

Excalibur® 7018-A1 MR

AWS E7018-A1 H4R



Excalibur® 7018-A1 MR is a low hydrogen stick electrode designed for all-position welding of 0.5% molybdenum low alloy steels. A smooth arc, excellent strike and re-strike capabilities, self-peeling slag and extremely low spatter levels make Excalibur® the industry's premium brand of low hydrogen electrodes. For a low alloy, low hydrogen electrode with industry-leading arc performance and operability – choose Excalibur® 7018-A1 MR.

KEY FEATURES

- ▶ **Enhanced Arc Performance** – Smooth arc and square coating burn-off for improved puddle control and visibility.
- ▶ **Easy Strike and Re-Strike** – Minimize starting porosity and grinding time while maximizing productivity.
- ▶ **Effortless Slag Removal** – Fast clean-up for higher productivity and quality.
- ▶ **Stress-Relieved Mechanical Performance** – Capable of exceeding AWS minimum requirement of 70 ksi (490 MPa) tensile strength after 8 hours at 1150°F (620°C).
- ▶ **ISO 9001 and 14001 Certified** – Manufactured to standards for environmental and quality management systems.

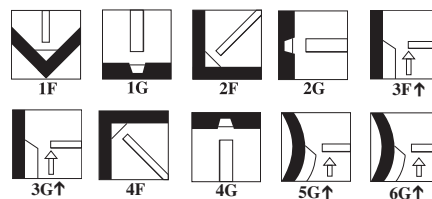
APPLICATIONS

- ▶ 0.5% Molybdenum Steels
- ▶ Pressure Vessels
- ▶ Power Generation
- ▶ Process Piping
- ▶ Petrochemical

CONFORMANCE

- AWS A5.5/A5.5M:2006 E7018-A1 H4R
- ASME SFA-5.5 E7018-A1 H4R
- CSA W48 E4918-A1

WELDING POSITIONS



DIAMETERS / PACKAGING

Electrode Dimensions in. (mm)	8 lb (3.6 kg)	10 lb (4.5 kg)	25 lb (11.3 kg)	50 lb (22.7 kg)
	Easy Open Can 24 lb (10.9 kg) Master	Easy Open Can 30 lb (13.6 kg) Master	Easy Open Can	Easy Open Can
3/32 x 12 (2.4 x 300)	ED032893		ED032875	
1/8 x 14 (3.2 x 350)		ED032873		ED032876
5/32 x 14 (4.0 x 350)				ED032877

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MECHANICAL PROPERTIES⁽¹⁾ - As Required per AWS A5.5/A5.5M:2006

	Yield Strength (0.2% Offset) ksi (MPa)	Tensile Strength ksi (MPa)	Elongation (%)	Charpy V-Notch ft•lbf (J) @ -20°F (-29°C)
Requirements AWS E7018-A1 H4R	57 (395) min.	70 (485) min.	22 min.	Not Specified
Typical Performance⁽²⁾ Stress Relieved 1 hr @ 1150°F (620°C) Stress Relieved 8 hrs @ 1150°F (620°C) ⁽³⁾	68 - 72 (470 - 500) 65 - 70 (450 - 485)	82 - 85 (565 - 585) 79 - 83 (545 - 570)	25 - 32 27 - 32	46 - 96 (60 - 130) 38 - 79 (50 - 107)

DEPOSIT COMPOSITION⁽¹⁾ - As Required per AWS A5.5/A5.5M:2006

	%C	%Mn	%Si	%P	%S	%Mo	Diffusible Hydrogen (mL/100g weld deposit)
Requirements AWS E7018-A1 H4R	0.12 max.	0.90 max.	0.80 max.	0.03 max.	0.03 max.	0.40 - 0.65	4.0 max.
Typical Performance⁽²⁾	0.04 - 0.06	0.55 - 0.80	0.35 - 0.55	≤0.01	≤0.01	0.45 - 0.65	2 - 4

⁽¹⁾ Typical all weld metal, DC+. ⁽²⁾ See Test Results Disclaimer below. ⁽³⁾ Industry specific data, not required by AWS.

TYPICAL OPERATING PROCEDURES

Polarity	Current (Amps)		
	3/32 in. (2.4 mm)	1/8 in. (3.2 mm)	5/32 in. (4.0 mm)
DC+	60 - 110	85 - 160	110 - 210
AC	65 - 120	90 - 170	115 - 220

**For best welding results with Lincoln Electric consumables,
always use Lincoln Electric equipment. Visit www.lincolnelectric.com for more details.**

Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue • Cleveland, OH U.S.A. • 44117-1199
Phone: +1.216-481-8100 • www.lincolnelectric.com

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