

CERTIFICATE OF CONFORMANCE



Electrode: **Metalshield® MC-70 XLS® Buy America**
Electrode Size: **.045" (1.1 mm)**
Specification: **AWS D1.8:2021**
Date: **July 30, 2025**

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			19224158	19224158
Base Material			ASTM A36 steel	ASTM A36 steel
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	90% Ar, 10% CO2	90% Ar, 10% CO2
Nominal Voltage, V			30.0	28.0
Wire Feed Speed, cm/min (in/min)			1143 (450)	1016 (400)
Nominal Current, A			275	240
Average Heat Input, kJ/mm (kJ/in)	Not Specified	Not Specified	2.4 (60.5)	1.2 (31.1)
Travel Speed, cm/min (in/min)			21 (8.2)	33 (13.0)
Contact Tip to Work Distance, mm (in)			22 (7/8)	22 (7/8)
Pass/Layers			9/6	17/7
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)	(70 min.)	(70 min.)	530 (77)	610 (88)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	(58 min.)	420 (61)	530 (77)
Elongation %	22 min.	22 min.	31	26
Average Impact Energy	(40 min.)	(40 min.)	99 (73)	103 (76)
Joules @ -18 °C (ft-lbs @ 0 °F)			87,91,118 (65,67,87)	95,104,111 (70,77,82)

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Operating Settings	High Heat Input Requirements	Low Heat Input Requirements	High Heat Input Results	Low Heat Input Results
Electrode Lot			19662727	19662727
Base Material			ASTM A36 steel	ASTM A36 steel
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	90% Ar, 10% CO2	90% Ar, 10% CO2
Nominal Voltage, V			30.0	28.0
Wire Feed Speed, cm/min (in/min)			1143 (450)	1016 (400)
Nominal Current, A			265	230
Average Heat Input, kJ/mm (kJ/in)	Not Specified	Not Specified	2.3 (58.6)	1.1 (27.9)
Travel Speed, cm/min (in/min)			21 (8.2)	35 (13.9)
Contact Tip to Work Distance, mm (in)			22 (0.87)	22 (0.87)
Pass/Layers			10/6	17/7
Preheat Temperature, °C (°F)	(250 min.)	(120 max.)	120 (250)	50 (120)
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.)	520 (75)	590 (86)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	(58 min.)	430 (62)	500 (72)
Elongation %	22 min.	22 min.	32	28
Average Impact Energy	(40 min.)	(40 min.)	223 (164)	124 (92)
Joules @ -18 °C (ft-lbs @ 0 °F)			214,226,228 (158,167,168)	120,126,128 (88,93,94)

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Operating Settings	High Heat Input Requirements	Low Heat Input Requirements	High Heat Input Results	Low Heat Input Results
Electrode Lot			19662734	19662734
Base Material			ASTM A36 steel	ASTM A36 steel
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	90% Ar, 10% CO2	90% Ar, 10% CO2
Nominal Voltage, V			30.0	28.0
Wire Feed Speed, cm/min (in/min)			1143 (450)	1016 (400)
Nominal Current, A			270	250
Average Heat Input, kJ/mm (kJ/in)	Not Specified	Not Specified	2.3 (57.9)	1.2 (30.4)
Travel Speed, cm/min (in/min)			21 (8.4)	35 (13.8)
Contact Tip to Work Distance, mm (in)			22 (7/8)	22 (7/8)
Pass/Layers			10/6	17/7
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)	(70 min.)	(70 min.)	550 (80)	620 (90)
Yield Strength, 0.2% Offset, MPa (ksi)	(58 min.)	(58 min.)	450 (65)	540 (79)
Elongation %	22 min.	22 min.	30	25
Average Impact Energy	(40 min.)	(40 min.)	142 (104)	74 (55)
Joules @ -18 °C (ft-lbs @ 0 °F)			137,140,147 (101,104,109)	73,73,77 (54,54,57)

- 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).
- The strength and elongation properties reported here were obtained from tensile specimens artificially aged at 105°C (220°F) for 48 hours.
- 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.

 October 28, 2025
Daniel Gaul, Certification Supervisor Date

 October 28, 2025
Regis Geisler, Manager, Consumable Compliance Date