



SAFETY TAILGATE MEETING

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Company	Positive Electric Co.	Project	Secaucus Solar		
Date	September 11, 2023	Time	6:34 AM	Conductor	Mike Nicastro

CONCRETE BURNS

INTRODUCTION

Concrete work is usually hard physical labor that presents many different hazards for the individuals who work in this field. While there needs to be a steady or even fast pace at times, it is important to take the time to recognize the hazards of the work and mitigate them. A common hazard that needs to be discussed and addressed when working with concrete is concrete burns (also called cement burns).

In this meeting, we will discuss

- (1) What Causes Concrete Burns?**
- (2) What Do Concrete Burns Look Like?**
- (3) Concrete Burn Medical Response**
- (4) Concrete Burn Prevention**
- (5) Summary**

WHAT CAUSES CONCRETE BURNS

When cement is dry it contains calcium oxide, which is not particularly dangerous. However, when water is added to cement, calcium hydroxide is formed, which is extremely alkaline with a pH of 12 to 13. Normal human skin has a pH of 5.5; therefore, wet cement can produce alkaline (caustic) skin burns which progress and get worse without more exposure. A worker may have wet concrete on his or her skin for hours without feeling any discomfort; however, the cement is damaging the skin microscopically. Early identification of changes to the skin is important so steps can be taken to treat the affected area.

WHAT DO CONCRETE BURNS LOOK LIKE?

Concrete burns frequently produce discoloration of the skin, gradually changing to a deep purple-blue color, eventually progressing to painful burns, ulcerations and, in the worst cases, amputation. Some patients report red inflamed skin near the affected area followed by severe blistering. Cement burns can also lead to allergic dermatitis.

CONCRETE BURN MEDICAL RESPONSE

Once the eyes or areas of the skin have been directly exposed to wet concrete, immediate steps should be followed to slow the burning process:

1. Remove any contaminated clothing, being careful not to touch unexposed areas. Promptly rinse clothes in clean water.
2. Gently brush any dry chemicals off the skin and flush the affected area with clean running water for at least 20 minutes. To help neutralize the alkalinity, add vinegar, citrus or a buffer to the water
3. If the eyes are involved, rinse eyes with clean water for 20 minutes.
4. Seek professional medical attention without delay. Provide the medical personnel with a product Material Safety Data Sheet (MSDS) and a Physician Alert brochure (available from The Center to Protect Workers' Rights), which explains the skin hazards of concrete work.

CONCRETE BURN PREVENTION

Having the proper supplies in the work area is important in protecting yourself and other individuals who may come into contact with wet concrete. Some supplies that should be in the work area:

- At least 5 to 7 gallons of clean running water per day per worker
- pH-neutral soap to help neutralize the effect of caustic cement (prohibit workplace cleaners that are caustic and abrasive or contain sensitizers like lanolin, limonene or perfume, and irritants like alcohol)
- Buffering spray or solution, such as Mason's Hand Rinse or Neutralite to normalize surface skin pH
- Clean towels
- Full range (pH 1-14) pH indicator papers to get reasonably accurate measurements of the pH of the skin, work areas, work clothes, skin surfaces, car interior surfaces and other potential contact areas.

The best way to avoid concrete burns is to avoid allowing your skin to come into contact with it, especially when it is wet. The NPCA recommends the following personal protective equipment when working with concrete:

- Full-cover goggles or safety glasses with side shields to protect against blowing dust (the moisture in the eyes will mix with the dust, making it caustic), splattering concrete and other foreign objects
- Snug-fitting alkali-resistant gloves, such as butyl gloves or nitrile gloves
- Long-sleeve buttoned shirts taped inside gloves
- Overalls or long pants taped into water-repellent boots
- Waterproof pads to be worn between the fresh concrete surfaces and the knees, elbows and hands – the areas of the body most frequently burned.
- Remove all jewelry, watches, belts, etc., since the wet concrete can become trapped against the skin.

SUMMARY

Working with concrete comes with many hazards. Concrete burns can strike an unprepared worker quickly. Take the necessary steps to protect your skin from the harmful burns wet concrete can cause.

Group Discussion:

What are other mitigation actions to prevent concrete burns?

Attendees Names

Attendees Signatures

Robert Happe

Happe

Tyler Massey

Tyler

John Behnke

JB

CONDUCTOR SIGNATURE

JB