



FIRE MARSHAL'S OFFICE

Hot Work (Welding, Brazing, Soldering, Cutting and Grinding) Guidelines

Hot Work is any work activity that generates a flame, heat, or sparks such as welding, brazing, soldering, torch cutting, or grinding. The California Fire Code requires a fire permit to perform hot work operations. The fire permit is issued by the UC Davis Fire Marshal's Office and is required to perform any hot work activity at UC Davis Health.



Facilities, Planning and Development (FP&D) and Plant Operations and Maintenance (PO&M) employees managing contracted projects that include any hot work activity shall coordinate accordingly with Auxiliary Services and/or the Fire Marshal's Office. These guidelines shall be followed for any projects that include any hot work activity inside or within 100 feet of hospital/campus buildings.

All Hot Work activities are required to comply with NFPA 51B, OSHA, and CA Fire Code requirements.

All non-emergency hot work must be scheduled at least 3 business days in advance with the UC Davis Health Fire Marshal's Office and a hazardous conditions permit must be obtained (see UC Davis Medical Center Policies and Procedures 1651, Hazardous Conditions Permits)

Requirements

- A fire watch must be conducted by a qualified designee and documented every 30 minutes for 1 hour following the completion of any hot work activity on the UC Davis Health campus.
- Contractors are to install/remove the protective cover(s) or bag(s) from smoke detectors, sprinkler heads, and/or any other life safety devices.
- A hot work permit for activities will be issued to each PO&M shop annually, as requested. Prior to renewal, refresher training on the Hot Work Procedures must be conducted by the UC Davis Health Fire Marshal's Office.
- All Hot Work in confined spaces is considered permit-required confined space entries; they must have a Hot Work Permit issued by the UC Davis Health Fire Marshal's Office and inform the UC Davis Health Environment Health and Safety (EH&S) Department of the hot work activity.
- Ensure that all compressed gases, especially Acetylene, are not stored in the hospital area or on any UC Davis Health property when work has been completed for the day. The contractor is responsible for the removal of all compressed gases at the end of the workday.
- Empty construction trash bins as needed or at least once a day.



Safety Guidelines

- Only approved devices shall be used for pre-mixed air or oxygen and combustible gases.
- Transferring gases between cylinders or mixing gases in cylinders is not permitted.
- The use of liquid acetylene is prohibited.
- Do not allow acetylene gas to be brought into contact with unalloyed copper except in a blowpipe torch.
- Acetylene gas shall be stored, transported, and used in the vertical, upright position.
- Approved and marked oxygen and fuel gas pressure regulators must be used at all times. Fuel gas must never be used from the cylinder through torches or other devices equipped with shut-off valves without reducing the pressure through a suitable regulator attached to the cylinder valve manifold.
- All equipment, including cylinders, hoses, valves, etc., shall be kept free from oil and grease.
- Do not handle oxygen cylinders with oily and/or greasy hands or materials.
- Use suitable cradles when moving cylinders. Do not use rope slings and/or electromagnets.
- Place cylinders away from the welding operation so that they will not be unduly heated by radiation from heated materials.
- Personnel performing welding operations must provide a certified fire extinguisher, minimum rating 2A 10BC in their immediate possession during all welding operations. Welders must not use extinguishers located in the building/area in which they are welding to meet the requirements.
- A fire watch shall be maintained for at least 1 hour and documented in 30-minute increments on the Fire Watch Log, after all Hot Work activity. This is required to detect and extinguish possible smoldering fires.
- Soldering/brazing operations must not take place within three feet of chemical and/or combustible materials.
- Items being soldered/brazed must be free of dust, dirt, oil, or any other material that will generate smoke.
- Soldering/Brazing operations must not take place any closer than ten feet horizontally from a smoke detector.
- The area where the soldering/brazing operation is taking place must be confined from adjacent areas (i.e., doors to rooms must be closed).
- Material, including drywall, adjacent to soldering/brazing operations must be protected (use of welding blankets is recommended).
- In areas/buildings where research activities are performed or where chemical or combustible materials are involved, the person performing hot work activities must contact the Fire Marshal's Office at 916-734-1223 to determine if it is necessary to turn off the local fire alarm and/or fire sprinkler system.



Hot Work Safety Checklist

Get the Proper Approvals First:

- Complete a Hazardous Conditions/Hot Work Permit Application, if needed, on UC Davis Health Fire Marshal's Office website; <http://www.ucdmc.ucdavis.edu/fire/permits.html> (3 business days' notice for non-emergency activity)
- Submit proof of welder's certification
- After the Hot Work Permit has been approved and before any hot work activity can begin, a site inspection must be done by the Fire Marshal's Office.

Setting up the work area

- Erect signs, barricades (Welding shields if applicable), and secure area preventing authorized entry.
- Have an appropriate fire extinguisher available or in close proximity (Do not remove fire extinguishers at the established locations and from buildings).
- The work area must be cleared of all combustible materials (minimum 25 feet). Where items cannot be removed, they must be protected by an appropriate fire prevention device.
- Have proper PPE (Personal Protective Equipment) for the job (i.e., welding hood, face shields, goggles, clothing and gloves, etc.).
- The area must be properly ventilated.

After Hot Work is Complete

- Conduct and document a Fire Watch (log every 30 minutes for a minimum of 1 hour).
- Call UC Davis Health Fire Marshal's Office when Hot Work and Fire Watch are completed.

If a fire or other emergency is discovered, the appropriate emergency personnel must be immediately notified by dialing 911 or activating the building's fire alarm system. The individual(s) serving as the Firewatch is/are reminded not to compromise their own safety. **Report ALL fires to UC Davis Health Fire Marshal's Office.**

Please contact UC Davis Health Fire Marshal's Office, if you have any questions at 916-734-1223.