

SubCOR™ 120-S



AWS A5.23: ECM4

FEATURES:

- Metal-cored wire can offer improved deposition rates compared to solid wires at comparable amperages
- Metal-cored wires offer broader penetration profiles compared to solid wires at comparable welding parameters
- Very high strength deposit with excellent low-temperature toughness in the as-welded Condition
- Weld deposit chemistry requirements are identical to those of EM4 solid wires

BENEFITS:

- Provides potential to increase travel speed for improved productivity
- Helps to prevent burn-through when welding at high currents on root passes and relatively thin materials.
- Suitable for welding a wide variety of 110 KSI (760 MPa) high-strength low-alloy (HSLA) and quench and tempered materials with matching mechanical properties
- Suitable as a higher-productivity alternative in many applications currently using EM4 solid wires

APPLICATIONS:

- HSLA and Q&T steels
- Structural fabrication
- Jack-up rig fabrication
- Heavy equipment frames
- Crane beams

WIRE TYPE: Metal-powder, metal-cored wire

RECOMMENDED FLUXES: SWX 150, SWX 160

CURRENT: Direct Current Electrode Positive (DCEP), Direct Current Electrode Negative (DCEN), Alternating Current (AC)

STANDARD DIAMETERS: 1/8" (3.2 mm)

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

RE-DRYING: Not recommended

AWS CLASSIFICATIONS:

With Flux	Condition	Specifications	Classification (US Customary Units)	Classification (SI Units)
SWX 150	As-Welded	A5.23/A5.23M	F11A10-ECM4-M4	F76A7-ECM4-M4

TYPICAL WELD DEPOSIT CHEMICAL COMPOSITION*:

With Flux	% C	% Mn	% Si	% P	% S	% Cu	% Cr	% Ni	% Mo	% Ti + V + Zr
SWX 150	0.06	1.45	0.27	0.012	0.010	0.06	0.31	2.25	0.47	0.02

TYPICAL DIFFUSIBLE HYDROGEN* (Gas Chromatography per AWS A4.3):

With Flux	Diffusible Hydrogen
SWX 150	7.5 ml/100g

*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 A5.23 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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TYPICAL MECHANICAL PROPERTIES*:

With Flux	Condition	Tensile Strength	Yield Strength	Elongation % in 2" (50 mm)
SWX 150	As-Welded	113 ksi (779 MPa)	106 ksi (731 MPa)	20%

TYPICAL CHARPY V-NOTCH IMPACT VALUES*:

With Flux	Condition	Avg. at -60°F (-50°C)	Avg. at -80°F (-60°C)	Avg. at -100°F (-70°C)
SWX 150	As-Welded	55 ft-lbs (75 J)	60 ft-lbs (81 J)	45 ft-lbs (61 J)

TYPICAL OPERATING PARAMETERS*:

Diameter		Amps	Volts	Wire Feed Speed		Deposition Rate		Contact Tip to Work Distance	
Inches	(mm)			Inches	(m/min)	lbs/hr	(kg/hr)	Inches	(mm)
1/8	(3.2)	400	28	65	(1.7)	10.4	(4.7)	1.25	(32)
1/8	(3.2)	500	30	87	(2.2)	14.7	(6.7)	1.25	(32)
1/8	(3.2)	600	32	115	(2.9)	20.0	(9.1)	1.25	(32)
1/8	(3.2)	700	34	155	(3.9)	25.7	(11.7)	1.25	(32)
1/8	(3.2)	800	36	200	(5.1)	35.0	(15.0)	1.25	(32)

Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.

Parameters are provided for informational purposes only. All values are approximate. The optimal voltage may vary (typically ±2 volts) depending on the choice of flux, material thickness, joint design, and other variables specific to the application. Likewise, actual deposition rate may vary depending on choice of flux and contact tip to work distance.

STANDARD PACKAGING: 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	60-lb. (27.2 kg) Coil
Net Pallet Weight	1920-lb. (871kg)
1/8" (3.2 mm)	S280343-002

CONFORMANCES AND APPROVALS:

Limitations (diameter, position, etc.) may exist. Please refer to product approval certificates for more information.

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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