

Lesson 2: Welding With Oxyacetylene

Welding an Edge Weld in a Flanged Butt Joint Without Welding Rod

Objective: Students will observe how to weld an edge weld in a flanged butt joint in flat position using the oxyacetylene outfit.

Directions: Use an oxyacetylene outfit to weld an edge weld in flat position.

Materials and Equipment:

Oxyacetylene outfit and accessories

Welding goggles with appropriate shaded lens*

Safety glasses or goggles

Leather gloves and any other protective clothing recommended by instructor

Spark lighter

Pliers

Wire brush

Steel plates, selected by instructor

Brake

* Everyone participating in or observing the demonstration should wear appropriate protective eyewear.

Procedure:

1. Wear appropriate face protection and protective clothing.
2. Inspect equipment, materials, and work area to ensure safe and correct operation.
3. Demonstrate the correct procedure for using the brake to bend metal. Use the brake to make a flange approximately 1/4 in. long in the edges that are to be welded together. Be sure that both flanges are of equal length.
4. Prepare the metal to be welded.
5. Position the plates on the worktable with the flanges together.
6. Set up the welding outfit.
7. Light the torch using the spark lighter.
8. Adjust the flame to a neutral flame.
9. Use the torch to tack weld the pieces together.
10. Start welding at one end, with the torch at a 45-degree angle and the inner flame cone approximately 1/8 in. from the work.
11. Hold this position until a weld pool forms.

12. Carry the bead forward by moving the torch with a smooth, uniform motion. The flanges are used to add filler material to the weld.
13. Continue moving forward until the weld is complete.
14. Shut off the outfit.
15. If work is to be suspended, shut down the outfit.
16. Assign the student version of AS 3 to be performed by students.