

ELECTRIC ARC WELDERS

07-03

ALL EMPLOYEES ARE TO BE TRAINED PRIOR TO USING EQUIPMENT

I. Pre Operation Read Operators Manual Prior to Use.

Inspection/Service

- **Check** cords for damage
- **Select** correct welding rod for the type of metal and thickness.
- **Flammables** Make sure area is free of flammable or combustible material.
- **Fire Extinguisher** Make sure fire extinguisher is charged and readily available.

Lockout/Tagout (LO/TO) if repairs are needed.

II. Operation

Starting

- **Set Amperage** to desired level. Low amps for thin metal; high amps for thick metal.
- **Clean** area to be welded with wire brush or grinder.
- **Welding Rod** Select proper welding rod.
- **Ground Cable** Attach ground cable to item to be welded.

Personal Protective Equipment (PPE)

- **Eye Protection** Dark protective eye and face shield is required.
- **Full Length** leather gloves to cover hands and forearms.
- **Leather Apron** and coveralls to protect clothing.
- **Never** have exposed skin or eye contact when arc welding, flash burns will occur.

Site Assessment

- **Place Arc** shield or curtain around area where welding is to take place.
- **Let Others** know you are welding.
- **Make Sure** area is clean of combustible or flammable material.

Operation Includes:

- **Select** amperage and rod for the type of metal.
- **Use** a scratching method to ignite rod.
- **Place Rod** at proper angle to the type of welding to be done.
- **Liquid Metal** Rod should be close enough to the metal to create a liquid metal pool.
- **Amperage** If the metal melts away, amperage is too high.
- **If No Liquid** metal pool is created and lumping occurs, the rod may be too far from the metal or the amperage is too low.
- **After** welding is complete, the slag material can be chiseled or ground away.
- **Cooling** - The metal is extremely hot and should be cooled prior to handling.

III. Post-Operation

Clean and inspect for damage or additional maintenance prior to putting arc welder away.

- LO/TO if repairs are needed.

IV. Demonstration and Proficiency - All persons trained on electric arc welders are required to demonstrate their proficiency prior to signing the ledger.

PROFICIENCY TEST ELECTRIC WELDERS

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I. Multiple Choice

1. Personal Protective Equipment for the arc welder use includes:
 - a) Rubber gloves.
 - b) Clear safety glasses.
 - c) Short sleeve shirt.
 - d) Eye and face shield with darkening lens.

2. An arc welder should be locked and tagged out if:
 - a) Damaged electrical cord.
 - b) If grounding cable is broken.
 - c) If amperage dial will not adjust.
 - d) All of the above.

3. Site assessment includes:
 - a) Having a shield or curtain around the welding area.
 - b) Ensuring no flammable or combustible material is in the area to be welded.
 - c) a and b.
 - d) Neither a or b.

II. True/False

4. _____ You should use high amperage for thin metal.
5. _____ A full face protective eye and face shield is not required.
6. _____ Eye damage will occur if you look at an exposed welding arc.
7. _____ You should cover all exposed skin when welding.
8. _____ Proper welding techniques include a small puddle of molten metal as you weld pieces of metal together.
9. _____ You use a tapping method to get rod to ignite.
10. _____ It is ok to grind off the slag while the metal is still hot.
11. _____ You don't need to ground the arc welder to use it.
12. _____ It is ok to not wear protective eye covering with dark lenses if you are just going to weld something quick.
13. _____ You should have a coworker hold the metal you are welding on.
14. _____ You should warn you coworkers when you are going to be welding.

III. Discussion Questions

1. How do you know when you have the right heat range and right rod when welding?
2. What hazards exist when welding?

Employee Name: _____ Pass _____ No Pass _____ Date: _____
Take this test to your supervisor or trainer for sign off.