Concrete Construction Safety Meeting Kit

Concrete is a versatile and strong material for construction. Concrete workers are just as versatile when performing excavations, carpentry, metalworking, pouring, and smoothing to create concrete structures.

The potential for serious injuries and even fatalities is very high when thinking about work for concrete and masonry workers. The potential for employees to be hurt or killed is high if dangers and hazards of working with concrete are not identified and addressed.

SITE SPECIFIC CONCRETE WORK HAZARDS

Dry Concrete: Dry concrete can irritate the eyes, nose, and throat, as well as the skin. When dry concrete makes contact with skin, it can result in minor irritation to cracking of the skin. Those who are exposed to silica dust, a main component in dry concrete, for long periods of time are at risk for developing silicosis or lung cancer.

To ensure dry concrete does not cause any harm or damage, follow the following safety precautions:

- If you get concrete dust in your eyes, immediately flush eyes out at the eyewash station.
- After working with dry concrete, wash your hands with soap and water thoroughly to avoid skin damage.
- To avoid developing serious illnesses, wear an N-95 respirator to decrease the inhalation of dust.
- When taking a break on a construction site, eat or drink in dust-free areas or inside to avoid ingesting any cement dust.

Wet Concrete: When working with wet concrete, it’s true that the risk of silica exposure decreases, but there are still many hazards to be aware of. The following safety precautions should be taken:

- To protect your skin and eyes, wear alkali-resistant gloves, long sleeves and long pants to keep skin covered, waterproof boots, and eye protection. It is good practice to keep extra gloves and safety glasses at construction sites.
- When wet concrete makes contact with skin, it can result in severe chemical burns. If this happens to you, wash the contaminated skin areas with cold water and non-alkaline soap as soon as possible to prevent skin damage.
- If wet concrete somehow gets on your face or in your eyes, use the eyewash station for 15 minutes and consider going to the hospital for more treatment.

THE MOST COMMON CAUSES OF CONCRETE FAILURES

- **Mechanical Failure:** This usually occurs because of physical impacts that weaken the structure, such as collisions, vibrations, and too much weight/overloading.
- **Chemical Failure**: There is a chemical reaction that is required initially to create strong and durable concrete. However, even if this is accomplished, other chemical reactions such as sulfates and other soil contaminants can cause the cement matrix to weaken.
- **Fire:** The excessive heat and extreme temperatures generated by fires can negatively alter the properties of the concrete, which can cause it to weaken and deteriorate.
- **Electrical Currents:** Stray electrical currents that carry high volts through the inside of the concrete can have a cancerous effect and cause the concrete to deteriorate from the inside out.
- **Corrosion:** Exterior concrete is at a high risk of corrosion due to inclement weather as well as road salts, heavy vehicle traffic, and similar issues.

SAFETY TIPS WHEN WORKING WITH CONCRETE

Protect Your Skin: Contact with wet or unhardened concrete mortar cement, or cement mixtures can cause skin irritation, severe chemical burns up to third-degree, or serious eye damage. Cement burns are extremely painful and disfiguring. Unfortunately, the pain is not felt for hours and may not be severe for days. By the time medical attention is sought, a third-degree burn often has occurred.

Frequent exposure may be associated with irritant and/or allergic contact dermatitis. Wear water-proof gloves, a long-sleeved shirt, full-length pants, and proper eye protection when working with these materials. If you have to stand in wet concrete, use water-proof boots that are high enough to keep concrete from flowing into them.

Wash wet concrete, mortar, cement, or cement mixtures from your skin immediately. Flush eyes with clean water immediately after contact and seek immediate medical attention. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing.

Protect Your Head: Always wear an approved hard hat when on a construction job site. Be sure to take proper care of your hard hat. Do not punch holes into it and don’t store or carry it on the rear window shelf of a vehicle as the sunlight and extreme heat may weaken it. Do not wear the hat backward or when it is damaged. Don’t wear a steel hard hat, which can conduct electricity.

Protect Your Eyes: Wear shatterproof safety eye protection at all times to keep cement, flying particles, dust and toxic fumes out of your eyes. Don’t wear contact lenses on the job. Chemicals, gases or dust may get under them and irritate or damage the eyes.

Protect Your Ears: There is no cure for noise-induced hearing loss. To avoid damage, wear self-fitting earplugs made of waxed cotton, foam or glass fiber wool which are available in most drug stores. Preformed or molded earplugs that are fitted to your ears specifically can also be purchased from a professional. Do not use disposable earplugs more than once.

FINAL WORD

The dangers of working with concrete in construction are many. The hazards and dangers of working with concrete must be identified and addressed before the work starts.