

FabCOR[®] Element[™] 70C6



AWS A5.18: E70C-6M H4

AWS WELDING POSITIONS:



FEATURES:

- Extremely low manganese emissions
- Provides higher deposition rates than solid wires
- Formulated for improved silicon removal
- Balanced arc characteristics (smooth & penetrating)

BENEFITS:

- Assists with conformance to environmental regulations
- Allows increased travel speed and productivity
- Helps reduce clean-up time and improve productivity
- Helps maintain consistent weld appearance and quality

APPLICATIONS:

- Single or multi-pass welding
- General fabrication
- Heavy equipment
- Railcar
- Shipbuilding

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

SHIELDING GAS: 75-90% Argon (Ar)/Balance Carbon Dioxide (CO₂), 35-50 cfh (17-24 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.045" (1.2 mm), 1/16" (1.6 mm)

RE-DRYING: Not recommended

STORAGE: Product should be stored in a dry, enclosed environment, and in its original packaging

TYPICAL WELD METAL CHEMISTRY* (Chem Pad):

Weld Metal Analysis	75% Ar/25% CO ₂	AWS Spec
Carbon (C)	0.05	0.12
Manganese (Mn)	0.53	1.75
Silicon (Si)	0.80	0.90
Phosphorus (P)	0.009	0.030
Sulphur (S)	0.012	0.030
Nickel (Ni)	0.45	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)	2.0 ml/100g	≤ 4.0 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	79,000 psi (545 MPa)	84,000 psi (579 MPa)	70,000 psi (490 MPa) Minimum
Yield Strength	68,000 psi (469 MPa)	71,000 psi (490 MPa)	58,000 psi (390 MPa) Minimum
Elongation % in 2" (50 mm)	23%	23%	22% Minimum

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

CVN Temperatures	75% Ar/25% CO ₂	90% Ar/10% CO ₂	AWS Spec
Avg. at -20°F (-30°C)	35 ft•lbs (47 Joules)	20 ft•lbs (27 Joules)	20 ft•lbs (27 Joules) Minimum

*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 the AWS A5.18 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.

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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)
0.045	(1.2)	Flat & Horizontal	195	25	200	(5.1)	5.1	(2.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	265	27	300	(7.6)	8.2	(3.7)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	300	29	350	(8.9)	9.5	(4.3)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	365	30	450	(11.4)	12.3	(5.6)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	250	27	150	(3.8)	7.3	(3.3)	1	(25)
1/16	(1.6)	Flat & Horizontal	315	28	200	(5.1)	9.7	(4.4)	1	(25)
1/16	(1.6)	Flat & Horizontal	365	29	250	(6.4)	12.4	(5.6)	1	(25)
1/16	(1.6)	Flat & Horizontal	410	30	300	(7.6)	14.9	(6.8)	1	(25)
1/16	(1.6)	Flat & Horizontal	455	31	350	(8.9)	17.3	(7.8)	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.**
- **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.**
- **For out of position welding, either short circuit or pulsed welding current must be used.**
- **See Above:** This information was determined by welding using 75% Ar/25% CO₂ shielding gas with a flow rate between 35-50 cfh (17-24 l/min). For the lower CO₂ shielding gas mixtures within the recommended range, reduce 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
Net Pallet Weight	2376-lb. (1078kg)
0.045 (1.2)	S294612-029
1/16 (1.6)	S294619-029

CONFORMANCES AND APPROVALS:

- **AWS A5.18**, E70C-6M H4
- **AWS A5.18M**, E48C-6M H4
- **ASME SFA 5.18**, E70C-6M H4
- **CWB**, 90% Ar/10% CO₂, E490T15-M20A3-CS1-H4 (E492C-6M-H4)
- **CWB**, 75% Ar/25% CO₂, E490T15-M21A3-CS1-H4 (E492C-6M-H4)

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.

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