Plumbing, Heating and Air Conditioning Stats and Facts

FACTS

1. **Electrical Shock & Electrocution:** HVAC technicians often work near live wiring; failure to use insulated gloves or lockout/tagout procedures can lead to fatal electrocution.
2. **Falls from Heights:** Installing ductwork and rooftop units requires ladder and rooftop safety; lack of fall protection may result in severe injury or death.
3. **Head Injuries:** Overhead work in tight spaces exposes workers to risks of striking their head without hard hats.
4. **Chemical Exposure:** Refrigerants, solvents, and insulation materials can cause skin irritation, respiratory issues, or poisoning if PPE (gloves, respirators) is not worn.
5. **Heat Stress:** Working in confined mechanical rooms or outdoors in summer without heat-stress controls and cooling PPE leads to heat-related illness.
6. **Eye Injuries:** Debris from cutting pipes, metal flash, or refrigerant splashes can damage eyes without safety glasses or face shields.
7. **Respiratory Hazards:** Disturbing insulation, mold, or dust during maintenance without proper respirators increases risk of respiratory illness.

STATS

- BLS 2023 data recorded 98,200 non-fatal injuries in building equipment contractor roles, with plumbers and HVAC technicians facing risks of cuts (25%), burns (15%), and eye injuries (10%) from tasks like soldering or handling refrigerants. Inadequate PPE contributed to 22% of incidents.
- In 2024, PPE violations (29 CFR 1910.132) ranked 6th in building equipment contractor industries, with 1,200

citations, often due to missing safety glasses or improper gloves during pipe installation or refrigerant handling.

- A 2024 ACHR News report noted a shortage of 110,000 HVAC technicians, increasing injury risks due to untrained workers neglecting PPE protocols, such as not wearing respirators during refrigerant handling.
- Statistics Canada’s 2021 Workplace Safety Survey recorded 3,200 lost-time claims in plumbing and HVAC, with 18% linked to inadequate PPE during tasks like pipe cutting or furnace repair. Hand injuries from sharp tools accounted for 12% of claims.
- CCOHS 2023 data showed that workplaces enforcing PPE use (e.g., safety glasses, gloves) reduced plumbing and HVAC injuries by 20%, particularly in high-risk tasks like welding or handling refrigerants.
- In 2024, Ontario introduced fines up to $500,000 for repeat OHS violations, including PPE non-compliance, impacting plumbing and HVAC firms failing to provide proper safety gear.