

MEGAFIL[®] 1100 M



AWS A5.28: E120C-G H4
EN 18276: T 89 4 ZMn2NiCrMo M M21 1 H5

WELDING POSITIONS:



FEATURES:

- Unique seamless wire manufacturing process
- Metal-cored wire that provides higher deposition rates than solid wires
- Seamless wire provides low hydrogen electrode wire very low moisture pick-up
- Very high tensile strength weld deposit
- Excellent wetting and gap-bridging capabilities
- Can be used out of position with pulse-capable welding

BENEFITS:

- Provides very consistent chemical and mechanical properties
- Allows increased travel speeds and productivity
- Minimizes risk of hydrogen cracking, even after considerable atmospheric exposure
- Suitable for many quench & temper (Q&T) and high-strength low-alloy (HSLA) steels
- Suitable for use in automated and mechanized applications, as well as root-pass welding without use of backing
- Minimizes the number of products required for complex weldments

APPLICATIONS:

- Single and multi-pass welding
- Offshore
- ~120 KSI (830 MPa) HSLA steels
- Automatic or mechanized welding
- Pipeline
- ~120 KSI (830 MPa) Q&T steels
- Heavy equipment
- Pressure vessels
- API X120 (with proper procedures)

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

SHIELDING GAS: 75-85% 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 PROPERTIES* (Chem Pad):

Weld Metal Analysis (%)	80% Ar/20% CO ₂	AWS Spec
Carbon (C)	0.07	Not Specified
Manganese (Mn)	1.50	Not Specified
Silicon (Si)	0.35	Not Specified
Phosphorus (P)	0.015	Not Specified
Sulphur (S)	0.015	Not Specified
Nickel (Ni)	2.60	0.50 ‡
Chromium (Cr)	0.50	0.30 ‡
Molybdenum (Mo)	0.55	0.20 ‡
Vanadium (V)	0.01	Not Specified
Copper (Cu)	0.13	Not Specified

‡Note: AWS A5.28/A5.28M requires at least one (but not all) of the elements noted to meet the minimum composition values

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	80% Ar/20% CO ₂	AWS Spec
(GAS CHROMATOGRAPHY)	2.52 ml/100 g	4.0 ml/100 g Maximum

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	80% Ar/20% CO ₂	AWS Spec
Tensile Strength	139,000 psi (958 MPa)	120,000 psi (830 MPa) Minimum
Yield Strength	128,000 psi (883 MPa)	Not Specified
Elongation % in 2" (50 mm)	15%	Not Specified

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

CVN Temperatures	80% Ar/20% CO ₂	AWS Spec
Avg. at -40°F (-40°C)	41 ft•lbs (55 Joules)	Not Specified
Avg. at -60°F (-50°C)	32 ft•lbs (43 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	200	25	235	(6.0)	5.3	(2.4)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	250	26	310	(7.9)	7.5	(3.4)	5/8	(16)
0.045	(1.2)	Flat & Horizontal	300	28	465	(11.8)	11.6	(5.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	30	595	(15.1)	15.1	(6.8)	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.**
- **See Above:** The information above was determined by welding using 80% Ar/20% 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	35-lb. (16kg) Spool
Inches (mm)	
Net Pallet Weight	2240-lb. (1016kg)
0.045 (1.2)	11015B

CONFORMANCES AND APPROVALS:

- AWS A5.28, E120C-G H4
- AWS A5.28M, E83C-G H4
- ASME SFA 5.28, E120C-G H4
- EN 18276: T 89 4 ZMn2NiCrMo M M21 1 H5

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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Revision Date: 231128 (Replaces 201002)

