

# FabCOR® Element™ XP



AWS A5.18: E70C-6M H4

WELDING POSITIONS:



**FEATURES:**

- Extremely low manganese emissions
- Low spatter and fume
- Enhanced silica island removal
- Higher deposition rates than solid wire

**BENEFITS:**

- Increased operator appeal
- Improved operator comfort and productivity
- Assists with conformance to environmental regulations
- Reduced clean-up time

**APPLICATIONS:**

- Shipbuilding
- Heavy equipment

- Structural steel
- General Fabrication

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

**SHIELDING GAS:** 90% Argon (Ar)/10% Carbon Dioxide (CO<sub>2</sub>) 35-50 cfh (14-24 l/min)

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

**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 <sub>2</sub>	90% Ar/10% CO <sub>2</sub>	AWS Spec
Carbon (C)	0.04	0.05	0.12
Manganese (Mn)	1.15	1.21	1.75
Silicon (Si)	0.69	0.71	0.90
Phosphorus (P)	0.011	0.011	0.03
Sulphur (S)	0.011	0.011	0.03
Nickel (Ni)	0.40	0.40	0.50
Boron (B)	0.0046	0.0053	Not specified

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

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

Mechanical Tests	75% Ar/25% CO <sub>2</sub>	90% Ar/10% CO <sub>2</sub>	AWS Spec
Tensile Strength	82,900 psi (572 MPa)	86,200 psi (594 MPa)	70,000 psi (490 MPa) Min.
Yield Strength	74,500 psi (514 MPa)	80,000 psi (552 MPa)	58,000 psi (400 MPa) Min.
Elongation % in 2" (50 mm)	27%	26%	22 % Min.

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

CVN Temperatures	75% Ar/25% CO <sub>2</sub>	90% Ar/10% CO <sub>2</sub>	AWS Spec
Avg. at -20°F (-30°C)	41 ft •lbs (56 Joules)	50 ft •lbs (67 Joules)	20 ft •lbs (27 Joules) Min.
Avg. at -40°F (-40°C)	36 ft •lbs (48 Joules)	42 ft •lbs (56 Joules)	20 ft •lbs (27 Joules) Min.

**TYPICAL DIFFUSIBLE HYDROGEN\*:**

Hydrogen Equipment	75% Ar/25% CO <sub>2</sub>	90% Ar/10% CO <sub>2</sub>	AWS Spec
Gas Chromatography	1.9 ml/100g	2.6 ml/100g	4.0 ml/100g Max.

\*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		Welding Position	Amperage	Voltage	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	190	24	250	(6.4)	6.4	(2.9)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	230	26.5	350	(8.9)	9.0	(4.1)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	270	27	425	(10.8)	10.9	(4.9)	3/4	(19)
0.045	(1.2)	Flat & Horizontal	350	29	650	(14.6)	16.8	(7.6)	1	(25)
0.052	(1.4)	Flat & Horizontal	210	24.5	200	(5.1)	6.9	(3.1)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	250	25.5	250	(6.4)	8.6	(3.9)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	300	26.5	310	(7.9)	10.6	(4.8)	3/4	(19)
0.052	(1.4)	Flat & Horizontal	350	31	500	(12.7)	17.1	(7.7)	1	(25)
0.052	(1.4)	Flat & Horizontal	375	32	550	(13.9)	18.8	(8.5)	1	(25)
1/16	(1.6)	Flat & Horizontal	240	25	170	(4.3)	8.1	(3.7)	3/4	(19)
1/16	(1.6)	Flat & Horizontal	280	26.5	200	(5.1)	9.5	(4.3)	1	(25)
1/16	(1.6)	Flat & Horizontal	330	28.5	260	(6.6)	12.4	(5.6)	1	(25)
1/16	(1.6)	Flat & Horizontal	390	30	320	(8.1)	15.2	(6.9)	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.

**See Above:** This information was determined by welding using 90% Ar/10% CO<sub>2</sub> shielding gas with a flow rate between 35-50 cfh (17-24 l/min). When welding using 75% Ar/25% CO<sub>2</sub> shielding gas, increase voltage by 1-3 volts.

**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 table above. Generally, pulse processes can be expected to produce lower heat inputs than a standard CV process.

**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 (mm)	33-lb. (15kg) Fiber Spool	500-lb. (227kg) X-Pak	1000-lb. (453.6kg) X-Pak
<b>Net Pallet Weight</b>	<b>2376-lb. (1078kg)</b>	<b>2000-lb. (907kg)</b>	<b>2000-lb. (907kg)</b>
0.045 (1.2)	S294812-029	S294812-050	S294812-058
0.052 (1.4)	S294815-029	—	S294815-058
1/16 (1.6)	S294819-029	—	S294819-058

## CONFORMANCES AND APPROVALS:

- **AWS A5.18**, E70C-6M H4
- **AWS A5.18M**, E49C-6M H4
- **ASME SFA 5.18**, E70C-6M H4
- **CWB**, E491T15-(M12, M20, M21, M22)A4-CS1-H4
- **AWS D1.8**, See Approval Certificate for Details [0.045" (1.2 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](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

Material Safety Data Sheets on any Hobart Brothers LLC product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

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