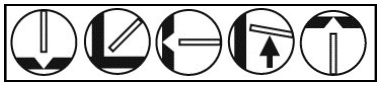
TM-881K2

AWS A5.29: E81T1-K2CJ H8, E81T1-K2MJ H8
EN17632-A: T 46 6 1.5Ni P M 2 H5

WELDING POSITIONS:



FEATURES:	BENEFITS:
• Capable of being used with both straight CO_2 and Argon/CO_2 shielding gases	• Promotes versatility in procedure development
• CTOD exceeds 0.25 mm at -10°C	• Provides good fracture toughness
• Good CVN toughness at -60°C (-76°F) in both the as welded and stress-relieved conditions	• Minimizes risk of cracking in severe applications
• Low diffusible hydrogen electrode	• Assists in minimizing risk of hydrogen-induced cracking

APPLICATIONS:

- Non-alloyed and fine grain steels
- High-strength low-alloy steels
- Offshore applications
- Shipbuilding

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

SHIELDING GAS: 100% Carbon Dioxide (CO_2), 75-80% Argon (Ar)/Balance Carbon Dioxide (CO_2), 35-50 cfh (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 CHEMISTRY* (Chem Pad):

Weld Metal Analysis (%)	100% CO_2	80% Ar/20% CO_2	AWS Spec
Carbon (C)	0.04	0.06	0.15
Manganese (Mn)	0.97	1.23	0.50-1.75
Silicon (Si)	0.19	0.29	0.80
Phosphorus (P)	0.010	0.009	0.030
Sulphur (S)	0.015	0.015	0.030
Molybdenum (Mo)	0.01	0.01	0.35
Nickel (Ni)	1.62	1.52	1.00-2.00

Note: AWS specification single values are maximums.

TYPICAL DIFFUSIBLE HYDROGEN*:

Hydrogen Equipment	100% CO_2	80% Ar/20% CO_2	AWS Spec
(GAS CHROMATOGRAPHY)	3.5 ml/100 g	4.0 ml/100 g	8.0 ml/100 g Maximum

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	100% CO_2	80% Ar/20% CO_2	AWS Spec
Tensile Strength	88,000 psi (607 MPa)	96,000 psi (662 MPa)	80,000-100,000 psi (550-690 MPa)
Yield Strength	79,000 psi (545 MPa)	86,000 psi (593 MPa)	68,000 psi (470 MPa) Minimum
Elongation % in 2” (50 mm)	24%	21%	19% Minimum

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

CVN Temperatures	100% CO_2	80% Ar/20% CO_2	AWS Spec
CVN @-40°F (-40°C)	82 ft•lbs (111 Joules)	66 ft•lbs (89 Joules)	20 ft•lbs (27 Joules) Minimum “J” Requirement
CVN @-76°F (-60°C)	—	53 ft•lbs (71 Joules)	Not specified

*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.

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

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Diameter Inches	(mm)	Weld Position	Amps	Volts	Approx. 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	100	22	135	(3.4)	2.7	(1.2)	3/4	(19)
0.045	(1.2)	All Position	150	24	220	(5.6)	4.9	(2.2)	3/4	(19)
0.045	(1.2)	All Position	200	25	325	(8.3)	7.4	(3.4)	7/8	(22)
0.045	(1.2)	Flat and Horizontal	250	28	470	(11.9)	10.5	(4.8)	7/8	(22)
0.045	(1.2)	Flat and Horizontal	300	30	530	(13.5)	14.1	(6.4)	7/8	(22)

- **Maintaining a proper welding process, such as pre-heat, interpass temperature, and material thickness may be critical depending on the types of steel being welded.**
- **See Above:** This information was determined by welding using 100% CO_2 shielding gas with a flow rate of 35 cfh (14 l/min). When using 75-80% Ar/Balance CO_2 shielding gases, 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 Inches	(mm)	10-lb. (4.5kg) 8" (203 mm) Plastic Spool	15-lb. (6.8kg) Bulk Vacuum Packed Spool	33-lb. (15kg) 12" (305 mm) Fiber Spool
0.045	(1.2)	S284812-K22	S284812-K21	S284812-K29

CONFORMANCES AND APPROVALS:

- **AWS 5.29:** E81T1-K2CJ H8, E81T1-K2MJ H8
- **AWS A5.29M,** E551T1-K2CJ H8, E551T1-K2MJ H8
- **ASME SFA 5.29,** E81T1-K2CJ H8, E81T1-K2MJ H8
- **ABS,** 80% Ar/20% CO_2, E81T1-K2MJ H8
- **Bureau Veritas,** 75-80% Ar/Balance CO_2, S5Y42M
- **DNV,** 75-80% Ar/Balance CO_2, V Y42MS (H10)
- **EN17632-A:** T 46 6 1.5Ni P M 2 H5
- **CE Marked** per CPR 305/2011
- **Lloyd's Register,** 80% Ar/20% CO_2, 4Y42S H10

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.

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

Revision Date: 130905 (Replaces 130219)

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