TM-81B2

TRI-MARK® By HOBART FILLER METALS

AWS A5.29: E80T1-B2C

WELDING POSITIONS:

FEATURES:

- Nominal 1-1/4% Chromium - 1/2% Molybdenum weld deposit chemistry
- Performance optimized for the flat and horizontal weld positions
- Large-diameter electrodes available
- Good creep resistance
- Low spatter level

BENEFITS:

- Higher productivity alternative to E8018-B2 stick (SMAW) electrodes in many applications
- Improves operator appeal, helps maintain consistent weld quality and appearance
- Capable of operating at high amperages, and providing high deposition rates to increase productivity
- Helps extend component service life; maintains acceptable tensile strength at elevated temperatures
- Reduces clean-up time, helps increase productivity

APPLICATIONS:

- 1-1/4% Cr & 1/2% Mo Steels
- Power generation industries
- High service-temperature applications
- Single and multi-pass welding

SLAG SYSTEM: Slow-freezing, rutile-type, flux-cored electrode

SHIELDING GAS: 100% Carbon Dioxide (CO_2), 35-50 cfh (17-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 3/32" (2.4 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 (%)	100% CO_2	AWS Spec
Carbon (C)	0.06	0.05-0.12
Manganese (Mn)	0.65	1.25
Phosphorus (P)	0.01	0.030
Sulphur (S)	0.01	0.030
Silicon (Si)	0.29	0.80
Chromium (Cr)	1.34	1.00-1.50
Molybdenum (Mo)	0.51	0.40-0.65

Note: AWS specification single values are maximums.

TYPICAL MECHANICAL PROPERTIES*:

Mechanical Tests	PWHT 1 Hr. @ 1275°F (690°C)		PWHT 6 Hrs. @ 1325°F (720°C)	
	100% CO_2	AWS Spec	100% CO_2	AWS Spec
Tensile Strength	94,000 psi (648 MPa)	80,000-100,000 psi (550-690 MPa)	85,000 psi (586 MPa)	Not specified
Yield Strength	81,000 psi (558 MPa)	68,000 psi (470 MPa) Minimum	71,000 psi (490 MPa)	Not specified
Elongation % in 2" (50 mm)	20%	19% Minimum	23%	Not specified

TYPICAL CHARPY V-NOTCH IMPACT VALUES*: Not required

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

TM-81B2

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)
3/32	(2.4)	Flat & Horizontal	150	27	100	(2.5)	4.0	(1.8)	1	(25)
3/32	(2.4)	Flat & Horizontal	425	30	195	(5.0)	14.6	(6.6)	1-1/4	(32)
3/32	(2.4)	Flat & Horizontal	600	38	290	(7.4)	22.8	(10.3)	1-1/4	(32)

- **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 100% Carbon Dioxide (CO_2) shielding gas with a flow rate between 35-50 cfh (17-24 l/min).

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)	60-lb. (27.2kg) Coil
3/32	(2.4)	S284129-K02

CONFORMANCE AND APPROVALS:
- **AWS A5.29,** E80T1-B2C
- **AWS A5.29M,** E550T1-B2C
- **ASME SFA 5.29,** E80T1-B2C

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, 550 NW LeJune Road, Miami, FL 33126; OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service or at www.hobartbrothers.com.

Revision Date: 131125 (Replaces 091218)