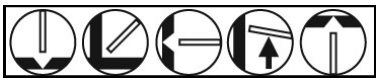
FabCO® 812-Ni1M

AWS A5.29: E81T1-Ni1 MJ H4

WELDING POSITIONS:



FEATURES:

- Excellent low-temperature impact toughness
- Consistently maintains good mechanical properties and toughness following extended post-weld stress-relief
- Weld deposit contains less than 1% Nickel and less than 248 HV10 hardness
- Low diffusible hydrogen electrode with low moisture pickup

BENEFITS:

- Minimizes risk of cracking in all critical applications
- Suitable for use in critical applications requiring the use stress-relief
- Meets NACE requirements demanded by many oil & gas applications
- Can minimize preheat requirements and risk of hydrogen induced cracking, even after electrode exposure

APPLICATIONS:

- Non-alloyed and fine grain steels
- Single or multi-pass welding
- Offshore drilling rigs
- Jackup rig fabrication
- Transmission and process piping
- Shipbuilding

SLAG SYSTEM: Fast-freezing, rutile-type, flux-cored wire

SHIELDING GAS: 75-80% Argon (Ar)/Balance Carbon Dioxide (CO_2), 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 (%)	75% Ar/25% CO_2	AWS Spec
Carbon (C)	0.07	0.12
Manganese (Mn)	1.36	1.50
Silicon (Si)	0.31	0.90
Sulphur (S)	0.008	0.030
Phosphorus (P)	0.009	0.030
Nickel (Ni)	0.85	0.80-1.10
Boron (B)	0.0032	Not specified

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	75% Ar/25% CO_2		AWS Spec
	As Received	24 Hr. Exposure	
(GAS CHROMATOG-	3.4 ml/100 g	3.7 ml/100 g	4.0 ml/100 g Maximum

Note: AWS Specification single values are maximums

TYPICAL MECHANICAL PROPERTIES*:

Mechanical Tests	As Welded		PWHT 8 Hrs @ 1150°F (620°C)	
	75% Ar/25% CO_2	AWS Spec	75% Ar/25% CO_2	AWS Spec
Tensile Strength	93,000 psi (640 MPa)	80,000 - 100,000 psi (550-690 MPa)	82,000 psi (566 MPa)	Not specified
Yield Strength	80,000 psi (552 MPa)	68,000 psi (470 MPa) Minimum	73,000 psi (504 MPa)	Not specified
Elongation % in 2" (50 mm)	24%	19% Minimum	28%	Not specified

TYPICAL CHARPY V-NOTCH IMPACT VALUES*:

CVN Temperatures	As Welded		PWHT 8 Hrs @ 1150°F (620°C)	
	75% Ar/25% CO_2	AWS Spec	75% Ar/25% CO_2	AWS Spec
Avg. at -40°F (-40°C)	90 ft•lbs (121 Joules)	20 ft•lbs (27 Joules) Minimum "J" Requirement	80 ft•lbs (108 Joules)	Not specified
Avg. at -50°F (-45°C)	82 ft•lbs (108 Joules)	Not specified	70 ft•lbs (95 Joules)	Not specified
Avg. at -76°F (-60°C)	60 ft•lbs (81 Joules)	Not specified	45 ft•lbs (60 Joules)	Not specified

Hobart Brothers LLC • 101 Trade Square East • Troy, OH 45373
PH: (800) 424-1543 • FX: 800-541-6607 • www.hobartbrothers.com

FabCO® 812-Ni1M

Diameter Inches	(mm)	Weld Position	Amps	Volts	Wire-Feed Speed in/min	(m/min)	Deposition Rate lbs/hr	(kg/hr)	Contact Tip to Work Distance Inches	(mm)
0.045	(1.2)	All Position	125	24	180	(4.5)	3.3	(1.5)	3/4	(19)
0.045	(1.2)	All Position	200	24	340	(8.6)	6.3	(2.8)	3/4	(19)
0.045	(1.2)	All Position	230	24	430	(10.8)	7.2	(3.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	280	25	450	(11.4)	8.6	(3.8)	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.**
- **See Above:** This information was determined by welding using 75% Ar/25% CO_2 shielding gas with a flow rate between 35-50 cfh (17-24 l/min).
- **All positions include:** Flat, Horizontal, Vertical Up, and Overhead.

AVAILABLE 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
0.045	(1.2)	S298012-053

CONFORMANCES AND APPROVALS:
- **AWS A5.29,** E81T1-Ni1 M H4
- **AWS A5.29M,** E551T1-Ni1 M H4
- **ASME SFA 5.29,** E81T1-Ni1 M H4
- **ABS,** 75% Ar/25% CO_2, 5Y400 H5
- **DNV-GL,** 75% Ar/25% CO_2, IV Y46MS(H5),PWHT 2.5Hrs @ 1058°F (570°C)

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.

Revision Date: 240422 (Replaces 190509)

HOBART FILLER METALS