FabCOR® Elevate™

AWS A5.18: E70C-6M H4

WELDING POSITIONS:

FEATURES:

- Wire manufacturing process optimized for Automated and mechanized welding
- Proprietary formula specifically address the disadvantages of welding using high wire-feed speeds with conventional wires
- Designed to offer robust mechanical properties and good low-temperature toughness when welding at high amperages and wire feed speeds

BENEFITS:

- Provides consistent feedability at very high wire feed speeds on automated equipment
- Maintains good bead appearance and contour, even when welding at high travel speeds
- Suitable for use in critical applications where weld integrity and performance is a key consideration

APPLICATIONS:

- Heavy equipment fabrication
- Single and multi-pass welding
- Agricultural equipment fabrication
- Automated welding
- Truck and trailer fabrication
- Structural steel fabrication

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

SHIELDING GAS: 75-95% Argon (Ar)/Balance Carbon Dioxide (CO_2), 40-50 cfh (19-24 l/min)
Note: FabCOR Elevate has been optimized for use with 90% Ar/10% CO_2 shielding gas. 75% Ar/25% CO_2 is typically used for classification purposes only.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

STANDARD DIAMETERS: 0.052” (1.4 mm) 1/16” (1.6mm)

RE-DRYING: Not recommended

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

TYPICAL WELD METAL CHEMISTRY COMPOSITION* (Chem Pad):

Weld Metal Analysis (%)	75% Ar/25% CO_2	90% Ar/10% CO_2	AWS Spec
Carbon (C)	0.03	0.04	0.12
Manganese (Mn)	1.55	1.68	1.75
Silicon (Si)	0.58	0.67	0.90
Phosphorus (P)	0.009	0.010	0.030
Sulphur (S)	0.020	0.020	0.030
Nickel (Ni)	0.37	0.36	0.50
Boron (B)	0.0011	0.0009	Not specified

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)	3.1 ml/100g	3.8 ml/100g	4.0 ml/100g

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests	75% Ar/25% CO_2	90% Ar/10% CO_2	AWS Spec
Tensile Strength	84,000 psi (579 MPa)	83,000 psi (572 MPa)	70,000 psi (480 MPa) Minimum
Yield Strength	73,000 psi (503 MPa)	72,000 psi (496 MPa)	58,000 psi (400 MPa)
Elongation % in 2” (50 mm)	25%	26%	22% Minimum

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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)	34 ft •lbs (46 Joules)	55 ft •lbs (75 Joules)	20 ft •lbs (27 Joules) Minimum
Avg. at -40°F (-40°C)	32 ft •lbs (43 Joules)	41 ft •lbs (56 Joules)	Not specified

Typical Operating Parameters

Diameter Inches	Diameter (mm)	Weld Position	Amps	Volts	Wire-Feed Speed in/min	Wire-Feed Speed (m/min)	Deposition Rate lbs/hr	Deposition Rate (kg/hr)	Contact Tip to Work Distance Inches	Contact Tip to Work Distance (mm)
0.052	(1.4)	Flat & Horizontal	200	25	215	(5.5)	7.4	(3.3)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	300	27	355	(9.0)	12.4	(5.6)	1	(25)
0.052	(1.4)	Flat & Horizontal	400	30	555	(14.1)	20.0	(9.1)	1	(25)
1/16	(1.6)	Flat & Horizontal	250	25.5	180	(4.6)	8.5	(3.8)	7/8	(22)
1/16	(1.6)	Flat & Horizontal	300	28.5	280	(6.6)	13.3	(6.0)	1	(25)
1/16	(1.6)	Flat & Horizontal	375	30	350	(8.9)	16.6	(7.5)	1	(25)
1/16	(1.6)	Flat & Horizontal	400	32	450	(11.4)	21.4	(9.7)	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.**
- **See Above:** This information was determined by welding using 90% Argon (Ar)/10% Carbon Dioxide (CO_2) shielding gas with a flow rate between 40-50 cfh (19-24 l/min). For the higher Carbon Dioxide (CO_2) shielding gas mixtures within the recommended range, increase listed voltages by 1-3 volts.

Available 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	Diameter (mm)	33-lb (15 kg) Spool	1000-lb (454 kg) Drum
Net Pallet Weight		**2376-lb. (1078 kg)**	**2000-lb. (907 kg)**
0.052	(1.4)	S279715-X29	S279715-X58
1/16	(1.6)	S279719-X29	S279719-X58

Conformances and Approvals:

- **AWS A5.18,** E70C-6M H4
- **AWS A5.18M,** E49C-6M H4
- **ASME SFA 5.18,** E70C-6M H4
- **CWB,** E491T15-(M20, M21)A4-CS1-H4
- **AWS D1.8,** D1.8, See Approval Certificate for Details [0.052” (1.4 mm) – 1/16” (1.6 mm) diameters]

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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HOBART FILLER METALS