



TRIPLE 7

GAS-SHIELDED FLUX-CORED WIRE
AWS E71T-1C H8, E71T-1M H8

080408 (replaces 070723)

Triple 7 is designed for the semi-automatic gas-shielded welding of carbon steel and some higher strength steels where requirements and conditions do not exceed its capabilities. It is intended for single—and multiple-pass welding in all positions and has a fast-freezing slag that permits the welder to use higher current to deposit more metal faster and still produce a flat bead in all positions. The slag removes easily even from deep groove weldments and spatter is low, so a welder spends more time welding and less time cleaning up. The X-ray quality surpasses the radiographic specifications of AWS A5.20 and ASME SFA 5.20 when welded with the recommended procedures. Typical applications include shipbuilding, railcar fabrication, general plate fabrication, heavy gauge sheet metal, pressure vessels, and certain pipe weldments.

PRODUCT CHARACTERISTICS:

- Excellent weldability with 100% CO₂ or 75% Ar/25% CO₂.
- A fast-freezing slag permits the welder to use higher current to deposit more metal faster and still produce a flat bead in all positions.
- Slag removes easily, even from deep groove weldments.
- Spatter is low, so a welder spends more time welding and less time cleaning up.

SPECIFICATIONS:

E71T-1C H8, E71T-1M H8 per AWS A5.20, ASME SFA 5.20
 ABS Grade 2SA, 2YSA
 CWB E491T-1 H8, E491T-1M H8
 DNV II YMS

SHIELDING GAS:

100% CO₂, 75% Ar/25% CO₂, 35-50 cfh

WELDING POSITIONS:

All positions

STANDARD DIAMETERS:

.045", .052", 1/16"

WELD TEST PARAMETERS:

Triple 7 1/16" diameter electrodes was welded using 100% CO₂ shielding gas with flow rate of 40 cfh, 275 amps (240 ipm), DCEP, and 27 volts, and using 75% Ar/25% CO₂ shielding gas with flow rate of 40 cfh, 275 amps (240 ipm), DCEP, and 26 volts, both with 3/4" electrical stickout and 300° ± 25°F Interpass temperature. A total of six layers were welded with two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

TYPICAL UNDILUTED WELD METAL CHEMISTRY*:

	C	Mn	Si	P	S
100% CO₂	0.03	1.27	0.56	0.013	0.009
75% Ar/25% CO₂	0.03	1.52	0.74	0.013	0.009

TYPICAL DIFFUSIBLE HYDROGEN: CO₂ 4.6 mls/100 g - 75% Ar/25% CO₂ 5.4 mls/100 g

TYPICAL MECHANICAL PROPERTIES*:

	100% CO₂	75% Ar/25% CO₂
Tensile Strength	90,000 psi (617 MPa)	93,000 psi (643 MPa)
Yield Strength	79,000 psi (547 MPa)	79,000 psi (545 MPa)
Elongation	27%	26%
CVN @ 0°F (-18°C)	76 ft•lbs(103 J)	63 ft•lbs (85 J)

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data is obtained when welded and tested in accordance with AWS A5.20 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

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RECOMMENDED OPERATING PARAMETERS:

The information below was determined by welding performed with 100% CO₂ shielding gas at a flow rate of 35 cfh. The use of 75% Ar/25% CO₂ shielding gas will require one less volt, typically.

Diameter, Electrical Stickout Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lb/hr)	
.045" 1/2" to 3/4" ES Flat & Horizontal	23	100	127	2.64	
	24	150	206	4.17	
	26	200	302	6.15	
	29	250	434	8.92	
	31	300	593	12.29	
	34	325	684	13.93	
Vertical Up	23	100	127	2.64	
	24	150	206	4.17	
	26	200	302	6.15	
	27	225	370	7.60	
Overhead	25	175	250	5.10	
	26	200	302	6.15	
	27	225	370	7.60	
.052" 1/2" to 3/4" ES Flat & Horizontal	22	125	140	3.60	
	23	150	160	4.00	
	25	200	242	5.80	
	27	250	335	8.20	
	29	300	438	10.80	
	33	350	571	14.40	
Vertical Up	23	150	160	4.00	
	26	200	242	5.80	
	27	225	285	6.70	
	28	250	335	8.20	
Overhead	26	200	242	5.80	
	27	225	285	6.70	
	28	250	335	8.20	
1/16" 1/2" to 3/4" ES Flat & Horizontal	23	150	109	4.02	
	24	200	155	5.75	
	26	250	209	7.85	
	27	300	280	10.48	
	29	350	353	13.24	
	32	400	438	16.49	
	35	450	531	19.59	
	Vertical Up	22	150	109	4.02
		23	175	129	4.76
		24	200	155	5.75
25		225	175	6.75	
26		250	209	7.85	
27		275	237	9.30	
Overhead	24	200	155	5.75	
	25	225	175	6.75	
	26	250	209	7.85	

Bold: Optimum parameters for welder appeal.

Notice:

Actual use of the product may produce varying results due to conditions and welding techniques over which Tri-Mark has no control, including, but not limited to, plate chemistry, weldment design, fabrication methods, electrode size, welding procedure, service requirements and environment. The purchaser is solely responsible for determining the suitability of Tri-Mark products for the purchaser's own use. Any prior representations shall not be binding. Tri-Mark disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

Caution:

Consumers should be thoroughly familiar with the safety precautions shown on the Warning Label posted on each shipment in and in American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJeune Road, Miami, FL 33126, and OSHA Safety and Health Standards 29 CFR 1910, available from the U.S. Department of Labor, Washington, D.C. 20210.