

# FabCO<sup>®</sup> Element<sup>™</sup> 70C



AWS A5.29: E70T1-GC H8  
AWS A5.36: E70T1-C1A4-G H8

## WELDING POSITIONS:



### FEATURES:

- Low spatter and fume
- High deposition
- Extremely low manganese emissions
- Enhanced slag release

### BENEFITS:

- Increased operator appeal
- Increases productivity, more parts per hour
- Economical replacement for E70T-1/-9 that will assist with conformance to environmental regulations
- Reduced clean-up time and risk of inclusions

### APPLICATIONS:

- Shipbuilding
- Heavy equipment
- Structural steel
- General fabrication
- Railcar

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

**SHIELDING GAS:** 100% Carbon Dioxide (CO<sub>2</sub>) 35-50 cfh (14-24 l/min)

**TYPE OF CURRENT:** Direct Current Electrode Positive (DCEP)

**STANDARD DIAMETERS:** 1/16" (1.6 mm), 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 PROPERTIES\* (Chem Pad):

| Weld Metal Analysis (%) | 100% CO <sub>2</sub> | AWS A5.29     | AWS A5.36     |
|-------------------------|----------------------|---------------|---------------|
| Carbon (C)              | 0.039                | Not specified | 0.18          |
| Manganese (Mn)          | 0.17                 | 0.500‡        | Not specified |
| Silicon (Si)            | 0.62                 | 1.000         | Not specified |
| Sulphur (S)             | 0.008                | 0.030         | Not specified |
| Phosphorus (P)          | 0.009                | 0.030         | Not specified |
| Nickel (Ni)             | 1.82                 | 0.500‡        | Not specified |

**Note:** Unless otherwise noted, AWS specification single values are maximum. Product must contain a minimum content of one or more of the elements indicated by ‡.

### TYPICAL DIFFUSIBLE HYDROGEN\*:

| Hydrogen Equipment   | 100% CO <sub>2</sub> | AWS Spec             |
|----------------------|----------------------|----------------------|
| (GAS CHROMATOGRAPHY) | 4.4 ml/100 g         | 8.0 ml/100 g Maximum |

### TYPICAL MECHANICAL PROPERTIES\* (As Welded):

| Mechanical Tests           | 100% CO <sub>2</sub> | AWS Spec                        |
|----------------------------|----------------------|---------------------------------|
| Tensile Strength           | 78,600 psi (542 MPa) | 70,000-90,000 psi (490-620 MPa) |
| Yield Strength             | 67,700 psi (467 MPa) | 58,000 psi (400 MPa) Minimum    |
| Elongation % in 2" (50 mm) | 24%                  | 20.0% Minimum                   |

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

| CVN Temperatures      | 100% CO <sub>2</sub>  | AWS A5.29     | AWS A5.36             |
|-----------------------|-----------------------|---------------|-----------------------|
| Avg. at -20°F (-30°C) | 40 ft•lbs (54 Joules) | Not specified | Not specified         |
| Avg. at -40°F (-40°C) | 31 ft•lbs (42 Joules) | Not specified | 20 ft•lbs (27 Joules) |

\*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.

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| 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) |
| 1/16     | (1.6) | Flat & Horizontal | 275  | 26    | 200             | (5.1)   | 8.0             | (3.6)   | 3/4                          | (19) |
| 1/16     | (1.6) | Flat & Horizontal | 335  | 28    | 275             | (7.0)   | 11.0            | (5.0)   | 3/4                          | (19) |
| 1/16     | (1.6) | Flat & Horizontal | 390  | 29    | 350             | (8.9)   | 14.1            | (6.4)   | 1                            | (25) |
| 1/16     | (1.6) | Flat & Horizontal | 445  | 29    | 450             | (11.4)  | 18.3            | (8.3)   | 1                            | (25) |
| 3/32     | (2.4) | Flat & Horizontal | 390  | 27    | 150             | (3.8)   | 13.4            | (6.1)   | 1                            | (25) |
| 3/32     | (2.4) | Flat & Horizontal | 475  | 29    | 200             | (5.1)   | 17.8            | (8.1)   | 1                            | (25) |
| 3/32     | (2.4) | Flat & Horizontal | 540  | 32    | 250             | (6.4)   | 21.9            | (9.9)   | 1                            | (25) |
| 3/32     | (2.4) | Flat & Horizontal | 590  | 34    | 300             | (7.6)   | 26.4            | (12.0)  | 1                            | (25) |

- **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 100% 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) | 60-lb. (27.2kg) |
|----------|-------|---------------|-----------------|
| Inches   | (mm)  | Fiber Spool   | Coil            |
| 1/16     | (1.6) | S297819-029   | —               |
| 3/32     | (2.4) | —             | S297829-002     |

#### CONFORMANCES AND APPROVALS:

- **AWS A5.29**, E70T1-GC H8
- **AWS A5.29M**, E490T1-GC H8
- **AWS A5.36**, E70T1-C1A4-G H8
- **ASME SFA 5.29**, E70T1-GC H8
- **CWB**, 100% CO<sub>2</sub>, E492T-G-H8

**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 Company product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

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