

**Lincoln Electric Europe BV – Buzau Plant**

Aleea Industriilor, Nr. 1-1 BIS,  
120068 Buzau - Romania

**CERTIFIED MATERIAL TEST REPORT**

Product: UltraCore® 360™ M71 diameter 1/16" - 1.6 mm  
 Lot Nr. : R1FC184038  
 Classification: ASME SFA-5.20: E71T-1M-JH4  
 ASME SFA-5.36: E71T1-M21A2-CS1-H4  
 Test Completed: December 7, 2018

This is to certify that the above listed product was manufactured to meet the Class T3 requirements of AWS A5.01 as required by clause 6.3.8 of AWS D1.8/D1.8M: 2009.

Test Conditions	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Electrode Size		1/16" - 1.6 mm	1/16" - 1.6 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		3.7 (146)	5 (197)
Welding speed cm /min (inc/min)		9.8 (3.9)	41 (16.3)
Current (amps)		240	280
Arc Voltage (volts)		22	28
CTWD mm/(inch)		18 (0.71)	18 (0.71)
Preheat	Low ≤ 40°C High ≥ 120°C	150 (302)	23 (73)
Interpass Temp °C (°F)	Low ≤ 120°C High ≥ 240°C	260 (500)	110 - (230)
Heat Input Avg. kJ/mm (kJ/in.)	Low ≤ 1.2, High ≥ 3.1	3.2 (82)	1.14 (28.9)
Shielding Gas Used	M21	80%Ar 20%CO2	80%Ar 20%CO2
Weld position		3G (vertical up)	1G

Mechanical Properties	Actual Results of AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Yield Strength, MPa (ksi) (0.2% offset method)	400 (58 min.)	453 (66)	547 (79)
Tensile Strength MPa (ksi)	480 (70 min)	540 (78)	597 (87)
Elongation %	22% min	29%	28%

Impact Properties	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Temperature	10 °C (20 °F)	Tested @ 10°C (20° F)	Tested @ 10°C (20° F)
Average Joules (ft-lbs)	54 min (40 min)	144 (106)	189 (139)
Individual Values Joules		152; 151; 130 (112; 111; 96)	185; 195; 188 (136; 144; 139)

This is to certify that the contents of this report are correct and accurate as contained in the records of The Lincoln Electric Company.

  
  
 Name, C. Dascalu  
 QC Manager Buzau Plant

10/12/2018

Date

**Lincoln Electric Europe BV – Buzau Plant**

Aleea Industriilor, Nr. 1-1 BIS,  
120068 Buzau - Romania

**CERTIFIED MATERIAL TEST REPORT**

Product: UltraCore® 360™ M71 diameter 1/16" - 1.6 mm  
 Lot Nr. : R1FC184040  
 Classification: ASME SFA-5.20: E71T-1M-JH4  
 ASME SFA-5.36: E71T1-M21A2-CS1-H4  
 Test Completed: January 14, 2019

This is to certify that the above listed product was manufactured to meet the Class T3 requirements of AWS A5.01 as required by clause 6.3.8 of AWS D1.8/D1.8M: 2009.

Test Conditions	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Electrode Size		1/16" - 1.6 mm	1/16" - 1.6 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		3.7 (146)	5 (197)
Welding speed cm /min (inc/min)		9.8 (3.9)	44 (17.3)
Current (amps)		240	280
Arc Voltage (volts)		22	28
CTWD mm/(inch)		18 (0.71)	18 (0.71)
Preheat	Low ≤ 40°C High ≥ 120°C	150 (302)	23 (73)
Interpass Temp °C (°F)	Low ≤ 120°C High ≥ 240°C	260 (500)	110 - (230)
Heat Input Avg. kJ/mm (kJ/in.)	Low ≤ 1.2, High ≥ 3.1	3.2 (82)	1.07 (27.2)
Shielding Gas Used	M21	80%Ar 20%CO2	80%Ar 20%CO2
Weld position		3G (vertical up)	1G

Mechanical Properties	Actual Results of AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Yield Strength, MPa (ksi) (0.2% offset method)	400 (58 min.)	474 (69)	506 (73)
Tensile Strength MPa (ksi)	480 (70 min)	549 (80)	561 (81)
Elongation %	22% min	30%	26%

Impact Properties	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Temperature	10 °C (20 °F)	Tested @ 10°C (20° F)	Tested @ 10°C (20° F)
Average Joules (ft-lbs)	54 min (40 min)	158 (117)	151 (111)
Individual Values Joules		157; 158; 159	149; 148; 155

This is to certify that the contents of this report are correct and accurate as contained in the records of The Lincoln Electric Company.



Name, C. Dascalu  
QC Manager Buzau Plant

31/01/2019

Date

**Lincoln Electric Europe BV – Buzau Plant**

Aleea Industriilor, Nr. 1-1 BIS,  
120068 Buzau - Romania

**CERTIFIED MATERIAL TEST REPORT**

Product: UltraCore® 360™ M71 diameter 1/16" - 1.6 mm  
 Lot Nr. : R1FC184011  
 Classification: ASME SFA-5.20: E71T-1M-JH4  
 ASME SFA-5.36: E71T1-M21A2-CS1-H4  
 Test Completed: March 16, 2019

This is to certify that the above listed product was manufactured to meet the Class T3 requirements of AWS A5.01 as required by clause 6.3.8 of AWS D1.8/D1.8M: 2009.

Test Conditions	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Electrode Size		1/16" - 1.6 mm	1/16" - 1.6 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		3.7 (146)	5 (197)
Welding speed cm /min (inc/min)		9.7 (3.8)	44 (17.3)
Current (amps)		240	280
Arc Voltage (volts)		22	28
CTWD mm/(inch)		18 (0.71)	18 (0.71)
Preheat	Low ≤ 40°C High ≥ 120°C	150 (302)	23 (73)
Interpass Temp °C (°F)	Low ≤ 120°C High ≥ 240°C	260 (500)	110 - (230)
Heat Input Avg. kJ/mm (kJ/in.)	Low ≤ 1.2, High ≥ 3.1	3.3 (83.8)	1.07 (27.2)
Shielding Gas Used	M21	80%Ar 20%CO2	80%Ar 20%CO2
Weld position		3G (vertical up)	1G

Mechanical Properties	Actual Results of AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Yield Strength, MPa (ksi) (0.2% offset method)	400 (58 min.)	482 (70)	561 (81)
Tensile Strength MPa (ksi)	480 (70 min)	579 (84)	604 (88)
Elongation %	22% min	30%	25%

Impact Properties	AWS D1.8 requirements	High Heat Input Results	Low Heat Input Results
Temperature	10 °C (20 °F)	Tested @ 10°C (20° F)	Tested @ 10°C (20° F)
Average Joules (ft-lbs)	54 min (40 min)	139 (103)	138 (102)
Individual Values Joules		140; 142; 135	151; 135; 128

This is to certify that the contents of this report are correct and accurate as contained in the records of The Lincoln Electric Company.




18/03/2019

Name, C. Dascalu  
QC Manager Buzau Plant

Date