

# FabCO<sup>®</sup> 811B2



AWS A5.29: E81T1-B2C H8, E81T1-B2M H8

## WELDING POSITIONS:



## FEATURES:

- Suitable replacement for E8018-B2
- Fast-freezing slag
- Designed with nominal 1.25% chromium & 0.5% molybdenum contents

## BENEFITS:

- Increases productivity
- Suitable for all-position welding
- Maintains tensile strength at high service temperature, provides good creep resistance

## APPLICATIONS:

- Single or multi-pass welding
- 1-1/4% Cr 1/2% Mo Steels
- P11 pipe
- High temperature applications

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

**SHIELDING GAS:** 100% Carbon Dioxide (CO<sub>2</sub>), 75% Argon (Ar)/25% Carbon Dioxide (CO<sub>2</sub>) 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 intact packaging

## TYPICAL WELD METAL CHEMISTRY\* (Chem Pad):

Weld Metal Analysis (%)	100% CO <sub>2</sub>	75% Ar/25% CO <sub>2</sub>	AWS Spec
Carbon (C)	0.05	0.07	0.05 - 0.12
Manganese (Mn)	0.63	0.62	1.25
Phosphorus (P)	0.011	0.010	0.030
Sulphur (S)	0.011	0.008	0.030
Silicon (Si)	0.50	0.48	0.80
Chromium (Cr)	1.46	1.38	1.00 - 1.50
Molybdenum (Mo)	0.55	0.52	0.40 - 0.65

**Note:** AWS specification single values are maximums.

## TYPICAL DIFFUSIBLE HYDROGEN\*:

Hydrogen Equipment	100% CO <sub>2</sub>	75% Ar/25% CO <sub>2</sub>	AWS Spec
(GAS CHROMATOGRAPHY)	5.2 ml/100g	6.5 ml/100g	8.0 ml/100g Maximum

## TYPICAL MECHANICAL PROPERTIES\* (PWHT 1 Hr. @1275°F [690°C]):

Mechanical Tests	100% CO <sub>2</sub>	75% Ar/25% CO <sub>2</sub>	AWS Spec
Tensile Strength	96,000 psi (661 MPa)	99,000 psi (685 MPa)	80,000-100,000 psi (550-690 MPa)
Yield Strength	85,000 psi (584 MPa)	83,000 psi (573 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2" (50 mm)	22%	21%	19% Minimum

**TYPICAL CHARPY V-NOTCH IMPACT VALUES\*:** Not required

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the AWS A5.29 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 Company.

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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	175	24	285	(7.2)	5.1	(2.3)	5/8	(16)
0.045	(1.2)	All Position	200	26	340	(8.6)	6.4	(2.9)	5/8	(16)
0.045	(1.2)	All Position	225	27	400	(10.2)	7.6	(3.4)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	250	28	480	(12.2)	9.2	(4.2)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	30	640	(16.3)	12.9	(5.9)	3/4	(19)
1/16	(1.6)	All Position	200	24	155	(3.9)	5.6	(2.5)	3/4	(19)
1/16	(1.6)	All Position	250	26	210	(5.3)	7.0	(3.2)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	300	28	270	(6.9)	9.2	(4.2)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	350	29	345	(8.8)	12.5	(5.7)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	400	33	435	(11.0)	15.7	(7.1)	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 100% CO<sub>2</sub> shielding gas with a flow rate between 35-50 cfh (17-24 l/min). When using 75% Ar/25% CO<sub>2</sub> shielding gas, reduce voltage by 1 volt.
- **All positions include:** Flat, Horizontal, Vertical Up, and Overhead.

**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 In. (mm)		33-lb. (15kg) Spool	60-lb. (27.2kg) Coil
0.045	(1.2)	S283512-029	—
1/16	(1.6)	S283519-029	S283519-002

## CONFORMANCES AND APPROVALS:

- **AWS A5.29**, E81T1-B2C H8, E81T1-B2M H8
- **AWS A5.29M**, E551T1-B2C H8, E551T1-B2M H8
- **ASME SFA 5.29**, E81T1-B2C H8, E81T1-B2M H8
- **CWB**, 100% CO<sub>2</sub>, E551T1-B2C (E81T1-B2C)

**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](mailto: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](http://www.aws.org)); 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](http://www.hobartbrothers.com).

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