

Arizona Division of Occupational Safety and Health
Hazard Highlight

PORTLAND CEMENT HAZARDS

Portland cement is one of the most widely used materials in construction. Thousands of workers are exposed to concrete every day without harm, but anyone who uses portland cement should be aware of the safe working practices necessary to minimize exposure and injury.

The most common types of health hazards resulting from exposure to portland cement involve skin contact, eye contact and inhalation. Wet concrete contacting the skin for a short period and then thoroughly washed off causes little irritation, but continuous contact between skin and wet concrete allows alkaline compounds to penetrate and burn the skin which can result in first, second or third degree burns or skin ulcers. These injuries can take several months to heal and may involve hospitalization and skin grafts.

The following are some basic recommendations for handling and using cement safely:

Personal Protective Equipment: To protect skin from cement and cement mixtures, workers should wear alkali-resistant gloves; coveralls with long sleeves and full-length pants; waterproof boots high enough to prevent concrete from flowing in; suitable respiratory protective equipment such as a P, N or R 95 respirator when exposed to cement dust; and suitable eye protection (as a minimum, safety glasses with side shields) where mixing, pouring or other activities may endanger the eyes. Don't wear contact lenses when handling cement or cement products.

Work Practices: When laying concrete block, have different sizes on hand to minimize cutting and hammer-

ing. Work in ways that minimize the amount of cement dust released. Where possible, wet-cut rather than dry-cut masonry products. Mix dry cement in well-ventilated areas. Make sure to work upwind from dust sources. Use ready-mix concrete instead of mixing on site. When kneeling on fresh concrete, use a dry board or waterproof knee pads to protect knees from caustic water. Remove jewelry such as rings and watches, to avoid cement collecting under them.

Hygiene: Clothing contaminated by wet cement should be quickly removed. Skin in contact with wet cement should be washed immediately with large amounts of clean water. Don't wash hands in water from buckets used for cleaning tools. Provide adequate hygiene facilities on site for workers to wash their hands and face at the end of a job and before eating, drinking, smoking or using the toilet. Washing facilities must be close enough so as to encourage their use by employees.

Training: Under the Hazard Communication Standard, employees who handle, use or are otherwise exposed to dry or wet cement must be educated in the hazards of the products and the control methods used to minimize exposure and potential for injury.

First Aid: Skin contaminated with wet or dry cement should be washed with cold running water as soon as possible. Open sores or cuts should be thoroughly flushed and covered with suitable dressings. Get medical attention if discomfort persists. Contaminated eyes should be washed with cold tap water for at least 15 minutes before the affected person is taken to medical attention.

For more information:

ADOSH
602-542-5795 or 520-628-5478
www.ica.state.az.us/Divisions/osh/index.html

