

CERTIFICATE OF CONFORMANCE



Electrode: **Lincolnweld® LA-85 (LNS 165)**
 Electrode Size **3/32" (2.4 mm)**
 Flux: **Lincolnweld® 960®**
 Specification: **AWS D1.8:2016**
 Date: **March 09, 2020**

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			1232H	1232H
Flux Lot			16377981	16377981
Base Material			ASTM A36 steel	ASTM A36 steel
Current Type/Polarity			DC+	DC+
Plate Thickness, mm (in)	(0.75 - 1)	(0.75 - 1)	25 (1.00)	25 (1.00)
Wire Feed Speed, cm/min (in/min)			221 (87)	147 (58)
Nominal Voltage, V			38	28
Nominal Current, A			350	295
Average Heat Input, kJ/cm (kJ/in)	Not Specified	Not Specified	2.4 (61)	1.3 (33)
Travel Speed, cm/min (in/min)			33 (13)	38 (15)
Contact Tip to Work Distance, mm (in)			32 (1.25)	25 (1)
Pass/Layers			23/11	32/16
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	25 (73)
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)	(80 min.)	(80 min.)	630 (92)	630 (91)
Yield Strength, 0.2% Offset, MPa (ksi)	(68 min.)	(68 min.)	530 (76)	550 (80)
Elongation %	19 min.	19 min.	24	24
Average Impact Energy	(40 min.)	(40 min.)	102 (75)	103 (76)
Joules @ -18 °C (ft-lbs @ 0 °F)			96,104,105 (71,77,77)	101,103,104 (74,76,77)

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Operating Settings	High Heat Input Requirements	Low Heat Input Requirements	High Heat Input Results	Low Heat Input Results
Electrode Lot			1352A	1352A
Flux Lot			16448911	16448911
Base Material			ASTM A36 steel	ASTM A36 steel
Current Type/Polarity			DC+	DC+
Plate Thickness, mm (in)	(0.75 - 1)	(0.75 - 1)	25 (1.00)	25 (1.00)
Wire Feed Speed, cm/min (in/min)			206 (81)	160 (63)
Nominal Voltage, V			38	27
Nominal Current, A			350	280
Average Heat Input, kJ/cm (kJ/in)	Not Specified	Not Specified	2.4 (61)	1.2 (30)
Travel Speed, cm/min (in/min)			33 (13)	38 (15)
Contact Tip to Work Distance, mm (in)			32 (1.25)	28 (1.12)
Pass/Layers			21/10	28/13
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	20 (72)
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)	(80 min.)	(80 min.)	630 (92)	650 (94)
Yield Strength, 0.2% Offset, MPa (ksi)	(68 min.)	(68 min.)	520 (76)	580 (84)
Elongation %	19 min.	19 min.	27	23
Average Impact Energy	(40 min.)	(40 min.)	98 (72)	80 (59)
Joules @ -18 °C (ft-lbs @ 0 °F)			93,94,107 (69,69,79)	73,79,89 (54,58,66)

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Operating Settings	High Heat Input Requirements	Low Heat Input Requirements	High Heat Input Results	Low Heat Input Results
Electrode Lot			16359651	16359651
Flux Lot			15720343	15720343
Base Material			ASTM A36 steel	ASTM A36 steel
Current Type/Polarity			DC+	DC+
Plate Thickness, mm (in)	(0.75 - 1)	(0.75 - 1)	25 (1.00)	25 (1.00)
Wire Feed Speed, cm/min (in/min)			206 (81)	168 (66)
Nominal Voltage, V			38	28
Nominal Current, A			350	295
Average Heat Input, kJ/cm (kJ/in)	Not Specified	Not Specified	2.4 (61)	1.3 (33)
Travel Speed, cm/min (in/min)			33 (13)	38 (15)
Contact Tip to Work Distance, mm (in)			32 (1.25)	28 (1.12)
Pass/Layers			21/10	26/13
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	20 (70)
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)	(80 min.)	(80 min.)	630 (91)	630 (91)
Yield Strength, 0.2% Offset, MPa (ksi)	(68 min.)	(68 min.)	510 (74)	550 (80)
Elongation %	19 min.	19 min.	26	24
Average Impact Energy	(40 min.)	(40 min.)	99 (73)	103 (76)
Joules @ -18 °C (ft-lbs @ 0 °F)			96,98,104 (71,72,77)	101,103,104 (74,76,77)

- 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.
- 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).
- 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.


 Daniel Gaul, Certification Supervisor March 09, 2020
Date


 Jonathan S. Ogborn, Manager, Consumable March 09, 2020
 Compliance Date