SUPERARC® LA-75™

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

BUY AMERICA

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
- Copper coating provides superior arc-starting characteristics for long contact tip life

CONFORMANCES

AWS A5.28: ER80S-Ni1

CWB AWS A5.28: ER55S-Ni1 (ER80S-Ni1)

ISO 14171-B: G 55A 4 M13 SN2 SUN21

ISO 14341-B: G 55A 4 M13 SN2

WELDING POSITIONS

All

TYPICAL APPLICATIONS

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

SHIELDING GAS

90-95% Argon / Balance CO_2
95-98% Argon / Balance O_2
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)	ED031415, ED033949**	
0.045 (1.1)	ED031416, ED034432*	
0.052 (1.3)		ED036509

**Buy America Product. **Q2 Tested Product.*

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.28*

	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	475 (69)	580 (84)	28	119 (88)	82 (60)	35 (26)
Stress Relieved 1 hr. @ 621°C (1150° F)	450 (65)	565 (82)	32	- -	127 (93)	112 (82)
As-Welded with 98% Ar/2% O_2	490 (71)	580 (84)	30	- -	172 (127)	- -
Stress Relieved 1 hr. @ 621°C (1150° F)	420 (61)	540 (78)	31	- -	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*

	%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) 3.8 (150) 6.4 (250)	17 18 22	80 120 175	0.7 (1.6) 1.1 (2.4) 1.8 (4.0)
Spray Transfer 90% Ar/10% CO_2	12-19 (1/2-3/4)	9.5 (375) 12.7 (500) 15.2 (600)	23 29 30	195 230 275	2.7 (6.0) 3.6 (8.0) 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) 3.8 (150) 5.1 (200)	19 20 21	145 165 200	1.5 (3.4) 1.8 (4.0) 2.4 (5.4)
Spray Transfer 90% Ar/10% CO_2	12-19 (1/2-3/4)	8.9 (350) 12.1 (475) 12.7 (500)	27 30 30	285 335 340	4.2 (9.2) 5.7 (12.5) 6.0 (13.2)

Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

[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% CO_2 procedures, add 1 to 2 volts for short circuit transfer and 2 to 3 volts for globular transfer.

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

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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