

Spot The Safety Violation: Watch Where You Weld



Is this spot really the best place for this worker to be welding'

Welding is used to join materials and is a common practice in many industries. But because of the nature of this activity, welding exposes workers to various serious safety hazards. For example, if workers weld near flammable or explosive materials, they can start an explosion or fire.

This picture shows a worker engaged in a very risky activity. Although it's unclear what substance is in the two canisters or cylinders on the left, they may very well contain gases that could be ignited by the sparks from the welding. And such an explosion could be deadly.

Example: Two workers in Alberta were welding the doors shut on a metal shipping container. When a welding arc struck the container's door, a leaking propane cylinder inside exploded, killing both welders. The company pleaded guilty to a safety offence and was penalized \$375,000 [Alstar Oilfield Contractors Ltd., Govt. News Release, Jan. 11, 2010].

6 STEPS FOR WELDING SAFETY

Most jurisdictions have [welding requirements](#) in their OHS regulations under either the requirements for 'hot work' in general or those for 'welding, cutting and allied processes.' You should consult the welding requirements in your jurisdiction's OHS laws and ensure that you comply with them. But here are six steps that will help you comply with those requirements and protect workers:

Step #1: Inspect Welding Equipment

Before workers use any welding equipment, require them to inspect it to ensure it all works properly, that there are no leaks or defects, and that the welding equipment has all required safety devices

Step #2: Inspect Area for Flammable & Explosive Materials

Before welding starts, ensure that the area around the welding work is inspected to identify any combustible, flammable and explosive material, dust, gases, or vapours that are present or likely to be present in that area. Even a quick inspection of the area in the picture would've revealed the presence of the gas cylinders and the potential hazard they pose.

To ensure that such materials aren't exposed to ignition from welding work, you can move the materials a safe distance from the work area, shield them from ignition, relocate the welding work to a safer area, or schedule the welding work so that those materials aren't exposed during welding and cutting operations. In this case, the worker could've easily rolled the cylinders to a different part of the workplace before he began welding.

Step #3: Ventilate Work Area, If Necessary

Welders and workers near them may be exposed to welding gases and fumes, which can impact their health. Exposure to welding fumes can be controlled through the use of proper local exhaust ventilation or PPE (discussed below).

Step #4: Require Use of Appropriate PPE

[This chart](#) contains the PPE requirements specific to welding in each jurisdiction. The key types of PPE for this work are:

- [Respirators](#) that are an approved type and suitable for use when welding;
- Appropriate face and [eye protection](#), such as welding helmets;
- Protective [gloves](#), ideally leather gauntlet type gloves with arm protection;
- Adequate body covering that includes an apron of leather or of other material offering equivalent protection; and
- Appropriate [safety footwear](#).

You should also ensure that workers who are welding wear flame retardant or fire resistant clothing, preferable made of cotton or wool. And you should bar them from wearing loose, ragged or oil-soaked clothing. Inappropriate clothing can endanger workers.

Example: A student working for an Ontario company was welding when his sweatshirt ignited and caught fire, causing second

degree burns. A supervisor pleaded guilty to failing to ensure that a worker was wearing apparel sufficient to protect him from injury while welding and was fined \$4,000 [*Chad Corriveau*, Govt. News Release, April 9, 2013].

Step #5: Require Workers to Follow Safe Work Procedures

Develop and require workers to follow safe work procedures when welding. Consult the manufacturer's instructions for its welding equipment and incorporate those instructions into your safe work procedures. Such procedures will depend in part on the type of welding work done in your workplace. (Use this [welding safety checklist](#) to audit your welding safety procedures.)

Step #6: Ensure Only Properly Trained Worker Do Welding Work

You should always ensure workers are properly trained to do their jobs (and to do them safely). But because of the hazards posed by welding, the OHS laws may go a step further and require employers to ensure that only [‘competent’ workers](#) or workers who've earned welding certificates engage in welding work. Welding training should cover, at a minimum:

- Your welding safe work procedures;
- The requirements in your jurisdiction on welding work;
- The selection, use and maintenance of welding equipment;
- How to inspect such equipment and what to do when leaks or defects are identified;
- Selection and use of appropriate PPE when welding; and
- Protections for other workers who may be near welding work.

Use [this welding training checklist](#) to ensure workers assigned to perform welding are properly trained.