

UltraCore® SR-12

AWS E71T-1M-JH8, E71T-9M-JH8, E71T-12M-JH8



UltraCore® SR-12 is a mild steel, gas-shielded flux-cored wire designed to provide low temperature toughness properties in the as-welded and stress relieved conditions. For a mixed gas stress relief product that you can trust - choose UltraCore® SR-12.

KEY FEATURES

- ▶ **Robust Mechanical Properties** - Meets AWS strength and low temperature impact toughness requirements in the as-welded and stress relieved conditions
- ▶ **Operator Friendly** - Premium arc performance and bead shape makes SR-12 easy to use for welders of all skill levels

WELDING POSITIONS

All

APPLICATIONS

- ▶ Pressure vessel fabrication
- ▶ Applications requiring PWHT of mild steel

CONFORMANCES

AWS A5.20/5.20M: 2010 E71T-1M-JH8, E71T-9M-JH8, E71T-12M-JH8
ASME SFA-5.20 E71T-1M-JH8, E71T-9M-JH8, E71T-12M-JH8

SHIELDING GAS

75-80 % Argon / Balance CO₂

DIAMETERS / PACKAGING

Diameter in. (mm)	15 lb (7 kg) Plastic Spool 60 lb (28 kg) Carton	33 lb (15 kg) Fiber Spool
0.045 (1.1)	ED034109	ED034111

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.20/5.20M:2010

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -40°C (-40°F)
Requirements AWS E71T-1M-JH8, E71T-9M-JH8, E71T-12M-JH8 As-Welded with 75% Ar / 25% CO ₂	400 (58) min.	480 - 620 (70 - 90)	22 min.	27 (20) min.
Test Results⁽³⁾ As-Welded with 75% Ar / 25% CO ₂ Stress-Relieved for 8 hrs. @ 620°C (1150°F)	503 - 530 (73 - 77) 450 (65)	565 - 586 (82 - 85) 540 (78)	28 - 29 30	108 - 162 (80 - 120) 100-150 (70-110)

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.20/5.20M:2010

	%C	%Mn	%Si	%Ni	%S	%P
Requirements AWS E71T-1M-JH8, E71T-9M-JH8, E71T-12M-JH8 As-Welded with 75% Ar / 25% CO ₂	0.12 max.	1.60 max.	0.90 max.	0.50 max.	0.03 max.	0.03 max.
Test Results⁽³⁾ As-Welded with 75% Ar / 25% CO ₂	0.03 - 0.06	1.27 - 1.60	0.27 - 0.45	0.34 - 0.41	<0.01	<0.01

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD ⁽⁴⁾ 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+ 75-80% Ar / balance CO ₂	22 (7/8)	4.4 (175)	22-24	125	1.8 (4.0)	1.5 (3.4)	88
		5.7 (225)	22-24	145	2.3 (5.1)	2.0 (4.4)	
		7.0 (275)	23-25	165	2.9 (6.3)	2.5 (5.5)	
		8.3 (325)	23-25	185	3.4 (7.4)	2.9 (6.4)	
		9.5 (375)	24-26	205	3.9 (8.6)	3.4 (7.5)	
		10.8 (425)	25-27	225	4.4 (9.7)	3.8 (8.4)	
		12.1 (475)	26-28	245	4.9 (10.9)	4.3 (9.5)	
		13.3 (525)	29-31	315	5.5 (12.0)	4.8 (10.6)	

⁽¹⁾ Typical all weld metal. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ See test results disclaimer below. ⁽⁴⁾ To estimate ESO, subtract 1/4 in. (6.0 mm) from CTWD.
 Note: This product contains micro-alloying elements. Additional information available upon request.

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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