



habco
welding alloys



Maintenance Welding Safety Rules

The maintenance welding of metals involves the generation of temperatures up to thousands of degrees. It also involves working with electricity, with combustible gases and a wide variety of metals, chemicals, fluxes and other potentially hazardous situations, often in confined spaces. Since welding has been regularly practiced, it has been proven repeatedly, that it is a relatively safe occupation that is not injurious to health. However, as in all trades and all industrial activities, some safety precautions must be taken. Inweld Canada recommends the following be included in your safety program:

- 1) **Welders should never carry or use butane lighters while welding.** Several fatal accidents have occurred when welders were carrying butane lighters in their pockets. A spark from a welding arc can penetrate the pocket, land on the lighter, burn through and thus expose the fluid in the lighter, and an explosion occurs. Recently one welder had a butane lighter in his shirt pocket and the man was killed instantly when the lighter exploded. There is the same amount of force in a butane lighter when it explodes as there is in approximately 3 sticks of dynamite.
- 2) Always **wear protective clothing** suitable for the welding to be done.
- 3) Always **wear proper eye protection**, when welding, grinding or cutting.
- 4) **Keep your work area clean and free of hazards.** Make sure that no flammable, volatile or explosive materials are in or near the work area.
- 5) **Handle all compressed gas cylinders with extreme care.** Keep caps on when not in use.
- 6) **When it is necessary to arc weld in a damp or wet area, wear rubber boots and stand on dry insulated platform.**
- 7) **Shield others from the light rays produced by your welding arc.**
- 8) **Do not weld on sealed containers or compartments without providing vents and taking special precautions.**
- 9) **Do not weld on containers that have held combustibles** without taking extra special precaution.
- 10) If it is necessary to splice lengths of welding cable together, **make sure all electrical connections are tight and insulated.** Do not use cables with frayed, cracked or bare spots in the insulation.
- 11) **Do not weld in a confined space** without extra special precautions.
- 12) **When compressed gas cylinders are empty, close the valve and mark the cylinder "MT".**
- 13) **Do not allow flame cut sparks to hit hoses, regulators or cylinders.** Remember flame cutting sparks can travel 30-40 feet (9.15m-12.20m).
- 14) **Never use acetylene at a pressure in excess of 15 pounds per square inch (1.06 Kg/cm²).** Higher pressures can cause an explosion.
- 15) **Never use oil, grease or any similar material on any apparatus or threaded fittings in the oxy-acetylene or oxy-fuel gas system.** Oil and grease in contact with oxygen will cause spontaneous combustion.
- 16) **Flashback arrestors should be fitted at the torch handle.** We also strongly suggest arrestors be fitted at the regulators as well.
- 17) **Always use this correct sequence and technique for lighting a torch:**
 - a) Open acetylene cylinder valve.
 - b) Open acetylene torch valve 1/4 turn.
 - c) Screw in acetylene regulator, adjusting valve handle to working pressure.
 - d) Turn off acetylene torch valve (you will have purged the acetylene line).
 - e) Slowly open oxygen cylinder valve all the way.
 - f) Open oxygen torch valve 1/4 turn.
 - g) Screw oxygen regulator screw to working pressure.
 - h) Turn off oxygen torch valve (you will have purged the oxygen line).
 - i) Open acetylene torch valve on 1/4 turn and light with a proper lighter. Do not use matches or cigarette lighters.
 - j) Open oxygen torch valve 1/4 turn.
 - k) Adjust to proper flame.
- 18) **Always use this correct sequence and technique when shutting off a torch:**
 - a) Close acetylene torch valve first, then close oxygen torch valve.
 - b) Close cylinder valves, acetylene valve first, then close oxygen valve.
 - c) Open torch's acetylene and oxygen valves (this will release pressure in the regulator and hose).
 - d) Back off regulator adjusting valve handle until no spring tension is left.
 - e) Close torch valves.
- 19) **Use adequate ventilation** at the point of welding **when welding lead, cadmium, chromium, manganese, brass, bronze, zinc, galvanized steel or other materials that can produce noxious gases.**
- 20) **Make sure your arc welding equipment is installed properly and grounded and is in good working condition.**
- 21) **Welding may produce fumes and gases hazardous to health.** Avoid Breathing these fumes. Use adequate ventilation.
- 22) **Nearly all gas welding fluxes and arc welding fluxes are toxic or at least can cause allergies in certain persons. Do not take welding fluxes internally and keep out of reach of children.**

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