1. Always wear protective safety glasses and gloves while working with CADWELD® exothermic products.

2. Gather the proper materials and equipment for the type of connection you are making. The CADWELD® ONE SHOT system requires a CADWELD ONE SHOT ceramic mold, welding material, wire brush for cleaning/preparing conductors, flint igniter and propane torch.

   **Note:** Additional materials may be required for your specific application. Refer to your mold instructions. Advise nearby personnel of welding operations in the area prior to ignition.

3. Check to ensure the ceramic mold is not broken, which could cause leakage of molten weld metal during the reaction.

   Inspect the CADWELD ONE SHOT box label to ensure that it corresponds to the application, indicated by the:
   
   - CADWELD ONE SHOT part number
   - Conductor size
   - Welding material required
   - Other materials required

   The mold must be correct for the conductor size and application. **DO NOT MODIFY MOLDS.**

4. The conductors should be clean and dry before the connection is made. Use a propane torch to dry wire conductors and remove remaining cleaning residue, solvent, or water before making the CADWELD® ONE SHOT connection.
5. Next, use a wire brush to further prepare the surface of the conductors and ground rod.

Scrape the outer surface to remove dirt and oxidation. You will notice a slight colour change.

6. Each CADWELD ONE SHOT contains a rubber grommet at the bottom of the mold.

Gently turn the ONE SHOT mold onto the ground rod until the ground rod reaches the stopper and cannot go any further.

7. Insert the conductors and position them for the connection.

8. Place the steel disk into the CADWELD® ONE SHOT with the concave side facing up.
9. Ensure that the steel disk is properly seated inside the CADWELD ONE SHOT.

10. Next, take the tube of welding material included in the CADWELD ONE SHOT package and remove the lid over the crucible.

11. Quickly pour the loose welding material powder into the CADWELD® ONE SHOT mold.

12. Place the cover on the top of the CADWELD ONE SHOT.

13. The bottom of the tube contains compressed material (starting material). Tap the bottom of the tube a couple of times to loosen this material.
14. Pour the starting material onto the CADWELD ONE SHOT cover.

NOTE: Welding material is an exothermic mixture and reacts to produce hot molten material with temperatures in excess of 2500 degrees Fahrenheit (1400 degrees Celsius) and a localised release of smoke. Avoid direct eye contact with the “flash” of light from ignition of starting material. Avoid inhalation of smoke/fumes.

15. Aiming the flint igniter from the side, ignite the starting material on the mold cover. Withdraw the igniter quickly to prevent fouling.

Allow approximately 30 seconds for completion of the reaction and solidification of the molten material.

16. Break the ceramic CADWELD® ONE SHOT mold off the connection. Avoid contact with hot materials.

17. You are ready to make another CADWELD ONE SHOT connection.