prolonged skin contact or overexposure.

Poor ergonomics

When working with concrete, health hazards can develop that most workers may not normally expect due to poor ergonomics.

Improper lifting techniques, awkward posture, and repetitive motion can lead to sprains, strains, and other musculoskeletal disorders.

Common concrete dangers

There are many different ways concrete construction accidents can happen. When working on or around concrete, you must be constantly vigilant and observe safety guidelines at all times.

Some common mishaps that can cause an accident with concrete include:

- Workers falling on concrete slabs
- Workers being crushed by slabs falling from cranes or forklifts
- Workers being pinned in between two slabs
- Workers suffering [heat stroke](#) while cleaning and working
- Workers being impaled on rebar sticking out of concrete slabs
- Workers getting caught in concrete mixers or even covered with concrete
- Workers being blinded or burned by chemicals in concrete

Many of these accidents may occur due to unforeseeable circumstances, but risk increases exponentially if employees are not paying attention and are negligent of safety rules.

Concrete work safety practices

Concrete is used on most construction sites. Some ways to protect yourself from the hazards and dangers of working with concrete include:

Personal protective equipment (PPE)

- Concrete [PPE](#) includes heavy-duty waterproof gloves and slip-resistant boots
- Gloves need to be long enough to protect your arms up to your elbow
- Boots should be high enough to protect your legs
- If you are kneeling, protect your knees at all times
- Safety glasses should be worn to prevent concrete from splashing in your eyes

Concrete placement

- Use extreme caution when stepping on forms and tied rebar that may not support your weight
- If you are using a concrete bucket, watch for pinch points
- Maintain good communication with the concrete pump operator
- If using rebar caps, make sure to replace a cap if it falls off
- Watch for tripping hazards that can be hidden in concrete

- When placing concrete vertically, make sure you [use proper fall protection](#)

Finishing concrete

- Before using a bull float, check for [overhead electrical hazards](#) - some of the handles can be over 20 feet long
- Power trowels need to have positive or dead man's switches only
- If you are using chemicals to finish the concrete, make sure you read the safety data sheet (SDS)
- If dust is created by dried concrete, take the proper precautions to protect against [silica hazard](#)
- When pulling vertical forms, stay out of the fall areas and make sure warning signs are used

Minimize poor ergonomics

- Use hand trucks and forklifts when possible
- Utilize [proper lifting techniques](#), and bend and lift with your knees
- Ask for assistance lifting if needed
- Avoid twisting while carrying a load and shift your feet and take small steps in the direction you want to go
- Keep floors and work areas clear to avoid [tripping and slipping hazards](#)

General precautions

- If you are eating and drinking, only do so in dust-free areas to avoid ingesting cement dust
- Communicate with other employees and let a supervisor know if you see a problem or hazard
- Pay attention to what is going on around you and help your coworkers when needed
- Be sure to understand how to perform all your job duties and how to use tools and equipment safely
- Make sure your equipment is working properly before each use
- Never overload hoists, cranes, or forklifts
- If you are using a vehicle, make sure it is in good working order with audible backup warning signals

Manufacturing concrete hazards

Manufacturing concrete can pose health and safety risks for all workers involved. The most common OSHA citations when manufacturing concrete are:

- Hazard communication
- Lockout/tagout
- Confined spaces
- Respiratory protection
- Guarding floor and wall openings and holes
- Electrical wiring methods
- [Noise exposure](#)
- [Forklifts](#)
- Electrical systems design
- Machine guarding

If you are working in and around the manufacturing of concrete, make sure you understand OSHA standards to keep yourself and fellow coworkers safe.

What to do if exposed to concrete hazards

If you follow all safety precautions and you are still exposed to hazards involving concrete, there are some steps you should take:

- Flush your eyes using a full eyewash station if they encounter concrete dust
- Use soap and water to wash off any dust that has come in contact with skin to avoid damage and concrete burns
- If flushing eyes or using soap and water do not relieve irritation, then you should consider seeking medical care for further treatment
- Always make your supervisor aware of any injury you may have incurred

In conclusion

Construction workers or [concrete contractors](#) working with concrete may be exposed to several different hazards throughout the concrete construction process. They must be aware of the necessary precautions and know how to implement safety guidelines in everyday work.

Should you have a safety concern, please let your supervisor know. If an injury occurs, report it as soon as possible.