

UltraCore® HD-12C

AWS E71T-1CJ, E71T-9CJ, E71T-12CJ H8



ULTRACORE



UltraCore® HD-12C es un alambre tubular con gas de protección de acero dulce, diseñado para proporcionar altas tasas de deposición y tenacidad al impacto a bajas temperaturas, características que se requieren en muchas aplicaciones de fabricación pesada. Cuenta con un rendimiento de arco superior y una escoria de solidificación rápida. Para cordones de soldadura planos y tenacidad al impacto a bajas temperaturas utilizando 100% CO₂ como gas de protección - elija UltraCore® HD-12C.

CARACTERÍSTICAS PRINCIPALES

- ▶ **Alta Tasa de Deposito** – Fuera de posición, incrementa el depósito de soldadura hasta en 14 lb/h.
- ▶ **Apariencia Plana del Cordón** – Solidificación rápida de la escoria para una apariencia plana del cordón y una productividad incrementada en todas posiciones
- ▶ **Amplio Rango de Operación** – Los operadores pueden configurar el equipo en un solo parámetro y soldar en todas las posiciones
- ▶ **Poco o nada de limpieza previo a la soldadura** – Suelde sobre óxido ligero, cascarilla de laminación, o "primer" (tapaporos).
- ▶ **Tenacidad al impacto a bajas temperaturas** – Capaz de exceder 27 J (20 pies-lbs) a -40°F (-40°C)

POSICIONES DE SOLDADURA

Todas

DIÁMETROS/EMPAQUE

Diámetro pulg. (mm)	33 lb (15 kg) Carrete de Fibra
0.045 (1.1)	ED034274
0.052 (1.3)	ED034275
1/16 (1.6)	ED034276

APLICACIONES TÍPICAS

- ▶ Fabricación Pesada
- ▶ Minería
- ▶ Fabricación General
- ▶ Estructura
- ▶ Aplicaciones que requieran precalentamiento previo a la soldadura en acero dulce

CONFORMIDAD

- AWS A5.20/5.20M:** E71T-1CJ, E71T-9CJ, E71T-12CJ H8
- ASME SFA-5.20:** E71T-1CJ, E71T-9CJ, E71T-12CJ H8

GAS DE PROTECCIÓN

100% CO₂

PROPIEDADES MECÁNICAS⁽¹⁾ – As Required per AWS A5.20/5.20M

	Yield Strength ⁽²⁾	Tensile Strength	Elongation	Charpy V-Notch J (ft•lbf)		
	MPa (ksi)	MPa (ksi)	%	@ -18°C (0°F)	@ -29°C (-20°F)	@ -40°C (-40°F)
Requirements⁽⁴⁾ AWS E71T-1CJ, E71T-9CJ, E71T-12CJ H8 As-Welded with 100% CO ₂	400 (58) min.	480-620 (70-90)	22 min.	27 (20) min. Not Specified	Not Specified 27 (20) min.	Not Specified 27 (20) min.
Typical Results⁽³⁾ As-Welded with 100% CO ₂ Stress-Relieved for 1 hr @ 620°C (1150°F)	538 (78) 496 (72)	593 (86) 579 (84)	28 28	– –	93 (68) 58 (43)	51 (38) –

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

	%C	%Mn	%Si	%Ni
Requirements⁽⁴⁾ AWS E71T-1CJ, E71T-9CJ, E71T-12CJ H8 As-Welded with 100% CO ₂	0.12 max.	1.75 max.	0.90 max.	0.50 max.
Typical Results⁽³⁾ As-Welded with 100% CO ₂	0.04	1.35	0.33	0.40
	Diffusible Hydrogen (mL/100g weld deposit)			
	%S	%P		
Requirements⁽⁴⁾ AWS E71T-1CJ, E71T-9CJ, E71T-12CJ H8 As-Welded with 100% CO ₂	0.03 max.	0.03 max.	8 max.	
Typical Results⁽³⁾ As-Welded with 100% CO ₂	0.01	0.01	4-7	

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD ⁽⁵⁾ 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 ₂	25 (1)	4.4 (175)	24-29	115	1.8 (3.9)	1.5 (3.4)	85-88
		6.4 (250)	25-30	140	2.5 (5.6)	2.2 (4.8)	
		7.6 (300)	26-31	155	3.1 (6.8)	2.6 (5.8)	
		8.9 (350)	26-31	170	3.6 (7.9)	3.1 (6.8)	
		10.2 (400)	26-31	185	4.1 (9.0)	3.5 (7.8)	
		11.4 (450)	27-32	200	4.6 (10.1)	4.0 (8.8)	
		12.7 (500)	27-32	215	5.1 (11.3)	4.4 (9.8)	
		14.0 (550)	28-33	230	5.6 (12.4)	4.9 (10.8)	
0.052 in (1.3 mm), DC+ As-Welded with 100% CO ₂	25 (1)	3.8 (150)	24-29	140	2.1 (4.7)	1.7 (3.8)	85-88
		5.1 (200)	25-30	160	2.9 (6.3)	2.4 (5.2)	
		6.4 (250)	26-31	180	3.5 (7.8)	3.0 (6.5)	
		7.6 (300)	26-31	205	4.3 (9.4)	3.6 (7.9)	
		8.9 (350)	27-32	225	5.0 (11.0)	4.2 (9.2)	
		9.5 (375)	27-32	235	5.3 (11.7)	4.5 (9.9)	
		10.8 (425)	27-32	255	6.0 (13.3)	5.1 (11.2)	
		12.1 (475)	28-33	275	6.8 (14.9)	5.7 (12.6)	
1/16 in (1.6 mm), DC+ As-Welded with 100% CO ₂	25 (1)	3.8 (150)	23-28	200	2.9 (6.4)	2.4 (5.3)	85-88
		4.4 (175)	24-29	215	3.4 (7.5)	2.9 (6.3)	
		5.1 (200)	24-29	230	3.9 (8.5)	3.3 (7.2)	
		5.7 (225)	24-29	245	4.4 (9.6)	3.7 (8.1)	
		6.4 (250)	25-30	255	4.8 (10.6)	4.1 (9.1)	
		7.6 (300)	25-30	285	5.8 (12.7)	4.9 (10.9)	
		8.3 (325)	26-31	300	6.3 (13.8)	5.4 (11.9)	
		8.9 (350)	26-31	310	6.7 (14.8)	5.8 (12.8)	
10.2 (400)	27-32	340	7.7 (16.9)	6.7 (14.7)			

⁽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.

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.

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