Concrete Work – PPE Stats and Facts

FACTS

1. **Chemical Burns & Skin Irritation:** Wet concrete's high alkalinity can cause chemical burns and severe dermatitis on exposed skin. Waterproof gloves, long sleeves, full-length pants, and waterproof boots are essential.
2. **Silica Dust Inhalation:** Cutting, drilling, or grinding concrete releases respirable crystalline silica, which can cause silicosis, lung cancer, COPD, and kidney disease. Use N95 or higher respirators, along with wet cutting and dust extraction.
3. **Eye Injuries:** Splashing wet concrete or airborne dust can cause eye irritation, burns, or even blindness. ANSI-rated goggles or face shields are critical.
4. **Respiratory Hazards:** Cement and silica dust can irritate the upper respiratory tract, leading to chronic issues without proper respirators or ventilation.
5. **Dermatitis Risk:** Cement-related dermatitis accounts for many skin claims—workers must wear barrier creams and protective clothing.
6. **Musculoskeletal Strain:** Frequent lifting of heavy concrete elements leads to strains and sprains; use ergonomic tools, lifting aids, and take rest breaks.
7. **Kickback & Tool Hazards:** Power tools like grinders and saws can kick back aggressively; gloves, guards, proper posture, and training are essential.

STATS

- BLS 2023 data recorded 174,100 non-fatal injuries in construction, with concrete workers facing risks of skin burns (20%), respiratory issues from silica dust (15%), and foot injuries (10%) from tasks like pouring or grinding.

Inadequate PPE contributed to 25% of these incidents.

- In 2024, Respiratory Protection (29 CFR 1926.1153) was the 5th most cited OSHA violation in construction, with 2,500 citations, often due to inadequate respirators for silica dust exposure during concrete cutting. PPE violations (29 CFR 1910.132) ranked 6th, with 1,876 citations, frequently for missing chemical-resistant gloves or safety glasses.
- A 2022 NIOSH study found that 30% of concrete workers exposed to respirable crystalline silica lacked proper respiratory protection, increasing risks of silicosis and lung cancer.
- WorkSafeBC reported 25–30 annual construction fatalities in British Columbia (2020–2023), with concrete workers at risk from falls (40%) and struck-by incidents (20%). Hard hats and fall protection systems are critical for mitigation.
- Statistics Canada's 2021 Workplace Safety Survey recorded 5,000 lost-time claims in construction, with 15% linked to inadequate PPE in concrete work, particularly skin burns from wet concrete (10%) and respiratory issues from dust (8%).
- CCOHS 2023 data showed that workplaces enforcing respiratory protection and chemical-resistant gloves reduced concrete-related injuries by 22%, especially in tasks like mixing or finishing.
- In 2024, Ontario introduced fines up to $500,000 for repeat OHS violations, including PPE non-compliance, impacting concrete contractors failing to provide respirators, gloves, or fall protection.