

# ULTRACORE® SR-12C

Mild Steel, All Position ▪ AWS E71T-12C-JH8

## KEY FEATURES

- Capable of meeting 20 ft·lbf @ -50°F in both the as-welded and stress relieved conditions
- A premium arc performance and fast freezing slag make UltraCore® SR-12C easy to use for welders of all skill levels

## WELDING POSITIONS

All

## SHIELDING GAS

100% CO<sub>2</sub>

## CONFORMANCES

**AWS A5.20/5.20M:**

E71T-12C-JH8

**AWS A5.36:**

E71T12-C1A5-CS2-H8,  
E71T12-C1P5-CS2-H8

**ASME SFA-5.20:**

E71T-12C-JH8

## TYPICAL APPLICATIONS

- General Fabrication
- Offshore Industry
- Petrochemical

## DIAMETERS / PACKAGING

Diameter in. (mm)	33 lb (15 kg) Fiber Spool
0.045 (1.1)	ED034532
0.052 (1.3)	ED034533
1/16 (1.6)	ED034534

**MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.36/5.36M**

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf)	
				@ -40°C (-40°F)	@ -46°C (-50°F)
<b>Requirements</b> AWS A5.20 - E71T-12C-JH8 As-Welded with 100% CO <sub>2</sub>	400 (58) min	480-620 (70-90)	22 min	27 (20) min	–
AWS A5.36 - E71T1-C1A5-CS2-H8 As-Welded with 100% CO <sub>2</sub>		480-655 (70-95)		–	27 (20) min
AWS A5.36 - E71T1-C1P5-CS2-H8 Stress Relieved 1hr. @ 620°C (1150°F) with 100% CO <sub>2</sub>		480-655 (70-95)		–	27 (20) min
<b>Test Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	490 (71)	550 (80)	22	47 (34)	61 (45)
Stress-Relieved 1 hr. @ 620°C (1150°F) with 100% CO <sub>2</sub>	435 (63)	545 (79)	32	–	92 (68)

**DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.36/5.36M**

	%C	%Mn	%Si	%S	%P	%Ni	Diffusible Hydrogen (mL/100g weld deposit)
<b>Requirements</b> AWS A5.20 - E71T-12C-JH8 As-Welded with 100% CO <sub>2</sub>	0.12 max	1.75 max	0.90 max	0.03 max.	0.03 max	0.50	3.0 max
AWS A5.36 - E71T1-C1A5-CS2-H8 As-Welded with 100% CO <sub>2</sub>		1.60 max	max	0.030 max	0.030 max	max	
<b>Test Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	0.05	1.42	0.52	0.007	0.016	0.02	5.9

**TYPICAL OPERATING PROCEDURES**

Diameter, Polarity Shielding Gas	CTWD <sup>(4)</sup> mm (in)	Wire Feed Speed m/min (in/min)	Voltage (Volts)	Approx. Current (Amps)	Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)
0.045 in. (1.1 mm), DC+ As-Welded with 100% CO <sub>2</sub>	25 (1)	4.4 (175)	23-28	115	1.8 (3.9)	1.5 (3.4)	85-88
		6.4 (250)	24-29	140	2.5 (5.6)	2.1 (4.6)	
		7.6 (300)	25-30	155	3.1 (6.8)	2.6 (5.8)	
		10.2 (400)	25-30	185	4.1 (9.0)	3.4 (7.5)	
		12.7 (500)	26-31	215	5.1 (11.3)	4.4 (9.8)	
0.052 in. (1.3 mm), DC+ As-Welded with 100% CO <sub>2</sub>	25 (1)	3.8 (150)	23-28	140	2.1 (4.7)	1.7 (3.8)	85-88
		6.4 (250)	25-30	180	3.5 (7.8)	3.0 (6.5)	
		8.9 (350)	26-31	225	5.0 (11.0)	4.2 (9.2)	
		10.8 (425)	26-31	255	6.0 (13.3)	5.1 (11.2)	
		12.7 (500)	27-32	290	7.1 (15.6)	6.0 (13.3)	
1/16 in. (1.6 mm), DC+ As-Welded with 100% CO <sub>2</sub>	25 (1)	3.8 (150)	22-27	200	2.9 (6.4)	2.4 (5.3)	85-88
		5.1 (200)	23-28	230	3.7 (8.1)	3.0 (6.7)	
		6.4 (250)	24-29	255	4.8 (10.6)	4.1 (9.1)	
		7.6 (300)	25-30	300	5.5 (12.1)	4.6 (10.2)	
		10.2 (400)	26-31	360	6.7 (14.8)	5.8 (12.8)	

<sup>(1)</sup> Typical all weld metal. <sup>(2)</sup> Measured with 0.2% offset. <sup>(3)</sup> See test results disclaimer on pg. 18. <sup>(4)</sup> To estimate ESO, subtract 1/4 in. (6.0 mm) from CTWD.

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)*

#### TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

#### CUSTOMER ASSISTANCE POLICY

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