

# EXCALIBUR® 8018-C1 MR®

Low Alloy, Low Hydrogen ■ AWS E8018-C1 H4R

## KEY FEATURES

- Designed to produce a nominal 2.25% nickel deposit
- Premium arc performance
- Square coating burn-off
- Easy strike, re-strike and slag removal

## WELDING POSITIONS

All, except vertical down

## CONFORMANCES

<b>AWS A5.5/A5.5M:</b>	E8018-C1 H4R
<b>ASME SFA-A5.5:</b>	E8018-C1 H4R
<b>CWB/CSA W48-06:</b>	E5518-C1

## TYPICAL APPLICATIONS

- Low temperature applications
- Refrigerated ammonia tanks
- Liquefied gas storage, piping and transportation
- Weathering steels
- Applications requiring stress-relieved conditions

## 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)	ED032596	ED030876
1/8 (3.2)	14 (350)	ED032597	ED030877
5/32 (4.0)	14 (350)		ED030878
3/16 (4.8)	14 (350)		ED030879
1/4 (6.4)	18 (450)		ED030880

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.5/A5.5M

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft·lbf) @ -59°C (-75°F)
<b>Requirements</b> – AWS E8018-C1 H4R	460 (67) min	550 (80) min	19 min	20 (27) min
<b>Typical Results<sup>(3)</sup></b> Stress-Relieved 1 hr @ 610°C (1125°F)	460-525 (67-76)	565-615 (82-89)	24-32	79-129 (58-95)

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.5/A5.5M

	%C	%Mn	%Si	%P
<b>Requirements</b> – AWS E8018-C1 H4R	0.12 max	1.25 max	0.80 max	0.03 max
<b>Typical Results<sup>(3)</sup></b> – As-Welded	0.05-0.09	0.89-1.25	0.17-0.53	≤ 0.02
	%S	%Ni	Diffusible Hydrogen (mL/100g weld deposit)	
<b>Requirements</b> – AWS E8018-C1 H4R	0.03 max	2.00-2.75	4.0 max	
<b>Typical Results<sup>(3)</sup></b> – As-Welded	≤ 0.01	2.00-2.58	1-3	

## TYPICAL OPERATING PROCEDURES

Polarity <sup>(5)</sup>	Current (Amps)					
	3/32 in (2.4 mm)	1/8 in (3.2 mm)	5/32 in (4.0 mm)	3/16 in (4.8 mm)	7/32 in (5.6 mm)	1/4 in (6.4 mm)
DC+	70-110	90-160	130-210	180-300	250-330	300-400
AC	80-120	100-160	140-210	200-300	270-370	325-430

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer <sup>(4)</sup>Preferred polarity is listed first.

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://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.

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