

CERTIFICATE OF CONFORMANCE

Product: **SuperArc® L-50®**

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

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

Date **April 02, 2024**

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 | 85% Ar, 15% CO2 |
| Wire Feed Speed, cm/min (in/min) | Not Specified | 1092 (430) |
| Nominal Voltage, V | Not Specified | 29.0 |
| Nominal Current, A | Not Specified | 300 |
| Average Heat Input, kJ/mm (kJ/in) | | 1.5 (38.7) |
| Travel Speed, cm/min (in/min) | Not Specified | 34 (13.5) |
| Contact Tip to Work Distance, mm (in) | Not Specified | 19 (3/4) |
| Pass/Layers | | 16/6 |
| Preheat Temperature, °C (°F) | (60 min.) | 20 (72) |
| Interpass Temperature, °C (°F) | (325 max.) | 135 (275) |
| Postweld Heat Treatment | As-welded | As-welded |
| Base Material | | ASTM A36 steel |

Mechanical properties of weld deposits

| | | |
|--|-----------|---------------------------------------|
| Tensile Strength, MPa (ksi) | (70 min.) | 540 (78) |
| Yield Strength, 0.2% Offset, MPa (ksi) | (58 min.) | 440 (63) |
| Elongation % | 22 min. | 25 |
| Average Impact Energy Joules @ -18 °C (ft-lbs @ 0 °F) | (20 min.) | 142 (105) 129,145,152 (95,107,112) |

Chemical composition of weld deposits (weight %)

| | | |
|----|------------|--------|
| C | Info. Only | 0.10 |
| Mn | Info. Only | 0.95 |
| Si | Info. Only | 0.46 |
| P | Info. Only | 0.008 |
| S | Info. Only | 0.009 |
| Ni | Info. Only | 0.01 |
| Cr | Info. Only | 0.02 |
| Mo | Info. Only | <0.00 |
| V | Info. Only | <0.003 |
| Zr | Info. Only | <0.001 |
| Ti | Info. Only | <0.001 |
| Al | Info. Only | 0.00 |
| Cu | Info. Only | 0.17 |

| Electrode composition (weight %) | ER70S-3 Requirements | Electrode Results |
|----------------------------------|----------------------|-------------------|
| C | 0.06 - 0.15 | 0.09 |
| Mn | 0.90 - 1.40 | 1.18 |
| Si | 0.45 - 0.75 | 0.63 |
| P | 0.025 max. | 0.008 |
| S | 0.035 max. | 0.008 |
| Ni | 0.15 max. | 0.01 |
| Cr | 0.15 max. | 0.02 |
| Mo | 0.15 max. | <0.00 |
| V | 0.03 max. | <0.00 |
| Cu (Total) | 0.50 max. | 0.18 |

- 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

April 02, 2024

Regis Geisler, Manager, Consumable Compliance

Date