Welding safety presentation and toolbox talk

29 CFR 1926.352, 1910.252, 1926.351, 1926.350, 1926.353

Date _____ Trainer _____ Location _____

Opening question

Before you strike an arc or light a torch today, what nearby could a spark or hot slag reach?

Why it matters

Welding and cutting put heat, sparks, hot slag, fumes, intense light and electricity in one spot. A spark can smolder out of sight after the crew leaves, fumes can harm your lungs, the arc can burn your eyes and skin, and the welding circuit can shock you.

Key points

1 Clear the area before hot work

When practical, move the work to a designated safe location, and if it cannot be readily moved, take all movable fire hazards nearby to a safe place or protect them. If it cannot be moved and the fire hazards cannot all be removed, confine the heat, sparks and slag and protect what cannot be moved (29 CFR 1926.352(b)). When welding on walls, floors or ceilings, take the same precautions on the opposite side (29 CFR 1926.352(f)). Keep suitable fire extinguishing equipment in the work area, ready for instant use (29 CFR 1926.352(d)).

29 CFR 1926.352(a)

2 Post a fire watch when it is needed

In construction, when normal fire prevention precautions are not enough, extra people must be assigned to guard against fire during the work and for a sufficient period afterward (29 CFR 1926.352(e)). In general industry, fire watchers must have extinguishing equipment readily available, be trained in its use, know how to sound the alarm and keep watching for at least a half hour after welding or cutting is finished.

29 CFR 1910.252(a)(2)(iii)(B)

3 Keep fumes out of your breathing zone

Fumes come from the base metal, coatings, filler metal and flux, so keep your head out of the plume and put the exhaust hood close to the work. Your employer must cover the hazardous materials in fluxes, coatings, coverings and filler metals in the hazard communication program, give you access to their labels and safety data sheets, and train you. Coated metal, like painted or galvanized steel, can give off more hazardous fumes.

29 CFR 1910.252(c)(1)(iv)

4 Protect your eyes and skin from the arc

The arc's ultraviolet rays and intense light can burn your eyes and skin. In general industry, helmets or hand shields must be used for all arc welding and arc cutting except submerged arc welding, and helpers and attendants must get proper eye protection. On construction sites, anyone welding, cutting or heating must have suitable eye protection (29 CFR 1926.353(e)(2)), and where practicable, noncombustible or flameproof screens must shield people nearby from the rays (29 CFR 1926.351(e)). Use a filter shade right for the job and cover your skin.

29 CFR 1910.252(b)(2)(i)(A)

5 Stay clear of electric shock

Before leaving an electrode holder unattended, remove the electrode and place the holder so it cannot contact people or conducting objects. Never dip a hot holder in water, and open the power supply switch when you leave or stop work for any appreciable length of time or move the machine. Report faulty equipment to your supervisor, and do not use cables that need repair (29 CFR 1926.351(b)(4)).

29 CFR 1926.351(d)

6 Handle gas cylinders with care

Keep compressed gas cylinders secured upright, except briefly while actually being hoisted or carried, and far enough from the work that sparks, hot slag or flame cannot reach them (29 CFR 1926.350(b)(1)). Close the valve when work is finished, when the cylinder is empty and whenever it is moved (29 CFR 1926.350(a)(8)). Keep oxygen cylinders and fittings away from oil and grease, and inspect hoses and torches at the start of each shift (29 CFR 1926.350(i), (f)(3) and (g)(2)).

29 CFR 1926.350(a)(9)

Scenario

Picture this: a crew is torch cutting old brackets on an upper floor during a renovation. The floor has cracks, and the room below is full of cardboard and scrap wood. The fire watch gets called away to unload a truck, and the crew finishes and leaves for lunch. What went wrong, and what should have happened?

Crew discussion

1. What could catch a spark near this week's hot work, including behind walls and below floors?
2. Who is the fire watch, and do they know where the extinguisher and the alarm are?
3. What do you check on cables, hoses, torches and cylinders before you start?

Bottom line

Clear the area, keep a fire watch, control fumes, shield your eyes and skin, and check your gear every time.

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Sign-in sheet / Hoja de asistencia

Topic / Tema Welding safety / Seguridad en soldadura

Date / Fecha _____

Trainer / Instructor _____ Location / Lugar _____ Company / Empresa _____

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