



TM-11

GAS-SHIELDED FLUX-CORED WIRE
AWS E70T-1C

070719 (replaces 070517)

TM-11 is designed for the semi-automatic welding of carbon steels and some higher strength steels in applications where E70T-1 weld properties are acceptable. It provides excellent welding characteristics at higher current levels than many E-70T-1 wires, and has found acceptance in many heavy section applications. The slag freezes at a moderate rate, contributing to smooth, flat, and uniformly rippled beads in both the flat and horizontal positions. Typical applications include heavy equipment repair, machinery, structural components, and general fabrication. The wire is recommended for single-and multiple-pass welding with 100% CO₂ shielding gas.

PRODUCT CHARACTERISTICS:

- Intended for general purpose, high amperage welding of carbon steels.
- Performance is better at higher amperage levels than at the lower amperages.
- Good weld bead geometry.

SPECIFICATIONS:

E70T-1C per AWS A5.20, ASME SFA 5.20

SHIELDING GAS:

100% CO₂, 35-50 cfh

WELDING POSITIONS:

Flat and horizontal

STANDARD DIAMETERS:

1/16", 5/64", 3/32"

WELD TEST PARAMETERS:

TM-11 3/32" diameter electrode was welded using 100% CO₂ shielding gas with flow rate of 40 cfh, 425 amps (169 ipm), DCEP, and 29 volts with 1" electrical stickout and 300° ± 25°F interpass temperature. A total of five layers were welded with one pass for Layer 1, two passes each for Layers 2 through 5. The direction of travel was reversed for each layer.

TYPICAL UNDILUTED WELD METAL CHEMISTRY*:

| | C | Mn | Si | P | S |
|----------------------|------|------|------|-------|-------|
| 100% CO ₂ | 0.08 | 1.36 | 0.78 | 0.009 | 0.005 |

TYPICAL MECHANICAL PROPERTIES*:

Tensile Strength 92,000 psi (635 MPa)
Yield Strength 77,000 psi (532 MPa)
Elongation 24%
CVN @ 0°F (-18°C) 29 ft-lbs.(39 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/A5.20M 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 to 50 cfh.

| Diameter, Electrical Stickout Position | Arc Voltage (volts) | Current DCEP (+) (amps) | Approx. Wire Feed Speed (in/min) | Deposition Rate (lbs/hr) |
|---|---------------------------|-------------------------------|--|--------------------------------|
| 1/16" | 26 | 150 | 240 | 6.9 |
| 3/4" ± 1/4" ES | 29 | 350 | 370 | to |
| Flat and Horizontal | 32 | 400 | 455 | 15.9 |
| 5/64" | 26 | 250 | 145 | 7.2 |
| 3/4" ± 1/4" ES | 31 | 400 | 265 | to |
| Flat and Horizontal | 33 | 450 | 320 | 16.2 |
| 3/32" | 25 | 375 | 160 | 10.5 |
| 1" ± 1/4" ES | 30 | 450 | 185 | to |
| Flat and Horizontal | 35 | 600 | 290 | 23.3 |

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 Le-Jeune 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.