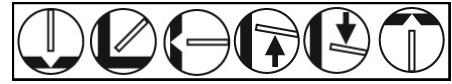


FabCOR[®] 80D2



AWS A5.28: E90C-D2

WELDING POSITIONS:



FEATURES:

- Improved deposition rates compared to E80S-D2 solid wire
- Good wetting characteristics
- All-position capability with pulsed-spray transfer

BENEFITS:

- Increases productivity, produces more parts per hour
- Assists in producing smooth weld beads with uniform fusion
- Increases productivity, reduces clean-up time

APPLICATIONS:

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

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

SHIELDING GAS: 95-99% Argon (Ar)/Balance Oxygen (O₂), 75-95% Argon (Ar)/Balance Carbon Dioxide (CO₂), 35-50 cfh (17-24 l/min)

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 packaging

TYPICAL WELD METAL CHEMISTRY* (Chem Pad):

Weld Metal Analysis (%)	90% Ar/10% CO ₂	95% Ar/5% O ₂	AWS Spec
Carbon (C)	0.08	0.08	0.12
Manganese (Mn)	1.80	1.34	1.00-1.90
Silicon (Si)	0.66	0.53	0.90
Phosphorus (P)	0.005	0.003	0.025
Sulphur (S)	0.008	0.006	0.030
Molybdenum (Mo)	0.50	0.50	0.40-0.60
Copper (Cu)	0.02	0.02	0.35

Note: AWS specification single values are maximums.

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	90% Ar/10% CO ₂	95% Ar/5% O ₂	AWS Spec
Tensile Strength	106,000 psi (731 MPa)	105,000 psi (724 MPa)	90,000 psi (620 MPa) Minimum
Yield Strength	98,000 psi (676 MPa)	96,000 psi (662 MPa)	78,000 psi (540 MPa) Minimum
Elongation % in 2" (50 mm)	19%	17%	17% Minimum

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

CVN Temperatures	90% Ar/10% CO ₂	95% Ar/5% O ₂	AWS Spec
Avg. at -20°F (-30°C)	42 ft•lbs (57 Joules)	40 ft•lbs (54 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 LLC expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the 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 LLC.

FabCOR[®] 80D2

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	24	220	(5.6)	5.5	(3.2)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	250	25	305	(7.7)	8.0	(3.2)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	300	27	445	(11.3)	12.0	(4.7)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	29	570	(14.5)	15.6	(4.7)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	250	25	205	(5.2)	7.2	(3.3)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	300	27	315	(8.0)	13.0	(5.1)	1	(25)
0.052	(1.4)	Flat & Horizontal	350	29	410	(10.4)	14.9	(6.8)	1	(25)
0.052	(1.4)	Flat & Horizontal	400	30	520	(13.2)	19.1	(8.7)	1	(25)
1/16	(1.6)	Flat & Horizontal	250	24	155	(3.9)	7.1	(3.2)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	300	25	220	(5.6)	10.3	(4.7)	1	(25)
1/16	(1.6)	Flat & Horizontal	350	27	275	(7.0)	13.0	(5.9)	1	(25)
1/16	(1.6)	Flat & Horizontal	400	28	350	(8.9)	16.6	(7.6)	1	(25)
1/16	(1.6)	Flat & Horizontal	450	29	420	(10.7)	20.1	(9.1)	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.**
- **Pulse waveforms are designed with nominal operating points that may result in average voltage and current values that differ from the above table. Generally, pulse processes can be expected to produce lower heat inputs than a standard CV process.**
- **For out of position welding, short circuit or pulsed spray transfer mode must be used.**
- **See Above:** This information was determined by welding using 90% Ar/10% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 l/min). For the higher CO₂ shielding gas mixtures within the recommended range, increase listed voltages by 1-3 volts. When welding using the 95-99% Ar/Balance O₂ shielding gas requirements of AWS A5.28/ A5.28M, decrease listed voltages by 1-2 volts.

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	33-lb. (15kg)	50-lb. (22.7kg)	500-lb. (226.8kg)	1000-lb. (453.6kg)
Inches (mm)	Spool	Spool	X-Pak	X-Pak
Net Pallet Weight	2376-lb. (1078kg)	1600-lb. (726kg)	2000-lb. (907kg)	1000-lb. (453.6kg)
0.045 (1.2)	S281212-029	S281212-027	S281212-050	—
0.052 (1.4)	—	—	—	S281215-058
1/16 (1.6)	—	—	—	S281219-058

CONFORMANCES AND APPROVALS:

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

TECHNICAL QUESTIONS? For technical support of Hobart Filler Metals products, contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at Applications.Engineering@hobartbrothers.com

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, 8669 NW 36th St., Miami, FL 33166 (can also be downloaded online at www.aws.org); OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

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

Because Hobart Brothers LLC is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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