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

CERTIFICATE OF CONFORMANCE

Electrode: **UltraCore® 81Ni1C-H Plus**
Electrode Size **.052" (1.3 mm)**
Specification: **AWS D1.8:2021**
Date: **March 07, 2023**

This is to certify that the above listed product was manufactured to meet the Class T4 requirement of AWS A5.01 as required by clause 6.3.1.2 of AWS D1.8:2021.

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			18129078	18129078
Base Material			ASTM A572 steel (Grade 65)	ASTM A572 steel (Grade 65)
Current Type/Polarity			DC+	DC+
Plate Thickness, mm (in)	(3/4)	(3/4)	19 (3/4)	19 (3/4)
Shielding Gas	Not Specified	Not Specified	100% CO2	100% CO2
Nominal Voltage, V			28	28
Wire Feed Speed, cm/min (in/min)			699 (275)	699 (275)
Nominal Current, A			230	220
Average Heat Input, kJ/mm (kJ/in)	Not Specified	Not Specified	3.0 (75.3)	1.4 (35.4)
Travel Speed, cm/min (in/min)			13 (5.3)	26 (10.3)
Contact Tip to Work Distance, mm (in)			19 (3/4)	19 (3/4)
Pass/Layers			8/4	16/7
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	50 (120)
Interpass Temperature, °C (°F)	(450 min.)	(250 max.)	245 (475)	105 (225)
Postweld Heat Treatment	As-welded	As-welded	As-welded	As-welded
Weld Position			3G	1G
Mechanical properties of weld deposits				
Tensile Strength, MPa (ksi)	(80 min.)	(80 min.)	600 (87)	590 (85)
Yield Strength, 0.2% Offset, MPa (ksi)	(68 min.)	(68 min.)	510 (73)	520 (75)
Elongation %	19 min.	19 min.	25	28
Average Impact Energy Joules @ -29 °C (ft-lbs @ -20 °F)	(40 min.)	(40 min.)	147 (108) 142,142,156 (105,105,115)	166 (123) 165,166,167 (122,123,123)

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 -29 °C (-20 °F) are required when the Lowest Anticipated Service Temperature (LAST) is -40 °C (-40 °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 07, 2023
Daniel Gaul, Certification Supervisor — Date

March 07, 2023
Regis Geisler, Manager, Consumable Compliance — Date

Cert. No. 95216-6