

METALLOY[®] VANTAGE[™] D2



AWS A5.28: E90C-D2

WELDING POSITIONS:



FEATURES:

- Virtually no silicon deposits at weld bead toe lines
- Excellent gap bridging capabilities
- Higher deposition rates and travel speeds than solid wire

BENEFITS:

- Reduces clean-up time, minimizes risk of inclusions
- Minimizes burn-through, reduces part rejection
- Increases productivity, more parts per hour

APPLICATIONS:

- High-strength low-alloy steels
- Heavy equipment fabrication
- Single or multiple-pass welding

WIRE TYPE: Gas shielded, metal powder, metal cored wire

SHIELDING GAS: 95-98% Argon (Ar)/Balance Oxygen (O₂), 75-95% Argon (Ar)/Balance Carbon Dioxide (CO₂)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.045" (1.2 mm), 0.052" (1.4 mm), 1/16" (1.6 mm)

RE-DRYING: Not recommended

STORAGE: Product should be stored in a dry, enclosed environment, and in its original intact packaging

TYPICAL WELD METAL CHEMISTRY* (Chem Pad):

Weld Metal Analysis	98% Ar/2% O ₂	90% Ar/10% CO ₂	AWS Spec
Carbon (C)	0.05	0.05	0.012
Manganese (Mn)	1.50	1.45	1.00-1.90
Silicon (Si)	0.50	0.45	0.90
Phosphorus (P)	0.009	0.009	0.25
Sulphur (S)	0.012	0.012	0.03
Copper (Cu)	0.05	0.05	0.50
Molybdenum (Mo)	0.50	0.45	0.40-0.60

Note: AWS specification single values are maximums.

TYPICAL MECHANICAL PROPERTIES* [Aged 24 Hrs. @ 200°F (93°C)]:

Mechanical Tests	98% Ar/2% O ₂	90% Ar/10% CO ₂	AWS Spec
Tensile Strength	98,000 psi (676 MPa)	107,000 psi (740 MPa)	90,000 psi (620 MPa) Minimum
Yield Strength	90,000 psi (621 MPa)	95,000 psi (655 MPa)	78,000 psi (540 MPa) Minimum
Elongation % in 2" (50 mm)	25%	22%	17% Minimum

TYPICAL CHARPY V-NOTCH IMPACT VALUES* (As Welded):

CVN Temperatures	98% Ar/2% O ₂	90% Ar/10% CO ₂	AWS Spec
CVN @-20°F (-30°C)	55 ft•lbs (75 Joules)	45 ft•lbs (61 Joules)	20 ft•lbs (27 Joules) Minimum

*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 are those 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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Diameter		Weld Position	Amps	Volts	Wire Feed Speed		Deposition Rate		Contact Tip to Work Distance	
Inches	(mm)				in/min	(m/min)	lbs/hr	(kg/hr)	Inches	(mm)
0.045	(1.2)	Flat & Horizontal	200	25	210	(5.3)	5.5	(2.5)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	250	26	300	(7.6)	8.0	(3.6)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	300	27	430	(10.9)	11.7	(5.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	28	570	(14.5)	15.5	(7.0)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	250	26	245	(6.2)	8.1	(3.7)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	300	27	375	(9.5)	12.6	(5.7)	1	(25)
0.052	(1.4)	Flat & Horizontal	350	28	485	(12.3)	16.6	(7.5)	1	(25)
0.052	(1.4)	Flat & Horizontal	400	29	580	(14.7)	20.0	(9.1)	1	(25)
1/16	(1.6)	Flat & Horizontal	300	26	215	(5.5)	10.4	(4.7)	1	(25)
1/16	(1.6)	Flat & Horizontal	350	27	265	(6.7)	13.0	(5.9)	1	(25)
1/16	(1.6)	Flat & Horizontal	400	28	335	(8.5)	16.5	(7.5)	1	(25)
1/16	(1.6)	Flat & Horizontal	450	29	399	(10.1)	19.7	(8.9)	1	(25)

- **Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.**
- **See Above:** This information was determined by welding using 98% Argon (Ar)/2% Oxygen (O₂) shielding gas with a flow rate between 35-50 cfh (14-24 l/min).

STANDARD DIAMETERS AND PACKAGES: For a complete list of diameters and packaging, please contact Hobart Brothers at (800) 424-1543, or (937) 332-5188 for International Customer Service.

Diameter		50-lb. (22.7kg)	400-lb. (181.4kg)
Inches	(mm)	Spool	X-Pak Drum
0.045	(1.2)	S289612-K27	S289612-K64
0.052	(1.4)	S289615-K27	S289615-K64
1/16	(1.6)	S289619-K27	—

CONFORMANCES AND APPROVALS:

- **AWS A5.28**, E90C-D2
- **AWS A5.28M**, E62C-D2
- **ASME SFA 5.28**, E90C-D2

CAUTION:

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

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service or at www.hobartbrothers.com.

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