

Chapter 4

Welding and Cutting Processes

Multiple Choice

Select the best answer for each of the following from the options given.

- _____ 1. Why is submerged arc welding referred to as *submerged*?
- A. The arc is submerged in or covered by a thick layer of flux material and cannot be seen.
 - B. The welding is done under water.
 - C. The arc is covered by a thick layer of filler material.
 - D. The base metal is submerged and the arc is shielded by an inert gas.
- _____ 2. What prevents the shoes in ESW (electroslag welding) from becoming welded to the base metal?
- A. The shoes are coated with a nonstick material prior to welding.
 - B. The shoes are made of a material that cannot be welded to the base metal.
 - C. All ESW shoes are lined with ceramic material.
 - D. The shoes are water-cooled and generally made of copper.
- _____ 3. In the oxyfuel gas cutting process, what fuel gas is used with OFC-H?
- A. Oxygen
 - B. Hydrogen
 - C. Helium
 - D. Acetylene
- _____ 4. In FCAW, the flux material that cleans and shields the weld area is _____.
- A. on the electrode wire
 - B. applied ahead of the weld through a hopper
 - C. in the hollow electrode
 - D. applied with a brush
- _____ 5. Flux powder reduces the formation of _____ and makes OC-F easier.
- A. refractory oxides
 - B. powder
 - C. slag
 - D. calcium

True or False

Indicate if each of the following statements is true or false by circling "T" or "F".

- T F 6. Plastic is generally welded by heating it to the fusing temperature with heated air.
- T F 7. Friction stir welding is a solid-state welding process.
- T F 8. Solid-state welding processes use resistance to heat the metals being joined.

Completion

Complete each of the following statements with the appropriate word or phrase from the chapter.

- _____ 9. GTAW torches may be ____ cooled or ____ cooled.
- _____ 10. Laser welding beams can be reflected in any direction by using ____.
- _____ 11. Soldering occurs at temperatures below ____°F (449°C).

Short Answer

Answer the following question in the space provided.

12. How is the degree of heating controlled when ultrasonic welding?
