

Lincoln Electric Europe BV – Buzau Plant

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

CERTIFIED MATERIAL TEST REPORT

Product: UltraCore® 360™ C71 diameter .045" - 1.2 mm
 Lot Nr. : R1FC184030
 Classification: ASME SFA-5.20: E71T-1C-JH4
 ASME SFA-5.36: E71T1-C1A2-CS1-H4
 Test Completed: December 21, 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		.045" - 1.2 mm	.045" - 1.2 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		8 (315)	12 (472)
Welding speed cm /min (inc/min)		10 (4)	35 (14)
Current (amps)		220	240
Arc Voltage (volts)		24	27
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 (84)	1.13 (28.7)
Shielding Gas Used	C1	CO2	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.)	515 (75)	621 (90)
Tensile Strength MPa (ksi)	480 (70 min)	593 (86)	650 (94)
Elongation %	22% min	28%	23%

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)	141 (104)	147 (108)
Individual Values Joules		141; 142; 141	148; 148; 146

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. Dascalescu
 QC Manager Buzau Plant

21/12/2018

Date

Lincoln Electric Europe BV – Buzau Plant

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

CERTIFIED MATERIAL TEST REPORT

Product: UltraCore® 360™ C71 diameter .045" - 1.2 mm
 Lot Nr. : 421822003
 Classification: ASME SFA-5.20: E71T-1C-JH4
 ASME SFA-5.36: E71T1-C1A2-CS1-H4
 Test Completed: January 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		.045" - 1.2 mm	.045" - 1.2 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		8 (315)	12 (472)
Welding speed cm /min (inc/min)		9.6 (3.8)	34 (13.5)
Current (amps)		220	240
Arc Voltage (volts)		24	27
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 (84)	1.13 (28.7)
Shielding Gas Used	C1	CO2	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.)	506 (73)	623 (90)
Tensile Strength MPa (ksi)	480 (70 min)	575 (83)	654 (95)
Elongation %	22% min	28%	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)	146 (108)	146 (108)
Individual Values Joules		148; 141; 148	146; 147; 144

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™ C71 diameter .045" - 1.2 mm
 Lot Nr. : R1FC184016
 Classification: ASME SFA-5.20: E71T-1C-JH4
 ASME SFA-5.36: E71T1-C1A2-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		.045" - 1.2 mm	.045" - 1.2 mm
Electrode Polarity		DC+	DC+
Wire Feed Speed m/min (inc/min)		8 (315)	12 (472)
Welding speed cm /min (inc/min)		9.6 (3.8)	35 (13.8)
Current (amps)		220	240
Arc Voltage (volts)		24	27
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 (84)	1.12 (28.4)
Shielding Gas Used	C1	CO2	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.)	566 (82)	568 (82)
Tensile Strength MPa (ksi)	480 (70 min)	630 (91)	608 (88)
Elongation %	22% min	25%	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)	148 (109)
Individual Values Joules		145; 137; 151	148; 153; 144

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

18/03/2019

Date