

WELDING SAFETY

MODULE 3 – FIRE & EXPLOSIONS

FREQUENTLY ASKED QUESTIONS



Q: What aspects of arc welding create the hazard of fire and explosion?

A: The danger of fire results from the effects of this intense heat upon your work and in the form of sparks and molten metals created by the arc.

Q: What should you do prior to welding to avoid the hazard of fire and explosion?

A: Before you start welding, inspect the work area in which you will be welding. Look for flammable substances that could ignite when heated. If you are not sure whether or not a substance in the work area is flammable, no welding or cutting should take place until a responsible person has inspected the area and given approval for the work or the material has been removed or protected.

Q: What can be used to put out a fire if fire extinguishers are not available?

A: If there are no fire extinguishers in the area, make sure that you have access to fire hoses with available water pressure, sand buckets, fire-resistant blankets, or other fire-fighting equipment. Remember, always locate the nearest fire exit in case there is a fire and you have to leave the area.

Q: When do you need a fire watcher?

A: If you're welding within 35 feet or so of flammable materials, you should have a fire watcher to see where your sparks are flying, and to grab an extinguisher or sound the alarm if needed. You and the fire watcher should wait for at least 30 minutes after all welding is finished to find and put out any smoldering fires that may have resulted from your welding.

Q: What can you do to prevent fire or explosion if you need to weld near flammable materials which cannot be moved away from the arc?

A: If there are flammable materials, including fuel or hydraulic lines, in your work area and you can't move your work or the flammable material, put a fire-resistant shield such as a piece of sheet metal or fire-resistant blanket in place over the material.

Q: How can dust pose a fire hazard?

A: Particular care must be taken when welding or cutting in dusty locations. Under some conditions, fine dust particles may readily burn and without warning result in a flash fire or even an explosion when exposed to the welding arc or even sparks.

Q: What special precautions need to be taken when welding containers or piping that may contain flammable materials?

A: Welding on or around containers and piping that may have flammable materials should be handled only by experienced welders who review and follow the safety practices recommended in the American Welding Society document F4.1, "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping Which Had Held Hazardous Substances." Special precautions which must be taken when welding containers may include filling the container with an inert gas or water.

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Q: Who can perform arc welding on closed containers or piping that may contain flammable materials?

A: Welding upon containers or piping should only be performed by qualified welders.

Q: What potential fire or explosion hazard should you look for when welding on or around equipment or vehicles that use fuel or hydraulic oil?

A: Do not forget to look for and protect any fuel or hydraulic lines near the arc. Lines which contain a flammable liquid under pressure are particularly dangerous and should be avoided when welding.

Q: What should you do if you notice that a fire has started near where you are working?

A: Don't panic. If the fire is very small, you may be able to use the equipment you have to put out the fire. However, if the fire is too large, call the fire department. Always sound the fire alarm to warn other workers nearby and shut off your welder if there is a fire. Then leave the area as quickly as possible.

Q: Where should the spray from the fire extinguisher be directed?

A: The spray from any extinguisher should be directed at the base of the fire on the material which is burning, not on the flames above the material.

Q: What type of program should your company have to help to protect your facility from the risk of fire or explosion?

A: Your company may have a specific hot work permit program that may require additional precautions and procedures to be followed. Consult your safety coordinator or your supervisor regarding the appropriate training and certification.