

Welding Workstation – Manufacturing



Did you know U.S. fire departments responded to an average of 4,580 structure fires involving hot work every year from 2014 to 2018? A total of 22 people died and 171 were injured in these fires. Additionally, the fires caused about \$480 million in property damage each year. These fires could have been prevented. This technical bulletin provides information on proper welding controls to reduce the risk of fire and injury to workers.

OSHA 1910 Subpart Q provides the safety requirements for welding, cutting, and brazing. It's important to assess the work area before welding and performing other hot work. Pay attention to holes in walls and floors through which sparks can travel. Never weld in areas where explosive atmospheres, such as flammable gases, vapors, and liquids or dust in the air, are present. In general, from a property standpoint, performing all welding in a controlled weld shop in which all fire hazards are removed, is ideal. If welding is required in the production area, however, all movable fire hazards within 35 feet of the point of operation should be moved to a safe location. If this isn't possible, all fire hazards must be covered or protected with proper material, such as a welding blanket.



Be sure to follow the guidelines of your hot work program by obtaining a hot work permit, ensuring proper fire extinguishers are readily available, and making sure a fire watch is on hand when needed.

Before welding, be sure to have proper personal protective equipment, such as helmets or goggles, not only for the welder, but also for any helpers. The type of equipment depends on the circumstances and the type of welding being performed. Check out OSHA code 1910.252(b)(2)(i) for information on the proper selection of protection. Along with eye and face protection, protective clothing is also required in accordance with OSHA code 1910.132.

It's important to know the hazards of the material being used and welded because the welder is exposed to the fumes generated from the welding process. An industrial hygiene study is always recommended for welding operations. Such a study will determine the welder's level of exposure to hazardous elements, such as hexavalent chromium, in the welding fumes.

The welding workstation and work area should:

1. Be free of combustible materials (at least 35 feet away from the point of operation, i.e., welding)
2. Have a non-combustible worktable or fixture
3. Have non-combustible flooring
4. Provide a safe atmosphere – no flammable gases, vapors, liquids, or dust in the air
5. Provide proper ventilation – either natural or by providing a hood or booth, depending on the exposure
6. Include protection for people passing by and other welders in the work area – i.e., welding screens
7. Have properly-maintained welding equipment
8. Have properly-maintained personal protective equipment



References:

OSHA 1910 Subpart Q – Welding, Cutting and Brazing
OSHA 1910.252(2)(2)(i) – PPE
OSHA 1910.132 – Protective Clothing

Additional Related Resources:

[Sample Hot Work Program WB-2731](#)
[Sample Hot Work Permit Technical Bulletin WB-2729](#)



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