

SUPERARC® LA-75™

Low Alloy, Copper Coated ■ AWS ER80S-Ni1 & ENi1K



KEY FEATURES

- Capable of producing weld deposits with 550 MPa (80 ksi) tensile strength
- High toughness at low temperatures with a nominal 1% Ni or less
- MicroGuard® Ultra provides superior feeding and arc stability
- Supports short-circuiting, globular, axial spray and pulsed spray transfer

WELDING POSITIONS

All

SHIELDING GAS

90-95% Argon / Balance CO₂

95-98% Argon / Balance O₂

Flow Rate: 30 - 50 CFH

CONFORMANCES

AWS A5.28/A5.28M:	ER80S-Ni1
ASME SFA-A5.28:	ER80S-Ni1
AWS A5.17/A5.17M:	ENi1K
ABS:	ER80S-Ni1
CWB/CSA W48-06:	ER55S-Ni1 (ER80S-Ni1)
EN ISO 14341-B:	G 55A 4 A SN2

TYPICAL APPLICATIONS

- ASTM A588 weathering steel requiring good atmospheric corrosion resistance
- NACE applications

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Steel Spool
0.035 (0.9)	ED031415, ED033949**
0.045 (1.1)	ED031416, ED034432*

*Buy America Product. **Q2 Tested Product.

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.28/A5.28M

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft·lbf)		
				@ -29°C (-20°F)	@ -45°C (-50°F)	@ -62°C (-80°F)
Requirements – AWS ER80S-Ni1 As-Welded with 98% Ar/2% O ₂	470 (68) min	550 (80) min	24 min	Not Specified	27 (20) min	Not Specified
Typical Results ⁽³⁾ As-Welded with 90% Ar/10% CO ₂ Stress Relieved 1 hr. @ 621°C (1150° F)	475 (69) 450 (65)	580 (84) 565 (82)	28 32	119 (88) - -	82 (60) 127 (93)	35 (26) 112 (82)
As-Welded with 98% Ar/2% O ₂ Stress Relieved 1 hr. @ 621°C (1150° F)	490 (71) 420 (61)	580 (84) 540 (78)	30 31	- - - -	172 (127) 230 (170)	- - 165 (122)

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

WIRE COMPOSITION – As Required per AWS A5.28/A5.28M

	%C	%Mn	%Si	%Ni	%Cr
Requirements – AWS ER80S-Ni1	0.12 max	1.25 max	0.40-0.80	0.80-1.10	0.15 max
Typical Results ⁽³⁾	0.07-0.08	0.94-1.04	0.54-0.58	0.88-0.98	≤ 0.04
	%Mo	%S	%P	%V	%Cu (Total) ⁽⁴⁾
Requirements – AWS ER80S-Ni1	0.35 max	0.025 max	0.025 max	0.05 max	0.35 max
Typical Results ⁽³⁾	≤ 0.02	0.007 - 0.010	0.005 - 0.010	< 0.01	0.16 - 0.21

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD ⁽⁵⁾ mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
0.035 in (0.9 mm), DC+					
Short Circuit Transfer 90% Ar/ 10% CO ₂	9-12 (3/8-1/2)	2.5 (100)	17	80	0.7 (1.6)
		3.8 (150)	18	120	1.1 (2.4)
		6.4 (250)	22	175	1.8 (4.0)
Spray Transfer 90% Ar/10% CO ₂	12-19 (1/2-3/4)	9.5 (375)	23	195	2.7 (6.0)
		12.7 (500)	29	230	3.6 (8.0)
		15.2 (600)	30	275	4.4 (9.6)
0.045 in (1.1 mm), DC+					
Short Circuit Transfer 90% Ar/ 10% CO ₂	12-19 (1/2-3/4)	3.2 (125)	19	145	1.5 (3.4)
		3.8 (150)	20	165	1.8 (4.0)
		5.1 (200)	21	200	2.4 (5.4)
Spray Transfer 90% Ar/10% CO ₂	12-19 (1/2-3/4)	8.9 (350)	27	285	4.2 (9.2)
		12.1 (475)	30	335	5.7 (12.5)
		12.7 (500)	30	340	6.0 (13.2)

⁽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. ⁽⁵⁾CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout. NOTE: For 100% CO₂ procedures, add 1 to 2 volts for short circuit transfer and 2 to 3 volts for globular transfer.

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

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