

MILLENNIUM ARC® 7018-1

Mild Steel, Low Hydrogen ▪ AWS E7018-1 H4R

KEY FEATURES

- 50% less moisture pick vs. competition
- Clear weld puddle without slag interference
- Flat bead profile
- Effortless slag removal
- No intentional addition of zinc for moisture resistance

WELDING POSITIONS

All, except vertical down

CONFORMANCES

AWS A5.1:	E7018-1 H4R
ASME SFA-A5.1:	E7018-1 H4R
CWB/CSA W48-06:	E4918-1-H4

TYPICAL APPLICATIONS

- Power generation
- Petrochemical
- Pressure vessels
- Pressure piping
- Mild steel

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	1 lb (0.5 kg) Plastic Tube 6 lb (2.7 kg) Master Carton	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton	12 lb (4.5 kg) Easy Open Can 36 lb (13.6 kg) Master Carton	50 lb (22.7kg) Easy Open Can
3/32 (2.4)	14 (350)	ED036305	ED036326	-	ED035456
1/8 (3.2)	14 (350)	ED036304	ED036325	-	ED035314
5/32 (4.0)	14 (350)	-	ED036327	-	ED035457
5.0 mm*	14 (350)	-	ED036757	-	ED036756
5.0 mm*	18 (450)	-	-	ED036759	ED036758

* Manufactured to Metric Units.

DIAMETERS / PACKAGING (Canada Only)

Diameter mm	Length mm	5 kg Carton/ 20 kg Tri-Dri™ Master Carton	10 kg Carton/ 20 kg Tri-Dri™ Master Carton
2.4	350	ED036521	-
3.2	350	ED036522	-
4.0	350	ED036523	-
5.0	350	ED036524	-
5.0	450	-	ED036525
6.0	450	-	ED036526

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.1

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Joules @ -46°C (ft-lbs @ -50°F)
Requirements AWS E7018-1 H4R	400 (58) min	480 (70) min	22 min	27 (20) min
Typical Results⁽³⁾ As-Welded	440-550 (64-72)	540-600 (78-86)	>27	120-180 (90-130)

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.1

	%C	%Mn	%Si	%P	%S	%Ni
Requirements AWS E7018-1 H4R	0.15 max	1.60 max	0.75 max	0.035 max	0.035 max	0.30 max
Typical Results⁽³⁾	0.06-0.08	1.2-1.5	0.4-0.6	0.01-0.02	0.01-0.02	<0.1
	%Cr	%Mo	%V	%Mn + Ni + Cr + Mo + V	Diffusible Hydrogen (mL/100g weld metal)	
Requirements AWS E7018-1 H4R	0.20 max	0.30 max	0.08 max	1.75 max	4.0 max	
Typical Results⁽³⁾	<0.1	<0.1	<0.01	1.3-1.5	1-3	

TYPICAL OPERATING PROCEDURES

Polarity ⁽⁴⁾	Current (Amps)				
	3/32 in (2.4 mm)	1/8 in (3.2 mm)	5/32 in (4.0 mm)	5.0 mm	6.0 mm
DC+	70-110	90-160	120-220	150-300	200-370
AC	80-120	100-160	130-220	160-320	220-360

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

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.

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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.