

## TT078 – Concrete Burns

November 2024

**We believe all injuries are preventable. Concrete burns are a prime example of an injury that can be easily prevented if users of cement-based products are aware of the dangers and how to avoid them. Let's look at how we can prevent this from happening on our sites.**

### What is it and how does it happen?

Concrete burns (also called cement burns) are chemical burns caused by cement. There are many cement-based products used on our sites – think concrete, structural grout, tile grout, and mortar. Prolonged contact can cause third-degree burns, be excruciatingly painful, keep you from working, and cause permanent scarring.

### Interactive element

#### 1. Who's heard of a Ph scale and what does it do?

*Answer - The pH scale measures the acidity of a substance; it goes from 0-14. 0 being strongly acidic and 14 being strongly alkaline.*

#### 2. Where do you think our skin sits?

*Answer - Now the average natural pH of skin is 4.7.*

#### 3. Who knows where cement-based products sit?

*Answer – 12.0 to 13.8, that's really close to drain cleaner which is designed to break down fats, grime and organic material by dissolving it*



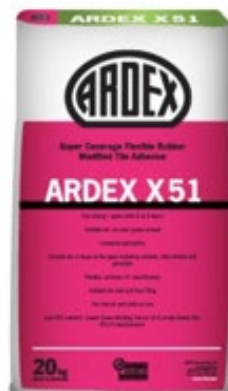
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This means the product is very alkaline and can react with the skin tissue. Alkali burns are worse than acid burns since it penetrates the tissue more deeply and continues to damage the tissue until it's neutralized.

Concrete burns occur when wet cement-based products come into contact with skin. As cement dries, it will absorb water from any source in order to harden. That means it will suck the moisture from your skin as well. The longer the cement is in contact with the skin, the worse the burn will be.

Prolonged exposure to wet cement can also make you susceptible to Irritant Contact Dermatitis, and repeated exposures can lead to Allergic Contact Dermatitis which is a long-term sensitivity to the chemicals in cement. Some skilled tradesmen have been forced to change their trade because of this.

Examples of Cement based products:



### What does a concrete burn look like?

Concrete burns or ulcers often don't appear until after your initial exposure. It isn't always obvious that concrete caused your burn since the contact may have occurred hours earlier. Burns tend to be slow to appear and get worse over time. In extreme cases, these burns may require a skin graft or cause a limb to be amputated. Cement can also cause chemical burns to the eyes potentially causing the loss of sight.

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Depending on the severity of your burn, your symptoms may include:

- Redness
- Itchiness
- Pain
- Blistering
- Scabbing
- Dry skin



### Prevention

The best way to prevent concrete burns is to ensure your skin or eyes don't come into contact with wet cement.

You can prevent this by wearing:

- Long waterproof pants and sleeves.
- If kneeling on wet products wear knee pads,
- Protect your eyes with goggles.
- Wear gloves that are waterproof and suitable for working with the product. Suitable gloves will be marked with EN374:2003.
- Ensure that your boots are waterproof and high enough that the concrete won't leak over the top. Wear trousers over the top of your boots to prevent cement getting into them.
- Apply skin care products such as barrier cream these products replace the natural oils keeping the skin's protective barrier from working properly.

If concrete does get onto your skin or non-waterproof clothing, remove it as soon as possible. It will take approximately 10-20 minutes to cause harm. Avoid wearing jewelry and watches while working with cement as it can get underneath the jewelry without you noticing.



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### Concrete burn treatment

As soon as you notice cement on your skin, remove any jewelry, protective gear, and concrete-soaked clothes. Brush any dry concrete off your skin and flush the burn with water for at least 20 minutes.

Seek medical attention after rinsing if irritation or inflammation develops or persists.

Tell a healthcare professional that you're dealing with a concrete burn when you arrive at the hospital or clinic. They will rinse your burn again and dress your wound with bandages and may give you antibiotics to reduce chances of infection.

If the burn is deep, covers a large surface area, or completely encircles an extremity, hospitalization may be required.

Medical professionals can perform a procedure called debridement where they remove dead skin tissue and follow that with a skin graft.



There are many other hazards associated with working with cement-based products (e.g., dust inhalation). Remember before starting a job to step back and assess the risks, and implement the required controls to ensure you go home safely.

