



METALLOY[®]VANTAGE[™]

GAS-SHIELDED METAL-CORED WIRE
AWS E70C-6M H4

070801 (Replaces 070326)

Metalloy Vantage is a metal-cored wire with fewer silicon islands than other metal-cored wires. Weld bead toe lines are almost completely free of silicon deposits, eliminating troublesome cleanup time and effort. In addition, the weld bead face is virtually free from silicon island deposits; those remaining islands of silicon are almost self-peeling. Together with exceptional low spatter rates, Metalloy Vantage will save time and money spent cleaning prior to painting, coating, or plating. The wire is recommended for single-pass and multi-pass welding in both the flat and horizontal positions. The recommended shielding gas is a mixture of argon and carbon dioxide, with a minimum of 75% argon and a maximum of 95% argon. Arc characteristics improve with richer argon gases while spatter and fume levels decrease.

PRODUCT CHARACTERISTICS:

- Exceptionally clean weld beads with minimal silicon islands; almost self-peeling.
- Weld bead toe lines are almost completely free of silicon deposits.
- Better wetting action than solid wire.
- Better gap bridging and reduced burn through than solid wire.
- Higher deposition rates and travel speeds than solid wire.
- Better side wall fusion than solid wire.

SPECIFICATIONS:

E70C-6M H4 per AWS A5.18, ASME SFA 5.18
 CWB 75% Ar-5% CO₂; 95% Ar/5% CO₂; E492C-6M H4
 ABS 75% Ar/25% CO₂; 3SA, 3YSA

SHIELDING GAS:

75-90% Ar/Bal CO₂, 35-50 cfh

WELDING POSITIONS:

CV Spray - flat and horizontal, vertical down
 Pulse and short arc - all position

STANDARD DIAMETERS:

.035", .045", .052", 1/16"

WELD TEST PARAMETERS:

Metalloy Vantage 1/16" diameter electrode was welded using 75% Ar/25% CO₂ shielding gas with flow rate of 50 cfh, 350 amps (284 ipm), DCEP, and 29 volts, both with 3/4" electrical stick-out and 300° ± 25°F interpass temperature. A total of six layers were welded, two passes each for Layer 1 through 6. The direction of travel was reversed for each layer.

TYPICAL UNDILUTED WELD METAL CHEMISTRY:

	C	Mn	Si	P	S	Ni
75% Ar/25% CO ₂	0.05	1.38	0.65	0.011	0.013	0.40
90% Ar/10% CO ₂	0.05	1.50	0.72	0.010	0.012	0.42

TYPICAL DIFFUSIBLE HYDROGEN:

2.05 ml/100gr (75% Ar/25% CO₂)
 2.10 ml/100gr (90% Ar/10% CO₂)

TYPICAL MECHANICAL PROPERTIES: 75% Ar/25% CO₂

Tensile Strength 90,200 psi (622 MPa)
 Yield Strength 80,000 psi (552 MPa)
 Elongation 25%
 CVN @ 0°F (-18°C) 50 ft•lbs (68J)
 CVN @ -20°F (-29°C) 42 ft•lbs (57J)

90% Ar/10% CO₂

97,000 psi (669 MPa)
 87,000 psi (600 MPa)
 22.5%
 56 ft•lbs (76J)
 47 ft•lbs (64J)

*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 A5.18 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 75% Ar/25% CO₂ shielding gas at a flow rate of 40 cfh.

Diameter, Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.035" 1/2 ± 1/8" Flat and Horizontal	26	200	550	8.47
	28	250	760	11.97
	30	260	790	12.54
.045" 5/8" ± 1/8" Flat and Horizontal	26	200	265	5.89
	27	250	383	9.15
	28	300	500	12.79
	30	350	632	16.41
.052" 5/8" ± 1/8" Flat and Horizontal	31	400	770	20.03
	27	250	258	7.88
	28	275	306	9.63
	30	300	340	11.20
Flat and Horizontal	32	350	425	14.51
	33	400	500	18.10
	29	275	190	7.61
	29	300	232	10.01
1/16" 3/4" ± 1/4" Flat and Horizontal	30	350	282	12.81
	32	400	341	16.04
	33	450	400	18.29

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.