

FabCOR[®] 80N2



AWS A5.28: E80C-Ni2 H4

WELDING POSITIONS:



FEATURES:

- Excellent low-temperature impact toughness
- Provides higher deposition rates than solid wire
- Can be used with a wide range of shielding gas mixtures
- Smooth and stable arc
- Can be used out-of-position with pulse-spray or short-circuit transfers

BENEFITS:

- Minimizes risk of cracking in critical applications
- Helps increase travel speeds and productivity
- Provides versatility during procedure development
- Assists producing welds of consistent appearance and quality
- Helps to eliminate or reduce the use of multiple products on a complex part

APPLICATIONS:

- Single or multi-pass welding
- Shipbuilding
- Low-service temperature
- Offshore
- Heavy equipment
- Pressure/Storage vessels
- Structural fabrication
- Weathering steels

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

SHIELDING GAS: 85-90% Argon (Ar)/Balance Carbon Dioxide (CO₂), 95-99% Argon (Ar)/Balance Oxygen (O₂), 35-50 cfh (17-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.045" (1.2 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 (%)	85% Ar/15% CO ₂	98% Ar/2% O ₂	AWS Spec
Carbon (C)	0.05	0.06	0.12
Manganese (Mn)	1.08	1.08	1.50
Silicon (Si)	0.46	0.48	0.90
Phosphorus (P)	0.008	0.009	0.025
Sulphur (S)	0.011	0.013	0.030
Nickel (Ni)	2.48	2.48	1.75-2.75

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN:

Hydrogen Equipment	85% Ar/15% CO ₂	98% Ar/2% O ₂	AWS Spec
(GAS CHROMATOGRAPHY)	1.8 ml/100g	3.0 ml/100g	4.0 ml/100g Maximum

TYPICAL MECHANICAL PROPERTIES* [PWHT 1 Hr. @ 1150°F (620°C)]:

Mechanical Tests	85% Ar/15% CO ₂	98% Ar/2% O ₂	AWS Spec
Tensile Strength	85,000 psi (586 MPa)	95,000 psi (655 MPa)	80,000 psi (550 MPa) Minimum
Yield Strength	70,000 psi (480 MPa)	83,000 psi (483 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2" (50 mm)	24%	24%	24% Minimum

TYPICAL CHARPY V-NOTCH IMPACT VALUES* [PWHT 1 Hr. @ 1150°F (620°C)]:

CVN Temperatures	85% Ar/15% CO ₂	98% Ar/2% O ₂	AWS Spec
Avg. at -80°F (-60°C)	30 ft•lbs (41 Joules)	35 ft•lbs (47 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	240	(6.1)	5.9	(2.7)	5/8	(16)
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	570	(14.5)	15.2	(6.9)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	275	24	165	(4.2)	7.9	(3.6)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	375	28	300	(7.6)	14.6	(6.6)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	450	32	440	(11.2)	21.1	(9.6)	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.**
- **For out of position welding, short circuit or pulsed spray transfer mode must be used.**
- **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 (17-24 l/min). When welding using 85-90% Argon (Ar)/Balance Carbon Dioxide (CO₂) shielding gas, increase voltage by approximately 1 volt.

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)	60-lb. (27.2kg)
Inches (mm)	Spool	Coil
Net Pallet Weight	2376-lb. (1078kg)	1920-lb. (871kg)
0.045 (1.2)	S281412-029	—
1/16 (1.6)	—	S281419-002

CONFORMANCES AND APPROVALS:

- **AWS A5.28**, E80C-Ni2 H4
- **AWS A5.28M**, E55C-Ni2 H4
- **ASME SFA 5.28**, E80C-Ni2 H4
- **CWB**, 85% Ar/15% CO₂, 98% Ar/2% O₂, E55C-Ni2 H4/E80C-Ni2 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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