

AWS E81T1-K2CJ H8

**FabCO® 81K2-C****DESCRIPTION:**

**FabCO 81K2-C** is an all-position low alloy flux-cored wire. This high performance 100% CO<sub>2</sub> electrode is characterized by a flat bead profile, smooth stable arc and low spatter even when welded out of position. The exceptional mechanical properties and low diffusible hydrogen makes this product well suited for the shipbuilding and offshore oil construction market.

**APPLICATIONS:**

Offshore and shipbuilding.

**FEATURES:**

- Fast freezing slag
- Low spatter
- High impact values
- Stable arc transfer

**BENEFITS:**

- Flat weld bead profile
- No cleanup
- Toughness at low temperatures

**SHIELDING GAS:** 100% CO<sub>2</sub>**TYPICAL WELD METAL PROPERTIES\*\*(CHEM PAD):**

| Weld Metal Analysis | 100% CO <sub>2</sub> |
|---------------------|----------------------|
| Carbon (C)          | 0.07                 |
| Manganese (Mn)      | 1.13                 |
| Silicon (Si)        | 0.27                 |
| Phosphorus (P)      | 0.015                |
| Sulphur (S)         | 0.014                |
| Nickel (Ni)         | 1.67                 |

**TYPICAL DIFFUSIBLE HYDROGEN:** 3.9 ml/100 gr**TYPICAL MECHANICAL PROPERTIES\*(AS WELDED):**

|                    |                      |
|--------------------|----------------------|
| Tensile Strength   | 87,000 psi (600 MPa) |
| Yield Strength     | 78,000 psi (538 MPa) |
| Elongation % in 2" | 27%                  |
| Reduction of Area  | 71.2%                |

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

|                       |                        |
|-----------------------|------------------------|
| Avg. at -40°F (-40°C) | 91 ft•lbs (123 Joules) |
|-----------------------|------------------------|

**CONFORMANCES AND APPROVALS:**

- AWS A5.29/A5.29M, ASME SFA 5.29, E81T1-K2CJ H8
- ABS 100% CO<sub>2</sub> 3Y, 3YSA

\*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 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.



# FabCO® 81K2-C

## WELDING DATA:

The information listed below was determined using 100% CO<sub>2</sub> shielding gases with flow rate range between 35 to 50 cubic feet per hour. Welding was performed in the position designated below with DCEP welding current.

| Diameter |     | Weld Position      | Amps | Volts | Wire-Feed Speed In/min | Deposition Rate lbs/hr | Stickout  |
|----------|-----|--------------------|------|-------|------------------------|------------------------|-----------|
| Inches   | mm  |                    |      |       |                        |                        |           |
| .045     | 1.2 | Vertical, Overhead | 150  | 23    | 250                    | 5.0                    | 3/4" - 1" |
| .045     | 1.2 | Vertical, Overhead | 190  | 23    | 315                    | 6.3                    | 3/4" - 1" |
| .045     | 1.2 | Vertical, Overhead | 225  | 25    | 417                    | 8.2                    | 3/4" - 1" |
| .045     | 1.2 | Flat, Horizontal   | 275  | 28    | 530                    | 10.1                   | 3/4" - 1" |
| .045     | 1.2 | Flat, Horizontal   | 300  | 30    | 604                    | 12.1                   | 3/4" - 1" |
| 1/16"    | 1.6 | Vertical, Overhead | 175  | 23    | 130                    | 3.9                    | 3/4" - 1" |
| 1/16"    | 1.6 | Vertical, Overhead | 225  | 24    | 150                    | 6.3                    | 3/4" - 1" |
| 1/16"    | 1.6 | Vertical, Overhead | 275  | 26    | 235                    | 9.6                    | 3/4" - 1" |
| 1/16"    | 1.6 | Flat, Horizontal   | 350  | 29    | 335                    | 13.6                   | 3/4" - 1" |
| 1/16"    | 1.6 | Flat, Horizontal   | 400  | 31    | 420                    | 17.0                   | 3/4" - 1" |

## 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.

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

FabCO® is a registered trademark of Hobart Brothers Company, Troy, Ohio

