The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1199

CERTIFICATE OF CONFORMANCE

Electrode: **Lincolnweld® L-56®**
Electrode Size **5/32" (4.0 mm)**
Flux: **Lincolnweld® 960®**
Specification: **AWS D1.8:2016**
Date: **March 01, 2022**

This is to certify that the above listed flux was manufactured to meet the Class F2 requirement of AWS A5.01, and the above listed electrode was manufactured to meet the Class S4 requirement of AWS A5.01, as required by clause 6.3.1.2 of AWS D1.8:2016.

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>).

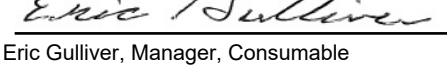
Operating Settings	High Heat Input Requirements	Low Heat Input Requirements	High Heat Input Results	Low Heat Input Results
Electrode Lot			16956424	16956424
Flux Lot			17193644	17193644
Base Material			ASTM A36 steel	ASTM A36 steel
Current Type/Polarity			AC Lead/AC Trail	AC Lead/AC Trail
Plate Thickness, mm (in)	(0.75 - 1)	(0.75 - 1)	25 (1.00)	25 (1.00)
Nominal Voltage, V			31/33	28/30
Wire Feed Speed, cm/min (in/min)			279 (110) / 259 (102)	135 (53) / 127 (50)
Nominal Current, A			825/750	500/450
Average Heat Input, kJ/mm (kJ/in)	Not Specified	Not Specified	4.0 (100.7)	1.8 (44.6)
Contact Tip to Work Distance, mm (in)			38 (1.5)	38 (1.5)
Travel Speed, cm/min (in/min)			76 (30)	94 (37)
Pass/Layers			8/4	16/8
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	25 (77)
Interpass Temperature, °C (°F)	(450 min.)	(250 max.)	230 (450)	120 (250)
Postweld Heat Treatment	As-welded	As-welded	As-welded	As-welded
Weld Position			1G	1G

Mechanical properties of weld deposits

Tensile Strength, MPa (ksi)	(70 min.)	(70 min.)	610 (88)	670 (97)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	(58 min.)	480 (69)	590 (86)
Elongation %	22 min.	22 min.	28	26
Average Impact Energy Joules @ -18 °C (ft-lbs @ 0 °F)	(40 min.)	(40 min.)	74 (55) 68,75,80 (50,55,59)	78 (58) 78,78,79 (57,58,58)

1. This document meets the requirements of AWS A5.01M/A5.01 Schedule F. 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.
2. The Charpy V-notch impact values reported at -18 °C (0 °F) are required when the Lowest Anticipated Service Temperature (LAST) is -29 °C (-20 °F).
3. Lot testing exemption as defined in AWS D1.8/D1.8M: 6.3.3 by testing a minimum of 3 lots for approval has been completed. For further questions please contact customer service. https://www.lincolnelectric.com/en/Ask-the-Experts/Contact-Us
4. 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.

March 01, 2022
Daniel Gaul, Certification Supervisor — Date



March 01, 2022
Eric Gulliver, Manager, Consumable Compliance Designee — Date

Cert. No. 97144-4