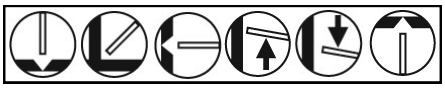
# FabCOR® Edge™

**AWS A5.18: E70C-6M H4**
**EN ISO 17632-A: T46 3 M M21 3 H5**

**AWS**
WELDING POSITIONS



**EN**
WELDING POSITIONS

## FEATURES:

- Virtually no silicon deposits at weld bead toe lines
- Excellent gap bridging capabilities
- Excellent wetting characteristics
- Capable of higher deposition rates and travel speeds than solid wire

## BENEFITS:

- Reduces clean-up time, minimizes risk of inclusions
- Minimizes burn-through, reduces part rejection
- Assists in producing smooth weld beads with uniform fusion
- Increases productivity, more parts per hour

## APPLICATIONS:

- Non-alloyed and fine grain steels
- Robotic and mechanized welding
- Heavy equipment
- Agriculture
- Transportation
- Mining

**WIRE TYPE:** Gas-shielded, metal-powder, metal-cored wire

**SHIELDING GAS:** 75-95% Argon (Ar)/Balance Carbon Dioxide ($CO_2$), 35-50 cfh (17-24 l/min)

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

**STANDARD DIAMETERS:** 0.035" (0.9 mm), 0.045" (1.2 mm), 0.052" (1.4 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 (%) | 75% Ar/25% $CO_2$ | 90% Ar/10% $CO_2$ | AWS Spec |
|---|---|---|---|
| Carbon (C) | 0.05 | 0.05 | 0.12 |
| Manganese (Mn) | 1.33 | 1.50 | 1.75 |
| Silicon (Si) | 0.63 | 0.72 | 0.90 |
| Phosphorus (P) | 0.006 | 0.010 | 0.03 |
| Sulphur (S) | 0.007 | 0.012 | 0.03 |
| Nickel (Ni) | 0.42 | 0.42 | 0.50 |

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

## TYPICAL DIFFUSIBLE HYDROGEN*:

| Hydrogen Equipment | 75% Ar/25% $CO_2$ | 90% Ar/10% $CO_2$ | AWS Spec |
|---|---|---|---|
| (GAS CHROMATOGRAPHY) | 1.5 ml/100g | 2.1 ml/100g | 4.0 ml/100g Maximum |

## TYPICAL MECHANICAL PROPERTIES* (As Welded):

| Mechanical Tests | 75% Ar/25% $CO_2$ | 90% Ar/10% $CO_2$ | AWS Spec |
|---|---|---|---|
| Tensile Strength | 91,000 psi (630 MPa) | 97,000 psi (669 MPa) | 70,000 psi (480 MPa) Minimum |
| Yield Strength | 81,000 psi (561 MPa) | 87,000 psi (600 MPa) | 58,000 psi (400 MPa) Minimum |
| Elongation % in 2" (50 mm) | 25% | 22% | 22% Minimum |

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

| CVN Temperatures | 75% Ar/25% $CO_2$ | 90% Ar/10% $CO_2$ | AWS Spec |
|---|---|---|---|
| CVN @ 0°F (-20°C) | 50 ft•lbs (68 Joules) | 56 ft•lbs (76 Joules) | Not specified |
| CVN @-20°F (-30°C) | 40 ft•lbs (54 Joules) | 38 ft•lbs (52 Joules) | 20 ft•lbs (27 Joules) Minimum |



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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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.035 | (0.9) | Flat & Horizontal | 150 | 24 | 320 | (8.1) | 4.6 | (2.1) | 1/2 | (13) |
| 0.035 | (0.9) | Flat & Horizontal | 200 | 26 | 450 | (11.4) | 6.9 | (3.1) | 1/2 | (13) |
| 0.035 | (0.9) | Flat & Horizontal | 250 | 29 | 590 | (15.0) | 9.2 | (4.2) | 1/2 | (13) |
| 0.045 | (1.2) | Flat & Horizontal | 200 | 24 | 225 | (5.7) | 5.9 | (2.7) | 5/8 | (16) |
| 0.045 | (1.2) | Flat & Horizontal | 250 | 25 | 315 | (8.0) | 7.9 | (3.6) | 5/8 | (16) |
| 0.045 | (1.2) | Flat & Horizontal | 300 | 26 | 440 | (11.2) | 11.7 | (5.3) | 3/4 | (19) |
| 0.045 | (1.2) | Flat & Horizontal | 350 | 29 | 600 | (12.7) | 16.2 | (7.3) | 3/4 | (19) |
| 0.045 | (1.2) | Flat & Horizontal | 375 | 31 | 760 | (19.3) | 20.7 | (9.4) | 3/4 | (19) |
| 0.052 | (1.4) | Flat & Horizontal | 250 | 24 | 240 | (6.1) | 8.4 | (3.8) | 3/4 | (19) |
| 0.052 | (1.4) | Flat & Horizontal | 300 | 25 | 355 | (9.0) | 12.5 | (5.7) | 1 | (25) |
| 0.052 | (1.4) | Flat & Horizontal | 350 | 28 | 460 | (11.7) | 16.6 | (7.5) | 1 | (25) |
| 0.052 | (1.4) | Flat & Horizontal | 400 | 31 | 555 | (14.1) | 20.0 | (9.1) | 1 | (25) |
| 1/16 | (1.6) | Flat & Horizontal | 250 | 24 | 150 | (3.8) | 6.9 | (3.1) | 3/4 | (19) |
| 1/16 | (1.6) | Flat & Horizontal | 300 | 26 | 220 | (5.6) | 10.1 | (4.6) | 1 | (25) |
| 1/16 | (1.6) | Flat & Horizontal | 350 | 27 | 270 | (6.9) | 12.8 | (5.8) | 1 | (25) |
| 1/16 | (1.6) | Flat & Horizontal | 400 | 29 | 335 | (8.5) | 16.1 | (7.3) | 1 | (25) |
| 1/16 | (1.6) | Flat & Horizontal | 450 | 32 | 400 | (10.3) | 19.6 | (8.9) | 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.**
- **For out of position welding, short circuit or pulsed spray transfer mode must be used.**
- **Pulse waveforms are designed with nominal operating points that may result in average voltage and current values that differ from the above table. Generally, pulse processes can be expected to produce lower heat inputs than a standard CV process.**
- **See Above:** This information was determined by welding using 90% Ar/10% $CO_2$ shielding gas with a flow rate between 35-50 cfh (17-24 l/min). For the higher $CO_2$ shielding gas mixtures within the recommended range, increase listed voltages by 1-3 volts.

**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) | 33-lb. (15kg) Spool | 50-lb. (22.7kg) Spool | 60-lb. (27.2kg) Coil | 500-lb. (226.8kg) X-Pak | 750-lb. (340.2kg) X-Pak | 1000-lb. (453.6kg) X-Pak |
|---|---|---|---|---|---|---|---|
| **Net Pallet Weight** | | **2376-lb. (1078kg)** | **1600-lb. (726kg)** | **1920-lb. (871kg)** | **2000-lb. (907kg)** | **3000-lb. (1361kg)** | **2000-lb. (907kg)** |
| 0.035 | (0.9) | S279308-029 | — | — | — | — | — |
| 0.045 | (1.2) | S279312-029 | S279312-027 | — | S279312-050 | S279312-075 | S279312-058 |
| 0.052 | (1.4) | S279315-029 | S279315-027 | S279315-002 | S279315-050 | S279315-075 | S279315-058 |
| 1/16 | (1.6) | S279319-029 | S279319-027 | S279319-002 | — | S279319-075 | S279319-058 |

**CONFORMANCES AND APPROVALS:**

- **AWS A5.18,** E70C-6M H4
- **AWS A5.18M,** E48C-6M H4
- **ASME SFA 5.18,** E70C-6M H4
- **ABS,** 80% Ar/20% $CO_2$, 3YSA H5 (0.045" - 1/16" diameter electrodes, flat position)
- **ABS,** 90% Ar/10% $CO_2$, 3YSA H5 (0.035" - 1/16" diameter electrodes, all positions)
- **CWB,** E491T15 - (M12, M20, M21, M22, G) A4-CS1-H4 (1.2-1.6 mm diameter electrode)
- **CE Marked** per CPR 305/2011
- **EN ISO 17632-A:** T46 3 M M21 3 H5 (0.9 - 1.6 mm diameter electrode)
- **AWS D1.8/D1.8M,** 75% Ar/25% $CO_2$, [0.052" (1.4 mm) diameter electrode]
- **AWS D1.8/D1.8M,** 85% Ar/15% $CO_2$, [0.052" (1.4 mm) diameter electrode]
- **AWS D1.8/D1.8M,** 90% Ar/10% $CO_2$, [0.045" (1.2 mm) diameter electrode]
- **AWS D1.8/D1.8M,** 75% Ar/25% $CO_2$, [1/16" (1.6 mm) diameter electrode]

**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

**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); 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.

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



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