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Hobart 770477 7018 Stick Electrode User Manual

Brand: Hobart | Model: 770477

1. INTRODUCTION

This manual provides essential information for the safe and effective use of Hobart 770477 7018 Stick Electrodes. These electrodes are designed for arc welding applications, offering a low-hydrogen solution for various steel types. Please read this manual thoroughly before use to ensure proper handling, operation, and storage.

The Hobart 7018 electrode is a low-hydrogen type, suitable for use in all positions on low, medium, and high-carbon steels. It provides a tensile strength of 70,000 PSI, making it ideal for out-of-position welding and tacking. These electrodes operate on either AC or DCEP (reverse) polarity. Note that they are not recommended for low-voltage AC welders.

2. SAFETY INFORMATION

WARNING: Welding can be hazardous. Protect yourself and others. Read and understand all warnings and instructions provided with your welding equipment and these electrodes.

- **Electric Shock Can Kill:** Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Insulate yourself from work and ground.
- **Fumes and Gases Can Be Dangerous:** Keep your head out of the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases away from your breathing zone and the general area.
- **Arc Rays Can Burn Eyes and Skin:** Wear a welding helmet with a proper shade of filter to protect your face and eyes when welding or watching. Wear appropriate safety glasses with side shields. Wear protective clothing made from durable, flame-resistant material.
- **Welding Can Cause Fire or Explosion:** Remove all flammables within 35 feet (10 meters) of the welding area. Have a fire extinguisher nearby.
- **Hot Parts Can Cause Severe Burns:** Allow hot parts to cool before handling. Wear insulated welding gloves and clothing to prevent burns.
- **Noise Can Damage Hearing:** Wear approved ear protection if noise levels are high.

- **Read MSDS:** Material Safety Data Sheets (MSDS) for these electrodes are enclosed and provide detailed information on potential hazards and safe handling procedures.

3. PRODUCT OVERVIEW

The Hobart 770477 7018 Stick Electrodes are premium welding consumables designed for robust performance across various steel fabrication tasks. Key features include:

- **Low-Hydrogen Formulation:** Minimizes hydrogen-induced cracking in welds.
- **All-Position Welding:** Suitable for flat, horizontal, vertical, and overhead positions.
- **High Tensile Strength:** Achieves 70,000 PSI, ideal for structural applications.
- **Versatile Polarity:** Operates with Direct Current Electrode Positive (DCEP) or Alternating Current (AC).
- **Package Size:** Available in a 25 lb (11.3 kg) carton, with 1/8-inch (3.2 mm) diameter electrodes.



A cardboard box containing Hobart 770477 7018 Stick Electrodes. The box is labeled with the Hobart logo, 'STICK ELECTRODES', 'AWS 7018', '90-150 Amps, DCEP or AC', '1/8" 25 lb', and '3.2 mm 11.3 kg'. Important safety warnings are also visible on the label, indicating the product's specifications and safety precautions.

4. SETUP

Proper setup is crucial for safe and effective welding. Follow these steps before beginning any welding operation:

1. **Prepare the Work Area:** Ensure the welding area is clean, dry, and well-ventilated. Remove all flammable materials.
2. **Wear Personal Protective Equipment (PPE):** Always wear a welding helmet with appropriate shade, safety glasses, flame-resistant clothing, welding gloves, and safety shoes.

3. **Inspect Welding Equipment:** Check your welding machine, cables, electrode holder, and ground clamp for any damage. Replace or repair faulty equipment immediately.
4. **Connect Cables:** Connect the electrode holder cable and ground clamp cable to the welding machine according to the desired polarity (DCEP for most 7018 applications, or AC if specified).
5. **Secure Ground Clamp:** Attach the ground clamp securely to the workpiece or a clean, bare metal portion of the welding table.
6. **Select Amperage:** Refer to the electrode specifications for recommended amperage ranges. For Hobart 7018 1/8-inch electrodes, the typical range is 90-150 Amps. Adjust your welding machine accordingly.
7. **Electrode Conditioning:** If electrodes have been exposed to moisture, re-baking may be necessary to restore low-hydrogen properties. Follow manufacturer guidelines for re-baking temperatures and times.

5. OPERATING INSTRUCTIONS

Follow these guidelines for optimal performance when welding with Hobart 7018 electrodes:

1. **Electrode Selection:** Use 1/8-inch (3.2 mm) Hobart 7018 electrodes for general purpose welding on low, medium, and high-carbon steels.
2. **Polarity:** For most applications, use Direct Current Electrode Positive (DCEP), also known as reverse polarity. This provides good penetration and a stable arc. AC can also be used, but is not recommended for low-voltage AC welders.
3. **Amperage Settings:** Set your welding machine within the recommended range of 90-150 Amps for 1/8-inch electrodes. Adjust as needed based on material thickness, joint type, and desired penetration.
4. **Arc Starting:** Use a scratch start or tap start method. Once the arc is established, maintain a short arc length.
5. **Travel Speed and Angle:** Maintain a consistent travel speed and electrode angle (typically 10-15 degrees from vertical in the direction of travel) to achieve a uniform bead and proper penetration.
6. **Weave Technique:** A slight weave may be used to control bead width and penetration, especially in out-of-position welding.
7. **Slag Removal:** After welding, allow the weld to cool slightly, then remove the slag using a chipping hammer and wire brush. Ensure all slag is removed between passes for multi-pass welds.
8. **Post-Weld Inspection:** Visually inspect the weld for defects such as porosity, undercut, or cracks.

6. MAINTENANCE AND STORAGE

Proper maintenance and storage of welding electrodes are essential to preserve their quality and performance, especially for low-hydrogen types like the 7018.

- **Storage:** Store electrodes in a dry, sealed container or a heated electrode oven to prevent moisture absorption. Moisture can degrade the low-hydrogen properties, leading to weld defects.
- **Re-baking:** If electrodes have been exposed to moisture, they may need to be re-baked according to the manufacturer's specifications. Typically, 7018 electrodes are re-baked at 650-750°F (343-399°C) for 1-2 hours. Consult the electrode packaging or Hobart's technical data for precise instructions.
- **Handling:** Handle electrodes carefully to avoid damaging the flux coating. Damaged coatings can lead to unstable arcs and poor weld quality.
- **Disposal:** Dispose of used or damaged electrodes and packaging responsibly, following local regulations.

7. TROUBLESHOOTING COMMON ISSUES

This section addresses common problems encountered during stick welding with 7018 electrodes and potential solutions.

Problem	Possible Cause	Solution
Porosity (holes in weld)	Moisture in electrode coating, insufficient shielding gas (if applicable), contaminated base metal, too long arc length.	Re-bake electrodes, clean base metal, shorten arc length, ensure proper ventilation.
Undercut (groove at weld toe)	Too high amperage, too fast travel speed, incorrect electrode angle.	Reduce amperage, decrease travel speed, adjust electrode angle.
Lack of Fusion/Penetration	Too low amperage, too fast travel speed, incorrect electrode angle, dirty base metal.	Increase amperage, decrease travel speed, adjust electrode angle, clean base metal.
Excessive Spatter	Too high amperage, too long arc length, incorrect polarity.	Reduce amperage, shorten arc length, verify DCEP polarity.
Arc Instability	Poor ground connection, damaged electrode coating, incorrect amperage/polarity.	Check ground connection, use undamaged electrodes, verify settings.

8. SPECIFICATIONS

Detailed technical specifications for the Hobart 770477 7018 Stick Electrodes:

- **Product Model:** 770477
- **AWS Classification:** E7018
- **Electrode Diameter:** 1/8 inch (3.2 mm)
- **Package Weight:** 25 lbs (11.3 kg)
- **Tensile Strength:** 70,000 PSI (minimum)
- **Polarity:** DCEP (Direct Current Electrode Positive) or AC (Alternating Current)
- **Recommended Amperage:** 90-150 Amps (for 1/8-inch electrodes)
- **Material Compatibility:** Low, medium, and high-carbon steels
- **Welding Positions:** All positions (Flat, Horizontal, Vertical, Overhead)
- **UPC:** 715959363877
- **Product Dimensions (Carton):** Approximately 15.1 x 5.1 x 4.2 inches
- **Manufacturer:** Hobart

9. WARRANTY AND SUPPORT

For specific warranty information regarding Hobart welding consumables, please refer to the documentation provided with your purchase or visit the official Hobart website. Hobart is committed to providing quality products and customer support.

If you have questions about the use, storage, or performance of your Hobart 7018 Stick Electrodes, please contact Hobart customer service directly. Contact information can typically be found on the product packaging or on the Hobart website.

Hobart Welding Products Contact:

Phone: 1-800-626-9420 (as indicated on product packaging)

Website: www.hobartwelders.com (This is a general link, actual support page may vary)

