Excalibur® 9018M MR®

Low Alloy, Low Hydrogen • AWS E9018M H4R

Key Features

- Designed to produce weld deposits with 620 MPa (90 ksi) tensile strength
- Premium arc performance
- Square coating burn-off
- Easy strike and re-strike
- Effortless slag removal

Welding Positions

All, except vertical down

Typical Applications

- High strength steel, such as HY-80, HY-90 and ASTM A514
- Cross country pipe repair
- DC welding

Conformances

AWS A5.5/A5.5M: 2006	E9018M H4R
ASME SFA-A5.5:	E9018M H4R
ABS:	E9018M H4R
CWB/CSA W48-06:	E6218-M H4R (9018M H4R)

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton	50 lb (22.7 kg) Easy Open Can
3/32 (2.4)	14 (350)	ED032602	ED030868
1/8 (3.2)	14 (350)	ED032603	ED030869
5/32 (4.0)	14 (350)		ED030870
3/16 (4.8)	14 (350)		ED030871

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.5/A5.5M: 2006*

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -50°C (-60°F)
Requirements - AWS E9018M H4R	540-620 (78-90) min.	620 (90) min.	24 min.	27 (20) min.
Typical Results[3] - As-Welded	540-620 (78-90)	620-705 (90-102)	24-37	27-122 (20-90)

DEPOSIT COMPOSITION[1] – *As Required per AWS A5.5/A5.5M: 2006*

	%C	%Mn	%Si	%P	%S
Requirements - AWS E9018M H4R	0.10 max.	0.60-1.25	0.80 max.	0.03 max.	0.03 max.
Typical Results[3]	0.04-0.07	0.90-1.10	0.30-0.50	0.01-0.02	≤ 0.01

	%Ni	%Cr	%Mo	Diffusible Hydrogen (mL/100g weld deposit)
Requirements - AWS E9018M H4R	1.40-1.80	0.15 max.	0.35 max.	4.0 max.
Typical Results[3]	1.50-1.80	0.05-0.12	0.25-0.35	1-3

TYPICAL OPERATING PROCEDURES

	Current (Amps)			
Polarity	3/32 in (2.4 mm)	1/8 in(3.2 mm)	5/32 in (4.0 mm)	3/16 in (4.8 mm)
DC+	70-110	90-160	130-210	180-300

[1]Typical all weld metal. [2]Measured with 0.2% offset. [3]See test results disclaimer below.

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 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.

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