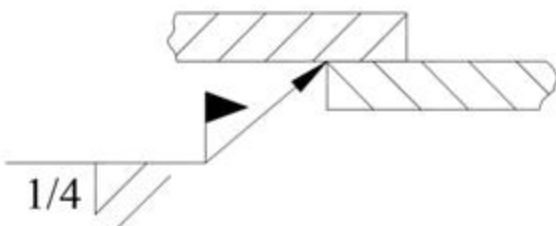




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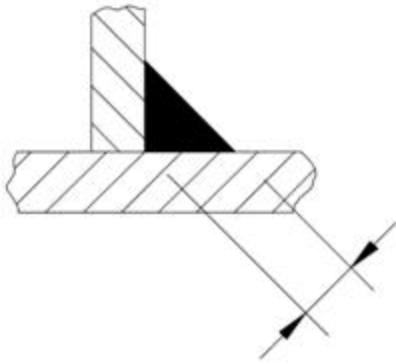
Continuing Education Course #253  
A Practical Design Guide for Welded Connections  
Part 1 - Basic Concepts and Weld Symbols

1. Which welding method is the most common and often called stick welding?
  - a. Shielded arc welding
  - b. Gas metal arc welding
  - c. Submerged arc welding
  - d. Gas tungsten arc welding
2. In a welding symbol, the horizontal line that contains the information about the weld type is called the
  - a. reference line
  - b. arrow
  - c. tail
  - d. leader line
3. A circle located at the intersection of the reference line and the arrow indicates
  - a. field weld
  - b. weld on arrow side only
  - c. fillet weld
  - d. weld all-around
4. For an E60 welding electrode, the number 60 designates
  - a. a weld strength of 60 kips per square inch
  - b. a carbon content of 60 percent
  - c. an arc temperature of 6000 degrees Fahrenheit
  - d. none of the above
5. Which statement best describes the welding symbol shown?



- a. A 1/4" fillet weld is required on the arrow side and is to be performed in the field and have a flat contour
- b. A 1/4" fillet weld is required on the arrow side all-around the joint and have a convex contour
- c. A 1/4" intermittent fillet weld is required on the arrow side and should have a flat contour
- d. A 1/4" bevel weld is required on the arrow side along the entire length of the plate

6. What dimension is indicated in the figure of a fillet weld?




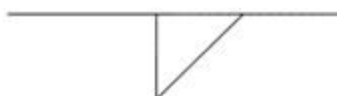


- a. Leg
- b. Throat
- c. Size
- d. Pitch

7. Which of the following is true about connections using intermittent fillet welds?

- a. They are stronger than continuous weld joints
- b. Intermittent fillet welds are also called seam welds
- c. They have less heat distortion compared to continuous weld joints
- d. All of the above

8. Which of the following weld symbols indicates a bevel groove weld?

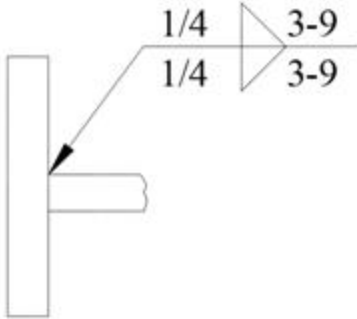
- a. 
- b. 
- c. 
- d. 

9. The welding symbol shown would result in which of the following:



- a. A 1/2" fillet weld on the arrow side only
- b. A 1/2" bevel weld on the other side only
- c. A 1/2" fillet weld on the other side only
- d. A 1/2" bevel weld on both sides

10. The welding symbol shown indicates an intermittent fillet weld. What is the desired pitch?



- a. 9 inches
- b. 3 inches
- c. 1/4 inch
- d. None of the above

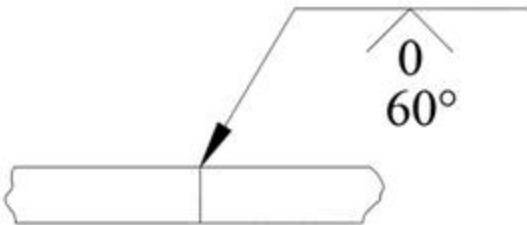
11. U-groove welds are more common than V-groove welds for butt joints because the material preparation is easier.

- a. True
- b. False

12. It is important to minimize stress concentrations in parts where anticipated fatigue conditions exist so grinding or machining welds smooth is critical in areas of fluctuating stress.

- a. True
- b. False

13. Which of the following best describes the resulting weld for the welding symbol shown?



- a. A partial penetration V-groove weld
- b. A partial penetration square groove weld
- c. A full depth square groove weld
- d. A full depth V-groove weld

14. The welding symbol shown indicates which of the following:



- a. A bevel weld ground to a flat finish
- b. A bevel weld machined to a flat finish
- c. A bevel weld ground to a concave finish
- d. A bevel weld machined to a concave finish

15. Which of the following statements is true about weldability?

- a. Higher carbon steels have a higher tendency to crack when welded
- b. High carbon steel is the most common material for welded machine parts
- c. Thicker plates tend to have much lower carbon content
- d. All of the above

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