

CONSTRUCTION SAFETY TIPS

A COMPREHENSIVE RESOURCE



"The road to success is always under construction..." For some, this quote is more than a metaphor; it is literally a way of life. And the greatest success, along the way to "success", is in providing for the safety and well-being of oneself and others. Work responsibly with these construction safety tips.

THE PURPOSE OF TOOLS: ERGONOMIC, PRACTICAL, AND SAFE

- ✔ **Use the proper tool for the designated task.**
- ✔ **Frequent use of inadequate or poorly designed equipment** will eventually lead to health hazards (tendonitis, trigger finger, white finger, carpal tunnel syndrome).
- ✔ **Never carry/yank a tool by its cord or hose.** Also be sure to keep these cords or hoses far from oil, heat, water, and sharp edges.
- ✔ **Protect your ears and eyes** from intense noises and vibrations; opt for power tools with lower vibrations, muffled noises, and longer trigger tools.
- ✔ **Ensure hand tools do not conduct heat or electricity.**
- ✔ **Maintain good posture and balance the tools** in correct alignment to your body at all times.
- ✔ **Keep other people well away from machine-operating areas.** Consider investing on a [construction safety](#) program for your employees.
- ✔ **Always be aware of your surroundings.** Have a care for overhead lines, obstructions, low clearances, underground utilities, and other such obstacles that could prove to be a nuisance or a lethal hazard.
- ✔ **Know, understand, and follow your workspace's comprehensive safety program** issued for that specific workspace, job position, and task at hand.
- ✔ **Don't use damaged tools;** examine each one before its use to ensure that it is in proper working condition. Maintain tools in good, clean working order.

DANGERS ON THE SCAFFOLD

- ✔ A popular, albeit dangerous, place to be; that's where you can frequently find 2.3 million construction workers across the nation.
- ✔ **Scaffolding must be erected on a solid surface, and must itself be solid, rigid, and have a high weight capacity**—enough to support its own weight as well as 4x the maximum anticipated load.
 - **Never support scaffolds or planks on uneven surfaces or with unsteady or portable objects** (barrels, loose bricks, concrete boxes).
 - **Stay at least 10 feet away from power lines.**
 - **A qualified supervisor** must oversee the erecting and dismantling of the scaffold.
 - **Never overload** a scaffold.
- ✔ **Never use a damaged or in any way weakened scaffold.** Ensure the safety and solidity of the scaffold before its use with the following construction safety tips:
 - **Tightly-planked platforms** (typically with scaffold plank grade material).
 - **Sturdy and protective guardrails, toeboards, and midrails.**
 - **Tight and undamaged rigging**, inspected by a qualified supervisor before each shift or alteration.
 - **Avoid heating** the synthetic and natural ropes of suspension scaffolding.
 - **Immediate replacement** of any unstable, damaged, or weakened supportive structures (brackets, rails, ropes, braces, trusses, ladders, etc.).
- ✔ **Don't leave materials or debris abandoned** on a scaffold at the end of the day, or unattended at any time. Keep it as clean and clear as possible at all times.
- ✔ **Never use a scaffold in bad weather**, especially if it's covered in ice or snow
- ✔ **Watch out for yourself, your fellow co-workers on the scaffold, and anyone below.** Everyone is in danger around a scaffold, particularly because of the risks of personally falling or being crushed by something that is falling.

HAZARDS WHILE CLIMBING: LADDERS AND STAIRS

- ✔ **Always inspect** a ladder or stairs before stepping upon it.
 - Avoid stepping on anything that appears loose, worn, weak, or otherwise defected or damaged.
- ✔ **Opt for aerial lifts or elevated platforms**, which are safer options than balancing on a ladder.
- ✔ **Install guardrails** with toeboards, warning lines, and control line systems.
- ✔ **Use fall arrest systems (body harness) and safety net systems** in the emergency of slipping and falling.
- ✔



DID YOU KNOW?

Construction Is The Most Dangerous Industry

Construction had the highest number of fatal injuries which had 16.5% of the total in 2010. ⁽⁴⁾

Construction has three of the ten occupations with the highest fatal injury rates

Roofers at 34.7 fatal work injuries per 100,000 full-time equivalent workers, structural iron and steel workers at 30.3, and laborers at 18.3. ⁽⁸⁾



ACTION ITEMS

- ✔ Only use the appropriate tool for a specific task.
- ✔ Ensure that scaffolds, ladders, and stairs are steady, dry, clean, clear of obstacles, and can hold the appropriate weight.
- ✔ Support trenches with sloping or shoring, ensure that there's an engineered support system in place, and watch that exits are nearby and easily accessible.
- ✔ When operating tools, vehicles, or other heavy machinery, be vigilant for your own safety and that of the people surrounding you.
- ✔ Treat each chemical spill as a high hazard.
- ✔ Always wear appropriate protective equipment.
- ✔ Reduce your risk of strain and of falling by practicing good posture and balance at all times.

 **SAFELY OPERATING EXCAVATORS** If you're working with an excavator, be especially careful when digging and backing up. As a base, a foot of dirt or the wall.

- ✔ **Never enter an unprotected or unsupported trench.**
- ✔ At least **one person should remain outside** of the trench at all times to warn of changing soil conditions or any other discerned hazards.
- ✔ **Any trench deeper** than four feet must have:
 - **Protective sloping**, cutting the trench walls at angles that incline away from the excavation,
 - Or **protective shoring**: support systems (best for trenches smaller than 20 feet deep) which prevent the shifting of soil.
- ✔ **Safe exits** (with ladders, staircases, or ramps) must be positioned regularly along the trench.
- ✔ **Obstacles must never block the exits**; keep excavated debris at least 2 feet from the openings.
- ✔ **A support system planned and implemented by a licensed expert engineer** should always be used for excavations beneath the footing of a foundation or a wall, or any excavations deeper than 20 feet.

SAFELY OPERATING CRANES AND FORKLIFTS

- ✔ **Be especially careful when boarding and descending** from heavy equipment—especially watch the placement of your hands and feet, to ensure the they don't get caught or you don't slip.
- ✔ **Never balance or keep yourself in place by a toe-hold or finger-hold grip.** Safely engage your entire foot or hand in the process.
- ✔ **Don't carry objects while climbing.**
- ✔ **Use proper gloves and footgear with excellent traction** for the safest handhold.
- ✔ **Use a helper or spotter for guidance**, who can act as your eyes along the blind spots of your vehicle and can alert you to any hazards you might overlook from your viewpoint or angle.
- ✔ **Ensure that you have enough room to maneuver** your vehicle or equipment; always alert those around you about your next step or stop, should they need to get out of the way.
 - **Always check in all directions** when maneuvering the machine, especially when going in reverse.
 - **Calculate your machine swing radius** (how much room you'll need to swerve or turn the vehicle; i.e. forklifts, which are steered from the rear, need more room behind them when they're making a turn); make sure it's clear of people. You might even rope or mark off the area if you're keeping to one general location.
 - Practice extra precaution when **moving up or down slopes**.
- ✔ **Never leave the machine unattended** when keys are in the ignition; never allow anyone who is not trained and authorized to use the machine.

PREVENTING A CHEMICAL DISASTER

- ✔ In the scenario of a chemical spill within the workplace, first assess the situation and **determine if it is a low- or high-hazard spill**.
 - **Report it immediately** either way
 - **If it is high-hazard**, evacuate and allow qualified personnel to deal with the situation. Note that many toxic vapors can't be smelled (some chemicals even anesthetize the nose), so don't just rely on your sensory perceptions to judge this.
 - **It is safest to assume that all spills are high-hazard.**
 - **If it is low-hazard**—there is 100% certainty that the spill is not toxic or poses any immediate danger—do your best to keep others away and prevent the spill from spreading.
- ✔ **Don't panic; alert everyone** in the location and evacuate safely.
- ✔ If possible, **ventilate the area** by opening windows and doors.
- ✔ **Remove all sources of heat**, to eliminate the chances of an explosion.
- ✔ **Never touch a chemical spill** with your bare skin. Protective gloves and clothing are essential for your health and safety.

YOUR ARMORY OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

- ✔ **Always wear appropriate clothing and shoes** respective to your job.
- ✔ **Always store your tools and gear in a cool, dry place.**
- ✔ **Fire extinguishers** must be available and readily attainable.
- ✔ **First aid kits** must be available and readily attainable.
- ✔ **Never remove or tamper with** safety devices.
- ✔ **Use a back brace** if you're lifting heavy objects or you've got a sensitive back.
- ✔ **A hard hat** will protect you if there's a risk of falling objects, as well steel-toed boots.
- ✔ **Wear gloves** if you're handling sharp objects or toxic substances.
- ✔ **Wear goggles** if your work poses a hazard to your eyes.
- ✔ **Wear safety harnesses** if you're working from an elevated location and there's the risk of falling.
- ✔ **Wear non-skid footgear**:
 - If your workspace involves slippery or elevated surfaces
 - If you're lifting heavy items
- ✔ **Wear a breathing mask** at all times, especially if:
 - You deal with dangerous or toxic chemicals or fumes
 - Your workspace has poor ventilation
 - Your workspace has debris, dust, and other flying particles.
- ✔ **Wear the protective equipment** that is intended and recommended for your particular task.
 - **Seat belts**

- Safety glasses or goggles
- Protective clothing, headgear, and/or footgear
- Safety harnesses, etc.

PROMOTING ELECTRICAL SAFETY

✔ Ensure your electrical tools are used with a G.F.C.I. grounded power supply;

- Essential for all electric power tools
- Especially important if working outdoors or in wet conditions

✔ Immediately replace all worn, frayed, torn, or otherwise damaged electrical cords, cables, outlets, etc.

✔ Equip temporary lights with non-conductive guards.

✔ Always unplug unused appliances.

TAKE A PROTECTIVE STANCE: SAFE ALIGNMENT OF THE BODY

✔ Keep your wrists and arms in neutral to avoid mild or severe symptoms of carpal tunnel syndrome.

✔ Choose a small and handy tool belt that you can easily keep balanced with small adjustments.

✔ Opt to sit (instead of squatting or kneeling) if working at lower levels, to avoid straining your lower body—knees, waist, and back.

✔ Reduce and eliminate back aches and strains by lifting properly. Use your knees instead of your back; avoid twisting your body when picking, carrying, or releasing a heavy load; place one put slightly in front of the other to promote better balance.

✔ To save yourself and others from slips and falls:

- Keep all surfaces clear of littler, debris, and excessive materials.
- Only work on surfaces that are **sturdy, level, clean, and dry**.
- Immediately report and/or clean surfaces that have grease, water, oil, or chemical spills.
- **If you need to cross a slippery surface**, take small steps, putting your whole foot down slowly, toes pointed outwards.
- **If you fall, roll as you land** to reduce the shock and the blow.

✔ Cover floor holes with sturdy material and warning signs.

----Construction Safety Tips: Sources ----

- (1) [Preventing Worker Deaths from Trench Cave-ins, page 1 by cdc.gov](#)
- (2) [Work-related fatal falls, by type of fall, 2010, page 7 by bls.gov](#)
- (3) [Manner in which fatal work injuries occurred, 2010, page 4 by bls.gov](#)
- (4) [Number and rate of fatal occupational injuries, by industry sector, 2010, page 16 by bls.gov](#)
- (5) [FORKLIFT SAFETY AWARENESS by naw.org](#)
- (6) [Addressing the Issue of Compliance with Personal Protective Equipment on Construction Worksites: A Workers' Perspective, page 2 by ascpro0.ascweb.org](#)
- (7) [Addressing the Issue of Compliance with Personal Protective Equipment on Construction Worksites: A Workers' Perspective, page 1 by ascpro0.ascweb.org](#)
- (8) [CONSTRUCTION SAFETY AND HEALTH by cdc.gov](#)

