

CERTIFICATE OF CONFORMANCE



Product: **SuperArc® L-50®**

Classification: **AWS D1.5 ER70S-3**

Also meets the requirements of **AWS D1.1 ER70S-3**

Date **May 09, 2018**

This is to certify that the product named above is of the same classification(s) and design as the material used for the tests reported herein. The material was tested according to the specification(s) indicated and met all requirements. It was manufactured and supplied according to a Quality System Program that meets the requirements of ISO9001 among others as documented on The Lincoln Electric web page (<http://www.lincolnelectric.com/en-us/company/Pages/certifications.aspx>).

Operating Settings	ER70S-3 Requirements	RESULTS
Electrode Size		.045" (1.1 mm)
Current Type/Polarity	DC+	DC+
Shielding Gas	Not Specified	95% Ar, 5% O2
Nominal Voltage, V	Not Specified	26
Nominal Current, A	Not Specified	295
Wire Feed Speed, cm/min (in/min)	Not Specified	889 (350)
Average Heat Input, kJ/mm (kJ/in)		1.5 (39)
Travel Speed, cm/min (in/min)	Not Specified	30 (11.78)
Contact Tip to Work Distance, mm (in)	Not Specified	16 (5/8)
Pass/Layers		16/6
Preheat Temperature, °C (°F)	(60 min.)	20 (70)
Interpass Temperature, °C (°F)	(325 max.)	135 (275)
Postweld Heat Treatment	As-welded	As-welded

Mechanical properties of weld deposits

Tensile Strength, MPa (ksi)	(70 min.)	540 (78)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	450 (65)
Elongation %	22 min.	30
Average Impact Energy Joules @ -18 °C (ft-lbs @ 0 °F)	(20 min.)	261 (192) 233,264,286 (172,195,211)

Chemical composition of weld deposits (weight %)

C	Info. Only	0.08
Mn	Info. Only	0.96
Si	Info. Only	0.41
P	Info. Only	0.007
S	Info. Only	0.011
Ni	Info. Only	0.02
Cr	Info. Only	0.02
Mo	Info. Only	<0.00
V	Info. Only	<0.005
Zr	Info. Only	<0.001
Ti	Info. Only	<0.001
Al	Info. Only	0.00
Cu	Info. Only	0.15

Electrode composition (weight %)	ER70S-3 Requirements	Electrode Results
C	0.06 - 0.15	0.09
Mn	0.90 - 1.40	1.26
Si	0.45 - 0.75	0.59
P	0.025 max.	0.008
S	0.035 max.	0.011
Ni	0.15 max.	0.03
Cr	0.15 max.	0.02
Mo	0.15 max.	0.01
V	0.03 max.	<0.00
Cu (Total)	0.50 max.	0.19

1. Strength values in SI units are reported to the nearest 10 MPa converted from actual data. Preheat and interpass temperature values in SI units are reported to the nearest 5 degrees.

Toronto Cunningham

May 09, 2018

Toronto Cunningham, Certification Supervisor

Date

Jonathan S. Ogborn

May 09, 2018

Jon Ogborn, Manager, Consumable Compliance

Date