Select EM13KS

Carbon Steel / Flux Shielded / Submerged Arc

PRODUCT DATA SHEET

FEATURES

- Intended for single and multiple pass welding of carbon and certain low alloy steels, and can be substituted anywhere that a solid EM13K electrode is used.
- Produces a weld deposit chemistry similar to EM13K solid wire electrodes.
- Higher deposition rates than solid wire when run at the same current level.
- Exhibits a broader and shallower bead profile than when using solid wire, reducing the tendency for burn through.
- Capable of running directly over root passes with proper procedure – eliminating requirement for a hot pass.
- Easy slag removal – reduces post weld cleanup time.
- Arcflux BF-10MW is the recommended flux, although other active and neutral fluxes can be used in place of this.

CONFORMANCES

AWS A5.17	F7A8-EC1 (ARCFLUX BF 5.1)
	F7A8-EC1 (ARCFLUX BF-10 MW)
	F7P8-EC1 (ARCFLUX BF 5.1)
	F7P8-EC1 (ARCFLUX BF-10 MW)
ASME Section IX	A1
ASME SFA 5.17	F7A8-EC1 (ARCFLUX BF 5.1)
	F7A8-EC1 (ARCFLUX BF-10 MW)
	F7P8-EC1 (ARCFLUX BF 5.1)
	F7P8-EC1 (ARCFLUX BF-10 MW)

DIAMETERS (in (mm))

1/16 (1.6), 5/64 (2.0), 3/32 (2.4), 1/8 (3.2), 5/32 (4.0)

POSITIONS



FLUX

ARCFLUX BF-10MW, ARCFLUX BF-5.1, ARCFLUX BF-1

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Flux	C	Cu	Mn	P	S	Si	Ti
ARCFLUX BF 5.1	0.06	0.06	1.55	0.015	0.008	0.65	0.02
ARCFLUX BF-1	0.08	0.08	1.28	0.015	0.010	0.64	0.04
ARCFLUX BF-10 MW	0.09	0.08	1.40	0.015	0.007	0.50	0.02

Notice: Be sure to follow all your employers safety practices, policies and procedures when using this product. Refer to CSA W117.2 and ANSI Z49.1 Safety in Welding, Cutting and Allied Processes for further information and the manufactures SDS sheet. The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

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TYPICAL MECHANICAL PROPERTIES

Flux	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -20°F (-30°C) ft-lb (J)	CVN @ -80°F (-60°C) ft-lb (J)
ARCFLUX BF 5.1	77 (534)	62 (428)	31	As-Welded	-	-	30 (41)
ARCFLUX BF 5.1	79 (545)	59 (406)	32	PWHT	1150°F for 1 hr	-	33 (45)
ARCFLUX BF-1	86 (597)	72 (496)	24	As-Welded	-	37 (50)	-
ARCFLUX BF-10 MW	86 (590)	69 (475)	29	As-Welded	-	-	58 (79)
ARCFLUX BF-10 MW	81 (561)	63 (434)	30	PWHT	1150°F for 1 hr	-	78 (106)

RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Flux	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
1/16 (1.6 mm)	ARCFLUX BF-10 MW	Flat & Horizontal	110 (2.8)	200	27.5	1/2 - 3/4 (13 - 19)
		Flat & Horizontal	215 (5.5)	300	28.5	1/2 - 3/4 (13 - 19)
		Flat & Horizontal	340 (8.6)	400	30.5	1/2 - 3/4 (13 - 19)
5/64 (2.0 mm)	ARCFLUX BF-10 MW	Flat & Horizontal	100 (2.5)	200	27	3/4 - 1 (19 - 25)
		Flat & Horizontal	180 (4.6)	300	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	260 (6.6)	400	28	3/4 - 1 (19 - 25)
3/32 (2.4 mm)	ARCFLUX BF-10 MW	Flat & Horizontal	60 (1.5)	250	27.5	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	85 (2.2)	350	28	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	130 (3.3)	450	29	1 - 1 1/4 (25 - 32)
1/8 (3.2 mm)	ARCFLUX BF-10 MW	Flat & Horizontal	55 (1.4)	350	28.5	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	75 (1.9)	450	29.5	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	100 (2.5)	550	30.5	1 - 1 1/4 (25 - 32)
5/32 (4.0 mm)	ARCFLUX BF-10 MW	Flat & Horizontal	50 (1.3)	450	30	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	65 (1.7)	550	31	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	80 (2.0)	650	32	1 - 1 1/4 (25 - 32)

** WFS = Wire Feed Speed, CTWD = Contact Tip To Work Distance*
***The parameters listed are recommended starting points of operation and the ranges for amperage, wfs, and voltage could be extended based on fitness for application. For products with "all-position" capability, as determined and listed in classification, the position recommendation can be determined based on operator skill and material thickness and isn't limited to the listing.*

The recommended parameters are for Arcflux BF-10MW; parameters may vary with different fluxes. For parameter recommendations with different fluxes, please call our technical support team at 1-800-341-5215.

APPROVALS

Agency	Approval	Flux	Diameter(s) in (mm)
ABS	4YM H5	ARCFLUX BF-10 MW	1/16 (1.6) - 3/16 (4.8)

PACKAGING [lbs [kgs]]

33 (15) Spools, 60 (27.2) Coils, 500 (226.8) Round Drum, 800 (362.9) Hex Drum, 900 (408.2) Hex Drum

**Some packaging options may not be available depending on diameter and product. Special package options may be available upon request.*

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STORAGE AND HANDLING

All products should be stored in original packaging, in dry conditions and handled with care. For more information refer to our website.

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