SuperArc® LA-75

Low Alloy Steel • AWS ER80-Ni1

Key Features

- Q2 Lot® - Certificates showing actual wire composition and mechanical properties available online
- Available as Batch Managed Inventory
- 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

Typical Applications

- ASTM A588 weathering steel requiring good atmospheric corrosion resistance
- NACE applications
- Nuclear power plant construction and maintenance

ASME IX Qualification

ASME IX Qualification:	QW432 F-No 6, QW442 A-No 10

Conformances

AWS A5.28/A5.28M: 2005	ER80S-Ni1
ASME SFA-A5.28:	ER80S-Ni1
AWS A5.17/A5.17M: 1997	ENi1K
ABS:	ER80S-Ni1
CWB/CSA W48-06:	ER55S-Ni1 (ER80S-Ni1)
EN ISO 14341-B:	G 55A 4 A SN2

Welding Positions

All

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Plastic Spool
0.035 (0.9)	ED033949

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(AWS ER80-Ni1)

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.28/A5.28M: 2005*

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)	@ -45°C (-50°F)	@ -57°C (-70°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 75% Ar/25% CO_2	495 (72)	595 (86)	27	49 (36)	54 (40)	- -
Stress Relieved 1 hr. @ 621°C (1150° F)	440 (64)	560 (81)	31	127 (94)	114 (84)	54 (40)
As-Welded with 98% Ar/2% O_2	490 (71)	580 (84)	30	- -	103 (76)	- -

WIRE COMPOSITION – *As Required per AWS A5.28/A5.28M: 2005*

	%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 75% Ar/25% CO_2 [6]	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)

[1]Typical all weld metal. [2]Measured with 0.2% offset. [3]See test results disclaimer on pg. 18. [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. [6]Procedures in the shaded areas are procedures for short circuiting mode using 75% Argon, 25% CO_2. NOTE: For 100% CO_2 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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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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THE WELDING EXPERTS®

Issue Date 04/14