

25. Hot Work Permitting

This procedure is to ensure employee safety during welding and cutting operations along with the protection of property (including equipment) from hot work operations. Welding, cutting, and other processes that produce molten metal, sparks, slag, and hot work surfaces can cause fire or explosion if precautionary measures are not followed.

25.01. Definitions:

- 25.01.01. Compressed Gas: A material that is shipped in a compressed gas cylinder and acts as a gas upon release at normal temperature and pressure or is used or handled as a gas.
- 25.01.02. Hot Work: A task or operation that generates heat, sparks, or an open flame, such as welding, cutting, grinding, soldering, torch applied roofing, heat guns, and similar activities.
- 25.01.03. Hot Work Operator: Is the employee who is qualified and authorized to perform hot work such as welding, brazing, soldering, and other associated work tasks.
- 25.01.04. Authorized Employee: An employee who has been trained in Hot Work Permitting is authorized to issue a hot work permit.
- 25.01.05. Fire Watch: Is the employee who is trained in hot work safety and monitors the hot work area for changing conditions and watches for fires and extinguishes them if possible.

25.02. Supervisor

- 25.02.01. Supervisors are responsible in making sure employees who will be performing Hot Work operations are properly trained.

25.03. Employee performing hot work shall:

- 25.03.01. Inspect all welding equipment daily prior to use.
- 25.03.02. Perform a hazard assessment before work or during any unusual welding operations are planned.
- 25.03.03. Follow all the safety requirements outlined in the issued Hot Work Permit.
- 25.03.04. Use all required welder personal protective equipment for the specific job.
- 25.03.05. Correct all unsafe conditions before proceeding with hot work activity.

25.04. Safety Requirements:

- 25.04.01. Any welding, cutting, or burning operations will not be performed in atmospheres containing combustible, flammable or explosive dusts, gases, mists, fumes or vapors.
- 25.04.02. Always clean areas around and below cutting or welding operations.
- 25.04.03. Barricade adjacent areas and or provide a fire watch.
- 25.04.04. Use welding helmets approved shaded lenses and goggles for eye protection and to prevent flash burns. Always wear approved eye protection (safety glasses and face shield) to guard against slag while chipping, grinding and dressing of welds.

- 25.04.05. Use only manual electrode holders specifically designed for arc welding.
- 25.04.06. Make sure that all parts subject to electrical current are fully insulated against the maximum voltage encountered to ground.
- 25.04.07. A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding unit that it services.
- 25.04.08. Welding cables, leads, connections and hoses are to be placed so they do not present a tripping hazard or become damaged.
- 25.04.09. Shield all arc welding and cutting operations with noncombustible or flame-resistant screens, wherever practical.
- 25.04.10. An ABC rated fire extinguisher shall be located within the immediate area of any welding, cutting or burning operation.
- 25.04.11. Be sure that proper ventilation is provided whenever welding, cutting or heating is performed in a confined space. Cylinders shall not be taken into the confined space.
- 25.04.12. Before handling cylinders or apparatus, be sure there is no oil or grease on your hands or gloves. Oxygen under pressure reacts violently with grease or oil.
- 25.04.13. Use a friction lighter to light your torch. DO NOT light torches using matches, butane lighters, fluid cigarette lighters, or from hot work.
- 25.04.14. Never use oxygen as a substitute for compressed air as a source of pressure or ventilation.
- 25.04.15. Never tighten a leaky connection between the cylinder and the regulator without first closing the cylinder valve.
- 25.04.16. Do not force connections that do not fit. Check threads directions before connecting.
- 25.04.17. Compressed gas cylinders, empty or full, shall be secured in an upright position during use and while in storage. Oxygen cylinders shall be separated from fuel-gas cylinders by minimum of twenty (20) feet or by a 5 foot high ½ hour fire rated wall.
- 25.04.18. Protective caps shall be in place whenever the regulators are removed.
- 25.04.19. Check hoses, fittings, and valves for leaks by brushing a soapy water solution onto the connections.
- 25.04.20. Oxygen or compressed flammable gas cylinders found to have leaky fittings, which closing of the valve will not stop, should be taken into the open, away from any source of ignition, and slowly drained of gas.
- 25.04.21. Open compressed gas cylinders slowly to avoid valve damage.
- 25.04.22. Always close cylinder valves when work is finished or when leaving the operation for extended periods.
- 25.04.23. When a cylinder is empty, close the valve, replace the protecting cap, tag or mark the cylinder "MT" or EMPTY; return cylinder to its rack and secure it.

- 25.04.24. Cylinders shall not be lifted by a crane or hoist unless they are in a cradle or substantial stand and have protective caps in place. A cylinder shall never be lifted by the cap.
- 25.04.25. Cylinders shall never be used for any other purpose other than what is intended.
- 25.04.26. When practicable combustible and flammable material within 35' shall be removed and or protected from hot work.

25.05. Hot Work Permits

- 25.05.01. Hot work is never permitted in certain types of locations where safe conditions do not exist and cannot be created. Hot work is allowed in two types of locations:
 - 25.05.01.01. Designated area: A permanent location approved for routine hot work operations made safe by removal of all possible sources of ignition that could be ignited by the hot work tool. An example is the Welding Shop or Maintenance Shop where all combustibles have been removed. A Hot Work Permit is not required in a Designated Hot Work Area.
 - 25.05.01.02. Controlled Area: Safe conditions for hot work exist or where safe conditions can be created by moving or protecting combustibles. In a controlled area, a Hot Work Permit shall be completed by an Authorized Employee.
 - 25.05.01.03. A Hot Work Permit is valid for one work shift only.
 - 25.05.01.04. Non-Permissible Locations: A location that cannot be made safe for hot work and hot work is not permitted in these locations.

25.06. Condition Requiring Fire Watch:

- 25.06.01. A fire watch shall also be required when any of the following conditions exist:
 - 25.06.01.01. Combustible material in building construction or contents is closer than 35 feet to the point of operation that cannot be removed or protected by fire proof cover.
 - 25.06.01.02. Combustible materials are more than 35 feet away but easily ignitable.
 - 25.06.01.03. Wall or floor openings within a 35-foot radius expose combustible material including concealed spaces in walls or floors
 - 25.06.01.04. Combustible materials are adjacent to the opposite side of partitions, walls, ceilings or roofs and are likely to be ignited

25.07. Procedure for Fire Watch:

- 25.07.01. A Fire Watch shall have the following responsibilities:
 - 25.07.01.01. Provide required fire extinguishing equipment at hot work activity location.
 - 25.07.01.02. Guard against fire in exposed areas.
 - 25.07.01.03. Make a complete inspection of the exposed areas for possible fire.

25.07.01.04. Remain on site at least one half of an hour after the completion of hot work activities to detect and extinguish possible smoldering fires.

25.07.01.05. Complete an final inspection of all exposed areas one-half of an hour after completion of hot work activities for the purpose of detecting fire.

25.08. Training:

25.08.01. Employees shall be initially trained on hot work permit, prior to performing hot work operation in locations that require a hot work permit.

25.08.02. Retraining will be performed at minimum of every 3 years or if employees are observed not following hot work procedures.

25.08.03. All participants of a hot work permit shall also have completed fire extinguisher training.