

MEGAFIL[®] 240 M



AWS A5.28: E80C-Ni1

WELDING POSITIONS:



FEATURES:

- Unique seamless wire manufacturing process
- Seamless wire provides low moisture pick-up and weld metal hydrogen
- Excellent low-temperature impact toughness
- Metal-cored electrode capable of providing increased deposition rates than solid wire
- Excellent wetting and gap-bridging capabilities

BENEFITS:

- Provides very consistent chemical and mechanical properties
- Minimizes risk of hydrogen cracking, even after considerable atmospheric exposure
- Minimizes risk of cracking in many critical applications
- Helps to increase travel speed and productivity
- Suitable for use with automated/mechanized equipment, and root-pass welds without backing

APPLICATIONS:

- Single or multi-pass welding
- Structural fabrication
- Storage vessels
- Robotic or mechanized welding
- Bridge fabrication
- Pressure vessels
- Heavy equipment
- Shipbuilding
- Weathering steels (ex. ASTM A588)

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)

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 (%)	95% Ar/5% O ₂	80% Ar/20% CO ₂	AWS Spec
Carbon (C)	0.05	0.041	0.12
Manganese (Mn)	0.97	1.23	1.50
Silicon (Si)	0.44	0.50	0.90
Phosphorus (P)	0.005	0.005	0.030
Sulphur (S)	0.017	0.014	0.030
Nickel (Ni)	0.88	0.88	0.80-1.10
Copper (Cu)	0.11	0.11	0.50

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	95% Ar/5% O ₂	80% Ar/20% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	1.6 ml/100 g	1.5 ml/100 g	4.0 ml/100 g Maximum

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	95% Ar/5% O ₂	80% Ar/20% CO ₂	AWS Spec
Tensile Strength	86,000 psi (593 MPa)	83,000 psi (572 MPa)	80,000 psi (550 MPa) Minimum
Yield Strength	79,000 psi (544 MPa)	72,000 psi (496 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2" (50 mm)	25%	27%	24% Minimum

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

CVN Temperatures	95% Ar/5% O ₂	80% Ar/20% CO ₂	AWS Spec
Avg. at -50°F (-45°C)	60 ft•lbs (81 Joules)	84 ft•lbs (114 Joules)	20 ft•lbs (27 Joules) Minimum
Avg. at -76°F (-60°C)	45 ft•lbs (61 Joules)	63 ft•lbs (85 Joules)	Not specified

*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	175	25	135	(3.4)	3.4	(1.6)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	200	25	210	(6.1)	5.5	(2.5)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	250	26	300	(7.6)	8.0	(3.6)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	28	430	(10.9)	11.7	(5.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	29	570	(14.5)	15.5	(7.0)	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.**
- **For out of position welding, short circuit or pulsed spray transfer mode must be used.**
- **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.**
- **See Above:** This information was determined by welding using 95% Ar/5% 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.

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	11-lb. (5kg)	35-lb. (15.9kg)
Inches (mm)	Spool	Spool
Net Pallet Weight	2640-lb. (1197kg)	2240-lb. (1016kg)
0.045 (1.2)	24012B	24015B

CONFORMANCES AND APPROVALS:

- **AWS A5.28**, E80C-Ni1 H4
- **AWS A5.28M**, E55C-Ni1 H4
- **ASME SFA 5.28**, E80C-Ni1 H4
- **DNV-GL**, 75-80% Ar/Balance CO₂, IV Y46MS (H5)
- **CWB**, 75-80% Ar, Balance CO₂, E55C-Ni1-H4 (E80C-Ni1-H4)

TECHNICAL QUESTIONS? For technical support of Hobart MEGAFIL products, visit www.HobartBrothers.com/MEGAFIL OR 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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