



# METALLOY<sup>®</sup>VANTAGE<sup>™</sup> D2

**GAS-SHIELDED METAL-CORED WIRE**  
**AWS E90C-D2**

070813 (Replaces 070118)

**Metalloy Vantage D2** is a gas-shielded metal-cored wire that is equivalent to ER80S-D2 solid wire. Metalloy Vantage D2 offers improved welding performance through higher deposition rates and better wet-in than solid wire. In addition, weld toe lines are almost completely free of silicon deposits which will save time and money by eliminating troublesome cleanup and part preparation. With excellent mechanical properties, Metalloy Vantage D2 was developed for high-strength, low alloy steels found in heavy equipment and structural applications. Metalloy Vantage D2 is recommended for single-pass and multi-pass welding with Ar/CO<sub>2</sub> and Ar/O<sub>2</sub> shielding gas. Arc characteristics improve with richer argon gases while spatter and fume levels decrease.

**PRODUCT CHARACTERISTICS:**

- Weld toe lines are almost completely free of silicon deposits
- Exceptionally clean weld beads with minimal silicon islands
- High deposition rates and travel speeds compared to solid wire
- Better wetting compared to solid wire
- Single or multi-pass welding

**SPECIFICATIONS:**

E90C-D2 per AWS A5.28

**SHIELDING GAS:**

- 95%-98% Ar balance O<sub>2</sub>
- 75%-95% Ar balance CO<sub>2</sub>

**WELDING POSITIONS:**

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

**STANDARD DIAMETERS:**

.045", .052"

**WELD TEST PARAMETERS:**

Metalloy Vantage D2 .045" diameter electrode was welded using 98% Ar/2% O<sub>2</sub> and 90% CO<sub>2</sub>/10% CO<sub>2</sub> shielding gas with a flow rate of 50 cfh, 290 amps (490 ipm), DCEP, and 27 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	Mo
98% Ar/2% O <sub>2</sub>	0.05	1.47	0.48	0.45
90% Ar/10% CO <sub>2</sub>	0.06	1.36	0.43	0.45

**TYPICAL DIFFUSIBLE HYDROGEN:** 2.0 ml/100g

**TYPICAL MECHANICAL PROPERTIES:**

	98% Ar/2% O <sub>2</sub>	90% Ar/10% CO <sub>2</sub>
Tensile Strength	99,400 psi (685 MPa)	97,900 psi (675 MPa)
Yield Strength	91,600 psi (631 MPa)	90,200 psi (622 MPa)
Elongation	21.8%	18.5%
CVN @ -20°F (-29°C)	50 ft•lbs (68 J)	45 ft•lbs (61 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 A5.28 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 98% Ar/2% O<sub>2</sub> shielding gas at a flow rate of 50 cfh.

Diameter, Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.045" 5/8" ± 1/8" Flat and Horizontal	24	200	265	5.9
	<b>25</b>	<b>250</b>	<b>385</b>	<b>9.2</b>
	26	300	500	12.9
	28	350	630	16.4
.052" 5/8" ± 1/8" Flat and Horizontal	25	250	260	7.9
	26	275	305	9.6
	<b>28</b>	<b>300</b>	<b>340</b>	<b>11.2</b>
	30	350	425	14.5
	31	400	500	18.1

**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.