



TM-811W

GAS-SHIELDED FLUX-CORED WIRE
AWS E81T1-W2C H8

060913 (replaces 060505)

TM-811W meets Structural Welding Code D1.1 filler metal requirements for exposed bare applications of ASTM A242 and A588 steels. These weathering steels are normally used on bridges and buildings. TM-811W is alloyed to provide a weld metal color match in the weathering conditions, as well as good properties in the 80,000-100,000 psi strength range with good impact values. It is recommended for single-and multiple-pass welding in all positions with 100% CO₂ shielding gas.

PRODUCT CHARACTERISTICS:

- Meets D1.1 structural code to weld A242 and A588.
- Produces color match to weathering grade base material.
- Capable of welding in all positions.

SPECIFICATIONS:

E81T1 W2C H8 per AWS A5.29, ASME SFA 5.29

SHIELDING GAS:

100% CO₂, 35-50 cfh

WELDING POSITIONS:

All Positions

STANDARD DIAMETERS:

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

WELD TEST PARAMETERS;

TM-811W 1/16" diameter electrode was welded using 100% CO₂ shielding gas with flow rate of 40 cfh, 275 amps (247 ipm), DCEP, and 27 volts with 3/4" electrical stick-out and 300°F ± 25°F interpass temperature. A total of six layers were welded, 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	Cr	Ni	Cu
0.06	1.30	0.70	0.008	0.014	0.59	0.74	0.38

TYPICAL MECHANICAL PROPERTIES*:

Tensile Strength 99,000 psi (683 MPa)
Yield Strength 85,000 psi (586 MPa)
Elongation 25%
CVN @ -20°F (-29°C) 25 ft•lbs.(34 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 A5.29 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.

Diameter, Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.045" 1/2" to 3/4" Flat and Horizontal	20	115	120	2.7
	28	275	440	to
	30	325	660	14.5
-----	21	115	120	2.7
	26	200	285	to
	28	250	425	8.8
.052" 1/2" to 3/4" Flat and Horizontal	21	125	110	3.8
	29	300	410	to
	32	375	550	15.8
-----	21	125	110	3.8
	25	225	240	to
	26	250	310	8.1
1/16" 1/2" to 1" Flat and Horizontal	21	150	100	4.0
	29	350	345	to
	31	425	480	20.2
-----	22	150	100	4.0
	25	225	170	to
	27	275	220	7.6

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.