



Hot-air welding safety

Typically, thermoplastic roof membranes require the use of hot-air welding at temperatures well above 500° F to adhere material seams to a roof system. This usually is accomplished by either a handheld hot-air welding tool where the material is heated along the seam to join two pieces of material or robotic welding where a hot-air machine moves along the seam to heat and join membrane pieces together. Be alert to the following safety hazards when using either method:

- As with all tools, make sure you have read and understand the manufacturer's operating instructions for the tool and have been trained in the proper use of it for the particular application.
- Hot-air welders are powered by electricity so the outlets must be protected by a ground fault circuit interrupter.
 - The GFCI should be located at the power source.
- Before starting operations, inspect the cord, switch and controls on the welder; as well as any extension cords for defects.
 - Extension cords should be laid out and protected from foot and equipment traffic or be located in nontraffic areas.
 - The length of extensions cords should be kept to a minimum to limit voltage drop. For TPO membranes, the use of a rooftop generator will reduce voltage fluctuations.
- Personal protective equipment, including gloves and eye protection, must be worn when operating any type of hot air welder.
 - Burns, in particular, are a possibility when using such equipment so special care must be taken to avoid the hot parts of the welder and keep away from the discharge of hot air.
- Awareness of your surroundings and the path of work before hot-air welding is important to note before performing any welding.
- Always ensure a welder is set on a noncombustible surface between welds, and do not leave the welder unattended at anytime.
- Machine hot-air welding is a two-person job.
 - One person is the welder.
 - The second person is monitoring and alerting the welder to potential dangers. For example, a monitor looks for :
 - Obstacles or trip hazards, such as keeping the cord out of the way
 - Making sure the robot has enough cord so it won't stop, pull or tug on the machine
 - Moving generators
 - Applying granules for SBS-polymer modified bitumen application
- Never leave a running hot-air welder unattended, and always allow it to cool off completely before storing it.



Hot Air Welder Training Tips

- Show different types of PPE, and explain how each provides protection from hot air welding.
- Show employees examples of where GFCIs can be located on job sites.
- Start the training session dressed inappropriately for working with hot air welding, and ask the crew to identify what's wrong with your selection of PPE.
- Ask the following questions: Why should you make sure to wear gloves? What kinds of work practices will prevent potential fire hazards?

Notes:

Date

Signature of Presenter

Additional Topics Discussed: _____

ALL ATTENDEES MUST SIGN

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