Job hazard analysis (JHA): Hot work

Task: Hot work	**Site or job:**
Crew:	**Date:**
Supervisor:	

No.	Job step	Hazard	Controls (most effective first)
1	Decide if hot work is really needed	Spark-producing work in a place with fire exposures	**Eliminate:** Use a cold method such as mechanical cutting, clamps or bolted joints instead of heat where the job allows. **Substitute:** Move the object to a designated hot work area when practical. (29 CFR 1926.352(a)) **Administrative control:** Do not cut or weld where explosive atmospheres exist or may develop, such as in uncleaned tanks or where combustible dust builds up. (29 CFR 1910.252(a)(2)(vi)(C))
2	Get the permit and walk the area	Hazards are missed before the torch is lit	**Administrative control:** Have the authorizing person inspect the area and set the precautions, preferably in a written permit. (29 CFR 1910.252(a)(2)(iv)) **Administrative control:** List every trade in the area and tell them hot work is starting. **Administrative control:** Check the area for flammable paint, vapors or dust before work begins. (29 CFR 1926.352(c))
3	Clear and protect combustibles	Sparks reach wood, paper, insulation or fluids	**Eliminate:** Relocate combustibles at least 35 feet from the work site where practicable. (29 CFR 1910.252(a)(2)(vii)) **Engineering control:** Shield what cannot move with flameproofed covers, metal guards or curtains. (29 CFR 1910.252(a)(2)(vii)) **Engineering control:** Confine heat, sparks and slag and protect immovable fire hazards. (29 CFR 1926.352(b)) **Administrative control:** Where paper, wood shavings or other combustibles are on the floor, sweep it clean for a radius of 35 feet. (29 CFR 1910.252(a)(2)(v))
4	Clear and protect combustibles	Sparks escape through openings	**Engineering control:** Protect or shut down ducts and conveyor systems that could carry sparks to distant combustibles. As good practice, also close floor and wall openings near the work. (29 CFR 1910.252(a)(2)(viii)) **Administrative control:** Check the opposite side of walls, floors and ceilings where heat can transfer. (29 CFR 1926.352(f))

No.	Job step	Hazard	Controls (most effective first)
5	Position fire watch and extinguishers	Small fire not caught right away	**Administrative control:** Station a fire watcher where other than a minor fire could develop, including where appreciable combustibles are closer than 35 feet. (29 CFR 1910.252(a)(2)(iii)(A)) **Administrative control:** Train fire watchers in extinguisher use and give them a way to sound an alarm. (29 CFR 1910.252(a)(2)(iii)(B)) **Administrative control:** Keep suitable fire extinguishing equipment ready for instant use. (29 CFR 1926.352(d))
6	Do the hot work	Ignition from spatter, torch leaks or grinding sparks	**Engineering control:** Shut off the torch gas supply outside any enclosed space when the torch is not in use. (29 CFR 1926.352(g)) **Administrative control:** Stop work if conditions change, such as a gas smell or an alarm. **PPE:** Wear suitable eye protection for the process. Flame-resistant clothing and leather gloves are good practice. (29 CFR 1926.353(e)(2))
7	Watch after the work stops	Smoldering fire starts after the crew leaves	**Administrative control:** Where normal precautions are not enough, assign personnel to guard against fire during the work and for a sufficient time after it ends to make sure no fire can start. (29 CFR 1926.352(e)) **Administrative control:** Under the general industry rule, keep the fire watch for at least a half hour after welding or cutting is completed. (29 CFR 1910.252(a)(2)(iii)(B)) **Administrative control:** Walk adjacent rooms and concealed spaces, including the opposite side of walls. (29 CFR 1926.352(f)) **Administrative control:** Sign the permit closed only after the final check.
8	Close out and restore protection	Fire protection left impaired	**Administrative control:** Do not allow cutting or welding in a sprinklered building while sprinkler protection is impaired. Return any impaired protection to service before work resumes. (29 CFR 1910.252(a)(2)(vi)(B)) **Administrative control:** Keep hoses, cables and other equipment clear of passageways, ladders and stairs, and collect them when the work is done. (29 CFR 1926.350(f)(7))

Required PPE

- Flame-resistant clothing
- Welding helmet or goggles (29 CFR 1926.353(e)(2))
- Leather gloves
- Fire watcher: a fire extinguisher at hand (29 CFR 1910.252(a)(2)(iii)(B))
- Hearing protection

OSHA sections

29 CFR 1926.352 Fire prevention; 29 CFR 1910.252 General requirements; 29 CFR 1926.353 Ventilation and protection in welding, cutting, and heating; 29 CFR 1926.350 Gas welding and cutting

Reviewed with the crew. Names and signatures

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