

CERTIFICATE OF CONFORMANCE

Product: **SuperArc® L-59®**

Classification: **AWS D1.5 ER70S-6**

Also meets the requirements of **AWS D1.1 ER70S-6**

Date **August 09, 2023**

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-6 Requirements	RESULTS
Electrode Size		.045" (1.1 mm)
Current Type/Polarity	DC+	DC+
Shielding Gas	Not Specified	92% Ar, 8% CO2
Wire Feed Speed, cm/min (in/min)	Not Specified	953 (375)
Nominal Voltage, V	Not Specified	31.0
Nominal Current, A	Not Specified	305
Average Heat Input, kJ/mm (kJ/in)		1.8 (44.5)
Travel Speed, cm/min (in/min)	Not Specified	33 (12.8)
Contact Tip to Work Distance, mm (in)	Not Specified	19 (3/4)
Pass/Layers		15/6
Preheat Temperature, °C (°F)	(60 min.)	20 (72)
Interpass Temperature, °C (°F)	(325 max.)	150 (300)
Postweld Heat Treatment	As-welded	As-welded
Base Material		ASTM A36 steel

Mechanical properties of weld deposits

Tensile Strength, MPa (ksi)	(70 min.)	610 (88)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	500 (72)
Elongation %	22 min.	26
Average Impact Energy Joules @ -29 °C (ft-lbs @ -20 °F)	(20 min.)	84 (62) 77,84,91 (57,62,67)

Chemical composition of weld deposits (weight %)

C	Info. Only	0.09
Mn	Info. Only	1.23
Si	Info. Only	0.78
P	Info. Only	0.009
S	Info. Only	0.021
Ni	Info. Only	0.02
Cr	Info. Only	0.02
Mo	Info. Only	<0.00
V	Info. Only	<0.003
Cu	Info. Only	0.14
Ti	Info. Only	<0.001
Zr	Info. Only	<0.001
Al	Info. Only	0.00

Electrode composition (weight %)	ER70S-6 Requirements	Electrode Results
C	0.06 - 0.15	0.08
Mn	1.40 - 1.85	1.45
Si	0.80 - 1.15	0.90
S	0.035 max.	0.022
P	0.025 max.	0.007
Cr	0.15 max.	0.02
Ni	0.15 max.	0.01
Mo	0.15 max.	<0.00
V	0.03 max.	<0.003
Cu (Total)	0.50 max.	0.14

- This document meets the requirements of AWS A5.01M/A5.01 Schedule G. When a specific lot number is referenced it also meets the requirements of EN10204, type 2.2. It does not meet the requirements of type 3.1.
- Radiographic Inspection: Met requirements.
- 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.

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Daniel Gaul, Certification Supervisor

Date

August 11, 2023

Regis Geisler, Manager, Consumable Compliance

Date