

STANDARD OPERATING PROCEDURES

TIG Welder

DO NOT use this machine unless you have received authorization from the Shop Coordinator



Eye protection must be worn at all times.



Long and loose hair must be contained.



Oil-free leather gloves must be worn.



A hood with the correct shade lens must be worn when welding.



Appropriate protective clothing must be worn.



Pants must not be rolled up nor tucked into boots.



Respiratory protection may be required.



Sturdy closed-toe footwear must be worn.



Rings and jewelry must not be worn.

Potential Hazards and Injuries

- Electric shock
- Fumes (respiratory hazard)
- Radiation (eye & skin damage)
- Molten metal/Hot surfaces (burn hazard)
- Fire

Pre-Operational Safety Checks

- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Check workspaces, walkways, and routing of welding cables to ensure no slip/trip hazards are present.
- ✓ Ensure the work area is clean and clear of grease, oil and any flammable or combustible materials.
- ✓ Ensure the welding equipment, work area, your gloves and other PPE are dry to avoid electric shocks.
- ✓ Ensure your jacket, gloves, TIG torch and welding cables are in good condition.
- ✓ Ensure other people are protected from flashes by closing the curtain to the welding bay or erecting screens.
- ✓ Ensure the fume extraction unit is operating properly before welding. (Required unless the Fire Marshal has allowed welding in areas without fume extraction).
- ✓ Verify lens function if using an auto-darkening hood.
- ✓ Review the SDSs for the rod and gas to be used.
- ✓ Ensure personal hydration as PPE and direct exposure to heat can increase risk of heat illness.

Safe Practices During Operation

- ✓ Ensure machine is correctly set up (e.g., amperage, polarity, tungsten size, and gas flow).
- ✓ Ensure good connection of ground cable to workpiece or table.
- ✓ Say "EYES" or "COVER" before initiating arc.
- ✓ Bend upper end of rod to avoid poking hazard.
- ✓ Initiate the arc and create puddle before placing the tip of the filler rod into the weld pool.
- ✓ Ensure torch is not energized and your body is not completing the welding circuit before changing electrode or servicing torch.
- ✓ Lay torch with care, and position foot pedal away from traffic to avoid inadvertent arc flash.

Ending Operations and Cleaning Up

- ✓ Turn off the machine and fume extraction unit when work is completed.
- ✓ Close the gas cylinder valve.
- ✓ Hang up the TIG torch and leads.
- ✓ Inspect area for fire risk, and label any hot items.
- ✓ Leave the work area in a safe, clean and tidy state.

DON'T

- ⊗ Don't use faulty equipment; report it immediately.
- ⊗ Don't leave the welder running unattended.
- ⊗ Don't drape cables over body.
- ⊗ Don't lay or roll damaging items across torch cable.
- ⊗ Don't weld on drums, tanks, painted or plated materials, etc. without permission.

SOP must be used in conjunction with an effective training program