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› [Lincoln Electric SHIELDARC 70 Plus EO Stick Welding Electrodes \(5/32 x 14 in., 50 lb. Can\) - Instruction Manual](#)

Lincoln Electric ED012849

Lincoln Electric SHIELDARC 70 Plus EO Stick Welding Electrodes

Model: ED012849

For technical assistance, visit lincolnelectric.com

1. PRODUCT OVERVIEW

The Lincoln Electric SHIELDARC 70 Plus EO electrodes are designed for shielded metal arc welding (SMAW) of carbon steel. These 5/32 inch diameter, 14 inch long electrodes are supplied in a 50 lb. sealed can, ensuring optimal condition for use. They are suitable for various welding applications requiring good mechanical properties and ease of use.



Figure 1: A sealed 50 lb. can of Lincoln Electric SHIELDARC 70 Plus EO stick welding electrodes, indicating proper packaging for storage and protection.

2. SAFETY INFORMATION

Welding operations present various hazards. It is imperative to follow all safety precautions to prevent injury or property damage. Always refer to ANSI Z49.1 "Safety in Welding, Cutting, and Allied Processes" and your employer's safety practices.

- **Fumes and Gases:** Keep your head out of the fumes. Use enough ventilation, exhaust at the arc, or

both, to keep fumes and gases from your breathing zone and the general area.

- **Electric Shock:** Can kill. Do not touch live electrical parts. Wear dry insulating gloves and clothing. Insulate yourself from work and ground.
- **Arc Rays:** Can burn eyes and skin. Wear a welding helmet with a proper shade of filter lens to protect your eyes and face. Wear appropriate protective clothing to protect your skin.
- **Fire and Explosion:** Welding sparks and hot materials can cause fire or explosion. Keep flammables away from the welding area. Have a fire extinguisher readily available.
- **Hot Parts:** Can cause severe burns. Allow welded materials to cool before handling.

3. STORAGE AND HANDLING

Proper storage is crucial to maintain the quality and performance of welding electrodes. These electrodes are supplied in a sealed can to protect them from moisture absorption.

- Store electrodes in their original sealed container in a dry environment.
- Once opened, store electrodes in a heated cabinet or oven at recommended temperatures (typically 250-300°F / 120-150°C) to prevent moisture pickup, especially in humid conditions.
- Avoid exposing electrodes to extreme temperature fluctuations or direct sunlight.
- Handle cans carefully to prevent damage that could compromise the seal.

4. SETUP AND PREPARATION

Before beginning any welding operation, ensure proper setup of your equipment and workspace.

1. **Workspace Preparation:** Clear the welding area of any flammable materials. Ensure adequate ventilation.
2. **Personal Protective Equipment (PPE):** Don appropriate PPE, including a welding helmet, flame-resistant clothing, welding gloves, and safety shoes.
3. **Welding Machine:** Connect the welding machine according to the manufacturer's instructions. Ensure proper grounding.
4. **Electrode Selection:** Select the appropriate electrode holder and ensure a secure connection.
5. **Base Material Preparation:** Clean the base metal thoroughly, removing rust, paint, oil, and other contaminants that could affect weld quality.

5. OPERATING INSTRUCTIONS

Follow these general guidelines for effective welding with SHIELDARC 70 Plus EO electrodes:

- **Current Setting:** Refer to the electrode manufacturer's recommendations for amperage settings. Start with the lower end of the range and adjust as needed.
- **Arc Length:** Maintain a short arc length, typically equal to the electrode's core wire diameter, for optimal penetration and bead shape.
- **Travel Speed:** Maintain a consistent travel speed to ensure proper bead width and penetration. Too fast can lead to narrow, convex beads; too slow can cause excessive buildup and overheating.
- **Electrode Angle:** Hold the electrode at a slight angle (10-15 degrees) in the direction of travel for most applications.
- **Striking an Arc:** Use a scratching or tapping motion to strike the arc. Once the arc is established, lift the electrode slightly to maintain the desired arc length.
- **Slag Removal:** After each pass, allow the weld to cool slightly, then chip away the slag. Ensure all

slag is removed before making subsequent passes.

6. ELECTRODE MAINTENANCE

The primary maintenance for these electrodes involves preventing moisture absorption. Once the can is opened, electrodes should be stored in a heated electrode oven to maintain their low hydrogen properties. Electrodes exposed to atmospheric moisture for extended periods may require re-baking according to manufacturer specifications to restore their performance characteristics.

7. TROUBLESHOOTING COMMON ISSUES

| Problem | Possible Cause | Solution |
|--|---|---|
| Porosity (small holes in weld) | Moisture in electrode coating, contaminated base metal, insufficient shielding gas (if applicable), incorrect arc length. | Re-bake electrodes, clean base metal, ensure proper arc length. |
| Lack of Fusion | Insufficient amperage, too fast travel speed, incorrect electrode angle. | Increase amperage, decrease travel speed, adjust electrode angle. |
| Excessive Spatter | Too high amperage, too long arc length, incorrect polarity. | Decrease amperage, shorten arc length, check polarity settings. |
| Arc Instability | Moisture in electrode, poor ground connection, incorrect current. | Re-bake electrodes, check ground clamp, adjust current. |

8. PRODUCT SPECIFICATIONS

- **Model Number:** ED012849
- **Electrode Type:** SHIELDARC 70 Plus EO
- **Diameter:** 5/32 inches
- **Length:** 14 inches
- **Weight:** 50 lb. can
- **Manufacturer:** Lincoln Electric
- **ASIN:** B00IPUB4SY
- **Date First Available:** June 14, 2012

9. WARRANTY INFORMATION

For specific warranty details regarding Lincoln Electric SHIELDARC 70 Plus EO electrodes, please refer to the official Lincoln Electric website or contact their customer support. Generally, welding consumables are warranted against defects in material and workmanship at the time of shipment.

10. CUSTOMER SUPPORT

For technical assistance, product inquiries, or support, please contact Lincoln Electric directly:

- **Website:** www.lincolnelectric.com
- **Contact Information:** Refer to the "Contact Us" section on their official website for phone numbers and email addresses specific to your region.

11. LEGAL DISCLAIMER

Statements regarding dietary supplements have not been evaluated by the FDA and are not intended to diagnose, treat, cure, or prevent any disease or health condition.

Note: This disclaimer appears to be a generic placeholder from the source data and may not be directly relevant to welding electrodes. Users should always consult product-specific safety data sheets (SDS) and manufacturer guidelines for accurate and relevant safety information.