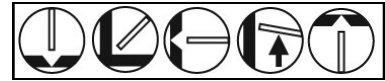


# FabCO<sup>®</sup> Element<sup>™</sup> 81K2M



AWS A5.29: E81T1-GM H8

WELDING POSITIONS:



**FEATURES:**

- Enhanced out of positional capability
- Low spatter and fume
- Extremely low manganese emissions
- Enhanced slag release

**BENEFITS:**

- Increased operator appeal
- Improved operator comfort and productivity
- Assists with conformance to environmental regulations
- Reduced clean-up time and risk of inclusions

**APPLICATIONS:**

- Shipbuilding
- Heavy equipment
- Structural steel
- General fabrication

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

**SHIELDING GAS:** 75% Argon (Ar)/25% Carbon Dioxide (CO<sub>2</sub>) 35-50 cfm (14-24 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	75% Ar/25% CO <sub>2</sub>	AWS Spec (EXXTX-K2X)
Carbon (C)	0.071	0.150
Manganese (Mn)**	0.401	0.500-1.750
Silicon (Si)	0.559	0.800
Sulphur (S)	0.010	0.030
Phosphorus (P)	0.010	0.030
Nickel (Ni)	1.887	1.00-2.00
Chromium (Cr)	0.035	0.150
Molybdenum (Mo)	0.004	0.350
Vanadium (V)	0.007	0.050

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

\*\* This product meets all requirements of the EXXTX-K2X classification except for the manganese content of the weld deposit. Due to this, the product must be classified as E81T1-GM. The specification requirements of the EXXTX-K2X classification are provided for reference purposes only.

**TYPICAL DIFFUSIBLE HYDROGEN\*:**

Hydrogen Equipment	75% Ar/25% CO <sub>2</sub>	AWS Spec
(GAS CHROMATOGRAPHY)	6.2 ml/100 g	8.0 ml/100 g Maximum

**TYPICAL MECHANICAL PROPERTIES\* [Aged 48 Hrs. @ 220°F (104°C)]:**

Mechanical Tests	75% Ar/25% CO <sub>2</sub>	AWS Spec
Tensile Strength	84,000 psi (579 MPa)	80,000-100,000 psi (550-690 MPa)
Yield Strength	73,000 psi (503 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2" (50 mm)	28.2%	19.0% Minimum

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

CVN Temperatures	75% Ar/25% CO <sub>2</sub>	AWS Spec (EXXTX-K2X)
Avg. at -20°F (-30°C)	76 ft•lbs (103 Joules)	20 ft•lbs (27 Joules)
Avg. at -40°F (-40°C)	66 ft•lbs (89 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 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 LLC.

# FabCO<sup>®</sup> Element<sup>™</sup> 81K2M

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)	All Positions	170	22	250	(6.4)	5.1	(2.3)	3/4	(19)
0.045	(1.2)	All Positions	225	24	400	(10.2)	8.2	(3.7)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	270	25	530	(13.5)	10.9	(4.9)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	27	605	(15.4)	12.4	(5.6)	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:** The information above was determined by welding using 75% Ar/25% CO<sub>2</sub> shielding gas with a flow rate between 35-50 cfh (14-24 l/min).
- **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		33-lb. (15kg) 12" (305mm) Fiber Spool
Inches	(mm)	
0.045	(1.2)	S294412-029

#### CONFORMANCES AND APPROVALS:

- **AWS A5.29**, E81T1-GM H8
- **AWS A5.29M**, E551T1-GM H8
- **ASME SFA 5.29**, E81T1-GM H8
- **ABS**, 75% Ar/25% CO<sub>2</sub>, 3YSA H10

**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

Safety Data Sheets on any Hobart Brothers LLC product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

Because Hobart Brothers LLC is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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