

# Buffering solution stops the burn

New spray-applied solution for skin neutralizes the irritating effects of wet concrete

Concrete finishers, masons and others who work with cement-based materials share a common work hazard—skin problems caused by contact with the alkalies and chemicals in wet cement. The problems can range from annoying rashes to extremely painful chemical burns.

Wearing protective clothing is the best way to protect your skin from exposure to these irritants (see box on page 300). But if wet concrete still finds its way onto your skin despite these precautions, a new spray-applied product called Neutralite Safety Solution can help you stop the burn.

## Types of dermatitis

Chronic irritant contact dermatitis is the most common type of occupational skin problem associated with the concrete and masonry trades. It's caused by repeated incidental contact with the alkalies in wet cement. Even when workers take precautions to protect their skin, daily exposure to even mildly irritating substances can result in skin problems that remain for years after exposure has ceased.

Though troublesome, this condition is not as serious as acute irritant contact dermatitis, which is caused by long-term skin exposure (usually measured in hours) to wet concrete. Severe cases of acute contact dermatitis can result in serious chemical burns. Most concrete workers are

aware of cement-burn dangers and take precautions to avoid them.

Allergic contact dermatitis is a different skin problem. It's attributable to a worker's sensitization to hexavalent chromium, a chemical that's present in most cements. This sensitization is thought to occur in about 5% to 15% of workers exposed to cement containing hexavalent chromium, and it's much more difficult to control than irritant contact dermatitis. Medical treatments have had limited success.

## Buffer and neutralizer

Neutralite, manufactured by Force Field Technologies Inc., Fort Worth, Texas, is formulated to control both chronic and allergic dermatitis by acting as a topical skin buffer and neutralizer. Tests conducted by Construction Technology Laboratories, Skokie, Ill., show that it neutralizes the high pH, or alkalinity, on skin that has been in contact with wet



By spraying this solution on skin immediately after contact with wet concrete, you can guard against skin irritations caused by exposure to alkalies in wet cement.

concrete and reduces hexavalent chromium to undetectable limits. The cement used in these tests had an extremely high count (40 ppm) of hexavalent chromium.

The product comes in a spray bottle that contains chemical crystals. The user fills the bottle with tap water, shakes it to dissolve the crystals and sprays the resulting solution on skin immediately after contact with wet concrete. The solution should be applied until all visible ce-

## Tips for avoiding cement burns


Because the signs of a cement burn aren't immediately apparent (you often don't feel the sting until long after initial contact with wet concrete), it's best to take a preventive approach to avoiding cement-burn injuries. Here are some ways to keep your skin protected:

- Wear waterproof gloves when handling, placing or finishing fresh concrete.
- Protect your arms and legs by wearing a long-sleeve shirt and full-length pants.
- If it's necessary to stand in fresh concrete, wear rubber boots that are tall enough to keep concrete out.
- Wear waterproof kneepads and elbow pads when finishing concrete.
- If your eyes, skin or clothing come in contact with wet concrete, immediately remove the concrete with clean water. To neutralize the alkalies on skin or clothing before washing, use the solution described in the accompanying article. (The solution should not be used on eyes.)
- If you accidentally come in contact with wet concrete and experience severe discomfort, consult a physician immediately.
- Educate your employees or co-workers about the dangers of cement burns.



Gloves are a must when you are finishing fresh concrete.

ment is removed from the skin, then the affected area should be rinsed with clean water. Concrete-contaminated clothing should also be sprayed with the solution before washing.

The manufacturer cautions that the product serves only as a topical buffer and neutralizer; it won't prevent acute irritant contact dermatitis caused by long-term skin exposure to wet concrete. If concrete "juices" have soaked clothing and there is prolonged skin contact, workers should seek medical attention immediately, even if they don't feel any discomfort. 

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