

SUPERARC® L-52™

Mild Steel, Copper Coated ▪ AWS ER70S-2

KEY FEATURES

- A triple deoxidized (Aluminum, Titanium, Zirconium) ER70S-2 solid wire designed for welding over rust and mill scale without sacrificing welding quality
- Very low N in the steel makes it easy to achieve impact resistance above 70 ft•lbs @ -20F
- MicroGuard® Ultra provides superior feeding, arc stability and improved protection against corrosion
- Other characteristic features include excellent start properties, extremely low contact tip wear, low levels of spatter and fume emission
- Preferred for all position welding of different sizes of pipe

WELDING POSITIONS

All

CONFORMANCES

AWS A5.18/5.18M: 2017 ER70S-2
ASME SFA-A5.18: ER70S-2

TYPICAL APPLICATIONS

- Root, fill and cap pass welding for Piping Industries
- Metal Fabrication
- Power Generation

SHIELDING GAS

100% CO₂
 75-95% Argon/ Balance CO₂
 Flow Rate: 30-50 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Steel Spool	44 lb (20 kg) Steel Spool
0.035 (0.9)	ED037003	ED037004
0.045 (1.1)	ED037005	ED037006

MECHANICAL PROPERTIES⁽¹⁾ - As Required per AWS A5.18/5.18M: 2017

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -30°C (-20°F)
Requirements AWS ER70S-2 As-Welded with 100% CO ₂	400 (58) min	480 (70) min	22 min	27 (20) min
Typical Results⁽³⁾ As-Welded with 100% CO ₂	440 (63)	520 (76)	30	129 (95)
As-Welded with 90% Argon / 10% CO ₂	530 (77)	586 (85)	28	103 (76)

WIRE COMPOSITION

	%C	%Mn	%Si	%S	%P	%Cr	%Ni
Requirements AWS ER70S-2	0.07 max.	0.90-1.40	0.40-0.70	0.035 max.	0.025 max.	0.15 max.	0.015 max.
Typical Results⁽³⁾	0.04	1.10	0.59	< 0.003	0.003	0.06	0.03
	%Mo	%V	%Cu (Total) ⁽⁴⁾	%Ti	%Zr	%Al	
Requirements AWS ER70S-2	0.15 max.	0.03 max.	0.50 max.	0.05-0.15	0.02-0.12	0.05-0.15	
Typical Results⁽³⁾	0.01	0.01	0.21	0.10	0.03	0.07	

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer.

⁽⁴⁾Copper due to any coating on the electrode plus the copper content of the filler metal itself, shall not exceed the stated 0.50% max.

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Voltage ⁽⁵⁾ (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
0.035 in (0.9 mm), DC+ 100% CO2	9-19 (3/8-3/4)	10.2-19.8 (400-780)	19-31	95-285	2.9-5.7 (6.5-12.6)
0.035 in (0.9 mm), DC+ 90% Ar/10% CO2	9-19 (3/8-3/4)	10.2-19.8 (400-780)	19-31	105-320	2.9-5.7 (6.5-12.6)
0.045 in (1.1 mm), DC+ 100% CO2	9-19 (3/8-3/4)	6.6-15.2 (260-600)	19-31	135-340	3.1-7.2 (6.9-15.9)
0.045 in (1.1 mm), DC+ 90% Ar/10%CO2	9-19 (3/8-3/4)	6.6-15.2 (260-600)	19-31	145-360	3.1-7.2 (6.9-15.9)

⁽⁵⁾CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout.

Safety Data Sheets (SDS) 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.

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