ESAB 55042430G0

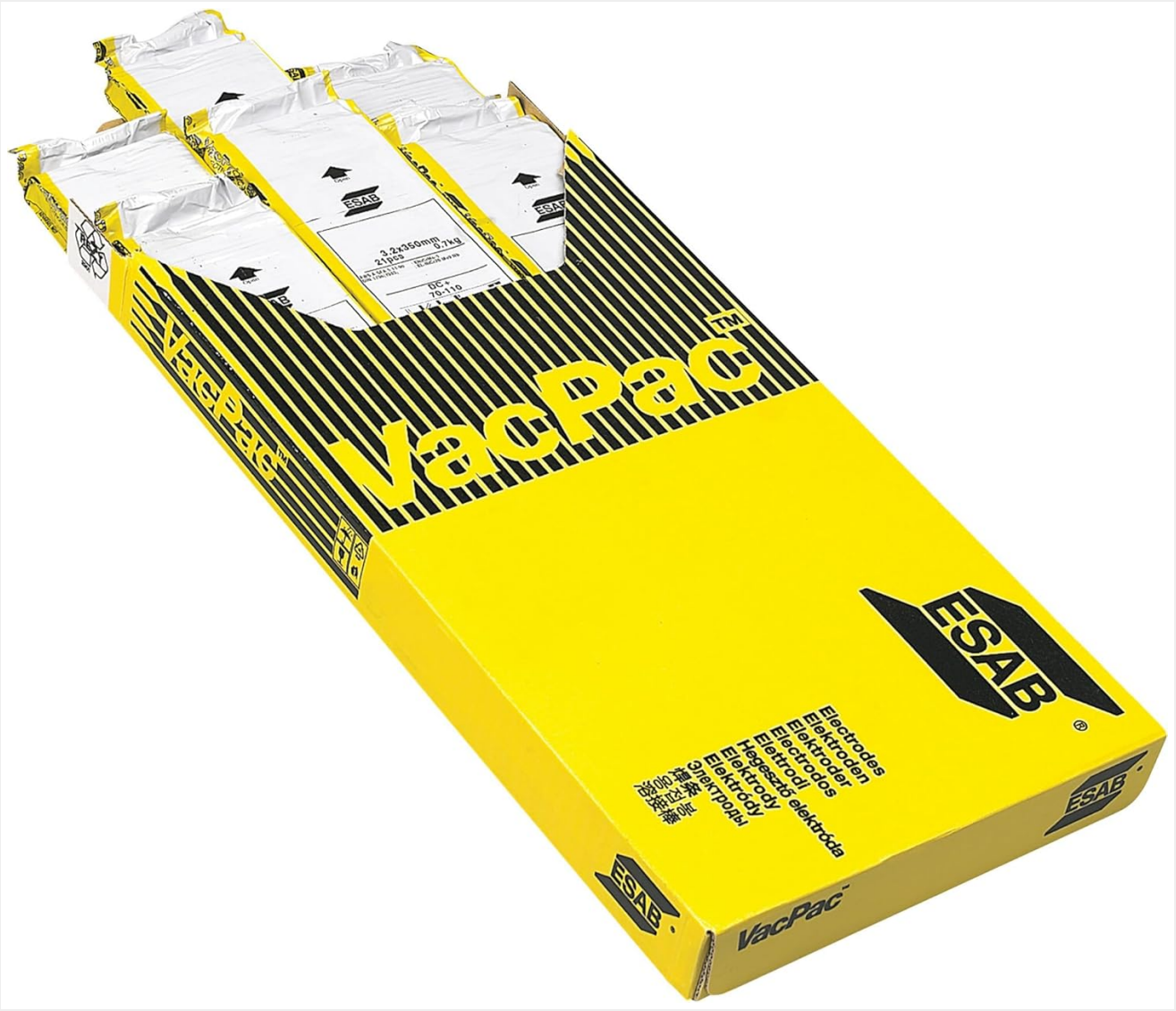
ESAB VACPAC 7018-1 Prime Arc Welding Electrodes User Manual

Model: 55042430G0
Brand: ESAB

1. Introduction

Product Overview

The ESAB VACPAC 7018-1 Prime Arc Welding Electrodes are engineered to address critical challenges in welding, specifically the prevention of hydrogen-induced cracking in thick structural steels and porosity in stainless or nickel-base weld metal. This is achieved by meticulously controlling moisture re-absorption in the electrode coating. The innovative VacPac vacuum packaging eliminates the need for costly climate-controlled storage, re-baking, holding ovens, or quivers, significantly simplifying handling and reducing overall operational costs.



A box of ESAB VacPac 7018-1 Prime arc welding electrodes, showcasing the distinctive yellow packaging and the individual vacuum-sealed packs inside.

2. Key Features

Product Advantages

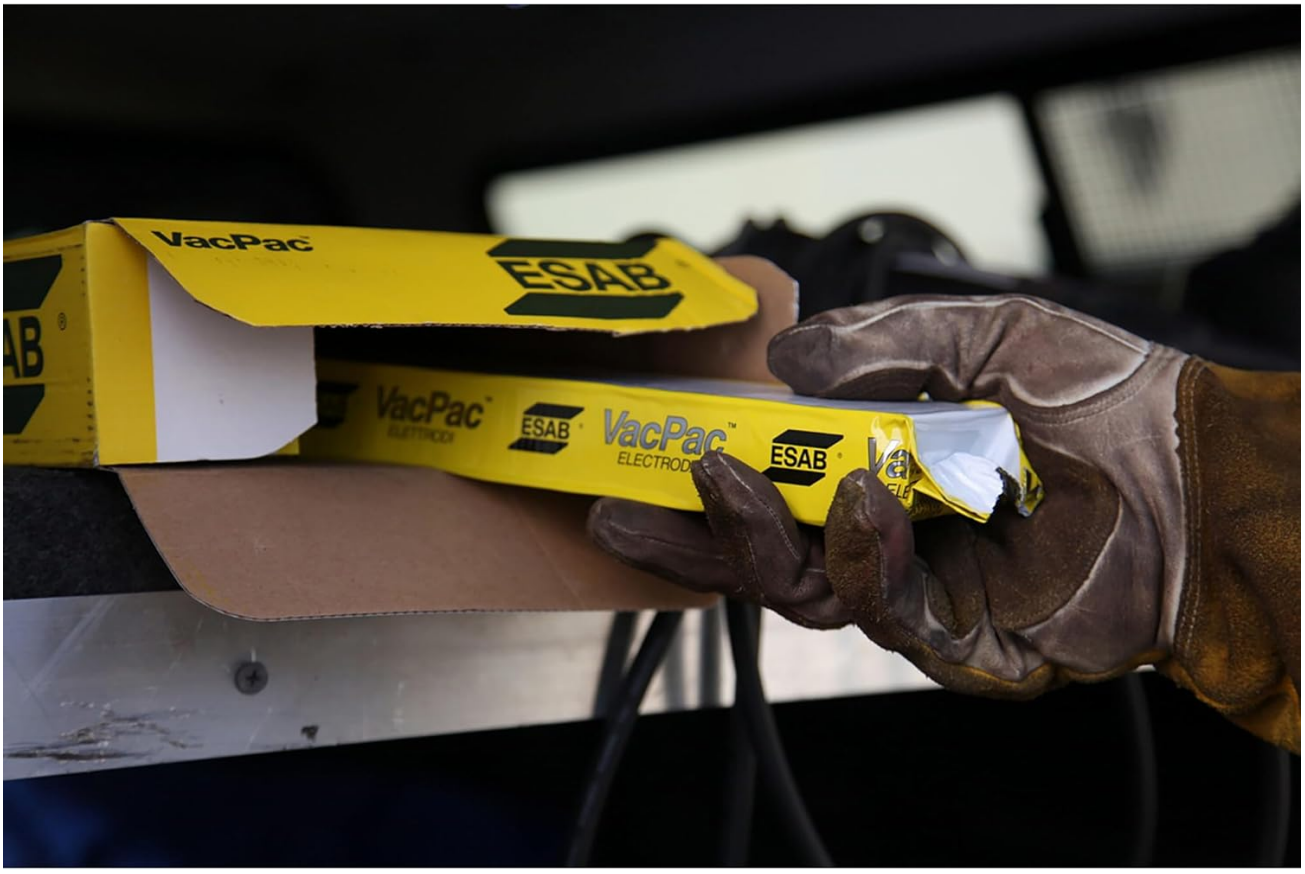
- **True 100% hermetically-sealed package:** Ensures electrodes remain in pristine condition until opened.
- **No re-baking, no holding ovens, no quivers required:** Simplifies preparation and reduces equipment needs.
- **Safe welding immediately after opening:** Guarantees consistent performance without delays.
- **Cost savings through simplified storage and handling:** Reduces logistical complexities and associated expenses.
- **Reduced risk of hydrogen cracking or porosity:** Enhances weld integrity and quality.

3. Setup and Storage

Preparation and Initial Handling

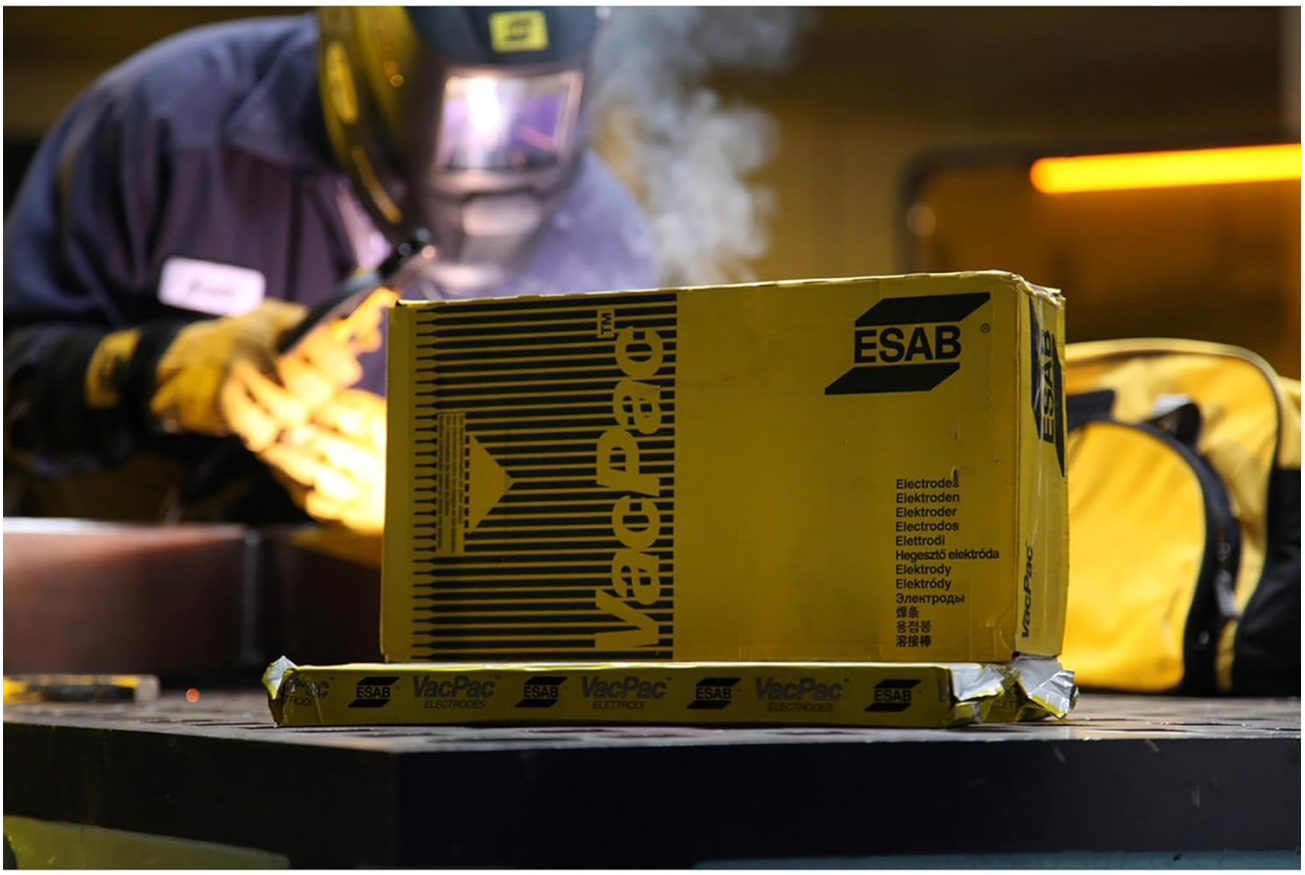
The ESAB VacPac system is designed for immediate use upon opening, eliminating traditional pre-use preparation steps. Store unopened VacPac boxes in a dry environment at room temperature. The hermetic seal protects the electrodes from moisture absorption, ensuring they are ready for welding without the need for re-baking or

specialized holding equipment.



A welder's gloved hand reaching into an opened ESAB VacPac box to retrieve a vacuum-sealed pack of welding electrodes, demonstrating ease of access.

When ready to weld, simply open the outer cardboard box and retrieve a vacuum-sealed pack. The individual packs are easy to open, providing quick access to the electrodes.



An ESAB VacPac box and a single vacuum-sealed electrode pack on a work surface, with a welder in the background, illustrating the product in a typical welding environment.

4. Operating Instructions

Welding Guidelines for 7018-1 Prime Electrodes

ESAB 7018-1 Prime electrodes are low-hydrogen electrodes designed for high-quality welds. Follow standard welding safety procedures and use appropriate personal protective equipment (PPE).

- **Current Type:** These electrodes typically operate with DC+ (Direct Current Electrode Positive) or AC (Alternating Current). Refer to your welding machine's specifications and the electrode's recommended current range for optimal performance.
- **Arc Striking:** The electrodes feature a black tip designed to facilitate easy arc striking, minimizing porosity at the start of the weld.
- **Technique:** Maintain a short arc length. A slight weaving motion is often used for wider beads, but avoid excessive weaving to prevent slag inclusions.
- **Travel Speed:** Adjust travel speed to ensure proper penetration and bead shape. Too fast can lead to shallow penetration; too slow can cause excessive heat input and potential undercut.
- **Joint Preparation:** Ensure the base metal is clean and properly prepared (beveled, free of rust, oil, and contaminants) for best results.

5. Maintenance

Post-Use Handling and Storage

While the VacPac system significantly reduces moisture absorption, proper handling of opened electrodes is still important for maintaining weld quality, especially in humid environments.

- **Opened Packs:** Once a vacuum-sealed pack is opened, the electrodes are exposed to the atmosphere. While the low moisture absorption coating provides a degree of protection, it is recommended to use electrodes from an opened pack within a reasonable timeframe, typically within 4-8 hours, depending on ambient humidity.
- **Short-Term Storage:** For electrodes not used immediately after opening, store them in a heated quiver or a low-temperature holding oven (e.g., 150-250°F / 65-120°C) to minimize moisture pick-up.
- **Long-Term Storage:** If electrodes from an opened pack are not used within the recommended timeframe and cannot be stored in a heated environment, they may require re-baking before subsequent use to restore their low-hydrogen properties. Consult welding standards (e.g., AWS D1.1) for specific re-baking procedures for 7018-1 electrodes.

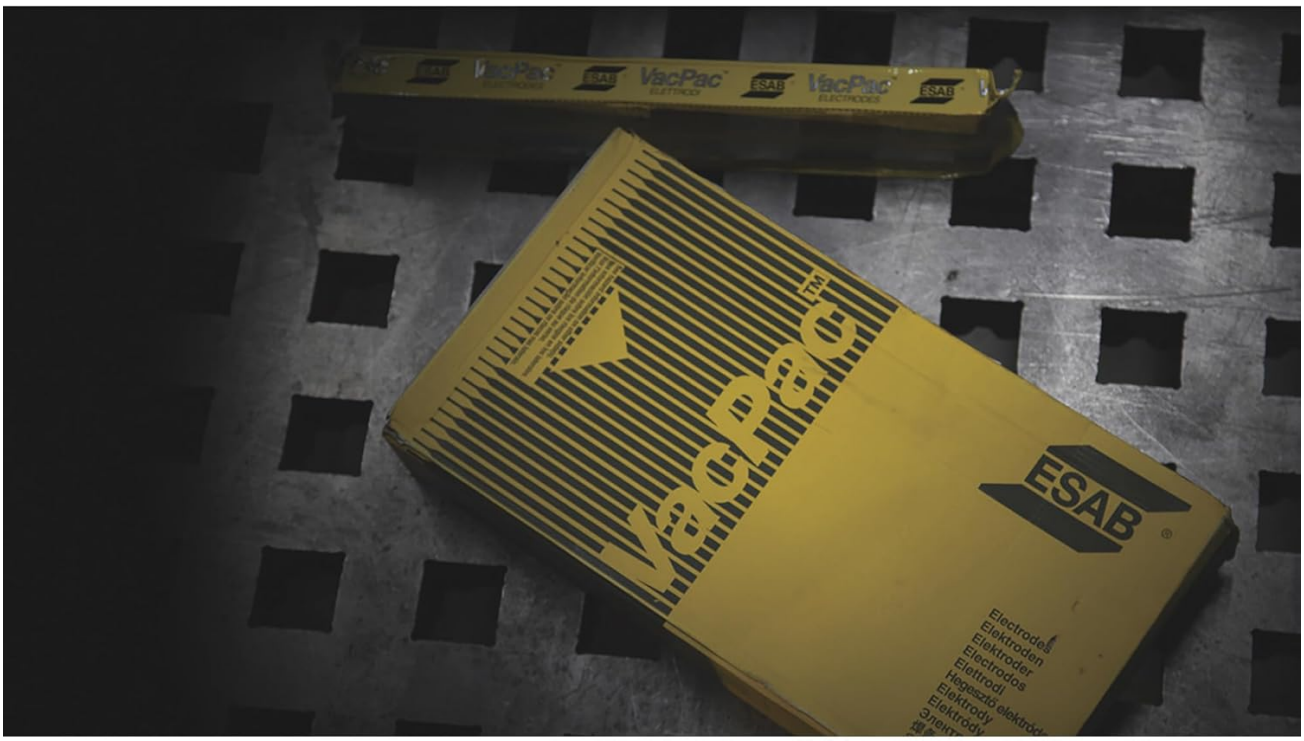
6. Troubleshooting

Common Considerations

While ESAB VacPac electrodes are designed for reliability, understanding potential issues can help ensure consistent performance.

- **Damaged Packaging:** If the vacuum-sealed inner packaging appears compromised (e.g., a hole, tear, or loss of vacuum), the electrodes inside may have absorbed moisture. In such cases, the low-hydrogen properties cannot be guaranteed, and the electrodes should be treated as if they have been exposed to the atmosphere. Re-baking may be necessary before use, or the electrodes should be discarded if re-baking facilities are not available or if the damage is severe.

- **Poor Weld Quality (Porosity/Cracking):** If experiencing porosity or cracking despite using VacPac electrodes, first verify that the electrode packaging was intact prior to use. Then, review welding parameters (current, voltage, travel speed), joint cleanliness, and base metal composition. Moisture in the base metal or contaminants can also contribute to these issues.
- **Arc Instability:** Ensure proper ground connection, adequate welding machine capacity, and clean electrode holder jaws.



An aerial view of an ESAB VacPac box on a textured metal surface, highlighting the robust packaging designed to protect the electrodes.

7. Specifications

Technical Data

Specification	Detail
Manufacturer	ESAB AB
Part Number	55042430G0
Item Weight	4.14 pounds
Product Dimensions	3.88 x 3.88 x 3.88 inches
Item Model Number	55042430G0
Size	3/32"
Power Source	Manual
Item Package Quantity	1
Included Components	Welding Electrodes
Batteries Included?	No

Specification	Detail
Batteries Required?	No
Date First Available	May 12, 2021

8. Warranty and Support

Warranty Information

For detailed warranty information regarding your ESAB VACPAC 7018-1 Prime Arc Welding Electrodes, please contact the vendor directly. The manufacturer's warranty description states to "Call Vendor" for specific terms and conditions.

Customer Support

For additional support, technical inquiries, or to explore other ESAB products, please visit the official ESAB store or contact ESAB customer service through their official channels. You can find more information and contact details by visiting the ESAB Store on Amazon.