

FabCOR[®] 100



AWS A5.28: E100C-K3 H4

WELDING POSITIONS:



FEATURES:

- Metal-cored wire provides higher deposition rate than solid wire electrodes
- Excellent low-temperature toughness
- All-position capable using short-circuit or pulsed-spray transfers
- High-strength deposit

BENEFITS:

- Helps increase travel speed and improve productivity
- Helps minimize risk of cracking in critical applications
- Provides versatility; minimizes the need for multiple wires
- Suitable for use on a wide range of high-strength low-alloy materials

APPLICATIONS:

- Single or multi-pass welding
- ASTM A514 (>2" Thickness)
- High-Strength Low-Alloy Steels
- Heavy equipment
- HY-80 Steel
- Shipbuilding

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

SHIELDING GAS: 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)

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	80 Ar/20% CO ₂	90% Ar/10% CO ₂	95% Ar/5% CO ₂	AWS Spec
Carbon (C)	0.058	0.07	0.08	0.15
Manganese (Mn)	1.29	1.51	1.69	0.75-2.25
Silicon (Si)	0.30	0.29	0.48	0.80
Phosphorus (P)	0.013	0.013	0.007	0.025
Sulphur (S)	0.016	0.008	0.010	0.025
Nickel (Ni)	1.55	1.58	1.68	0.50-2.50
Chromium (Cr)	0.07	0.05	0.04	0.15
Molybdenum (Mo)	0.35	0.37	0.37	0.25-0.65

Note: AWS specification single values are maximums.

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	80 Ar/20% CO ₂	90% Ar/10% CO ₂	95% Ar/5% CO ₂	AWS Spec
Tensile Strength	105,000 psi (724 MPa)	110,000 psi (758 MPa)	130,000 psi (896 MPa)	100,000 psi (690 MPa) Minimum
Yield Strength	97,000 psi (669 MPa)	105,000 psi (724 MPa)	120,000 psi (827 MPa)	88,000 psi (610 MPa) Minimum
Elongation % in 2" (50 mm)	21%	21%	20%	16% Minimum

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

CVN Temperatures	80 Ar/20% CO ₂	90% Ar/10% CO ₂	95% Ar/5% CO ₂	AWS Spec
CVN @-40°F (-40°C)	39 ft•lbs (53 Joules)	50 ft•lbs (68 Joules)	—	Not specified
CVN @-60°F (-50°C)	38 ft•lbs (52 Joules)	44 ft•lbs (59 Joules)	44 ft•lbs (59 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.

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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	27	245	(6.2)	5.9	(2.7)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	32	455	(11.6)	12.0	(5.4)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	35	580	(14.7)	15.2	(6.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	250	28	295	(7.5)	6.6	(4.1)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	350	32	515	(13.1)	8.8	(7.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	400	34	635	(16.1)	11.6	(9.8)	3/4	(19)

- **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 75% Ar/25% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 l/min). For the lower CO₂ shielding gas mixtures within the recommended range, reduce listed voltages by 1-3 volts.
- **All positions include:** Flat, Horizontal, Vertical Up, and Overhead.

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 Inches (mm)	33-lb. (15kg) Spool
Net Pallet Weight	2376-lb. (1078kg)
0.045 (1.2)	S280112-029
0.052 (1.4)	S280115-029

CONFORMANCES AND APPROVALS:

- **AWS A5.28**, E100C-K3 H4
- **AWS A5.28M**, E69C-K3 H4
- **ASME SFA 5.28**, E100C-K3 H4

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.

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