



12018-M XLM

AWS E12018-M H4

Replaces: 050721

140-O, INDEX: 060116

DESCRIPTION:

Outstanding for applications requiring weld joints with tensile strengths of at least 120,000 psi and for manganese-molybdenum steels, **McKay 12018-M XLM** features good arc characteristics, ductility, easy slag removal, as well as low spatter and smoke. Its specially formulated coating reduces moisture pick-up, keeping hydrogen cracking and starting porosity to a minimum.

Note: Actual certs are supplied with every shipment (one per master carton or pallet) at no charge.

APPLICATIONS:

Ideal for low alloy steels, forgings, castings, plate and pressure vessels, as well as joining HY-90, HY-100, T1, AR, and other high-tensile steels.

Features	Benefits
<ul style="list-style-type: none"> • Good arc characteristics • Good ductility • Low spatter level • Quick and easy slag removal • Low moisture reabsorption • Low smoke level • Low hydrogen, less than 4 ml/100 g 	<ul style="list-style-type: none"> • Stable, easy to control arc • High impact resistance • Improves weld bead appearance, higher deposition • Reduces clean-up time • Prevents starting porosity • Welder safety and comfort • Resistant to hydrogen-induced cracking

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.07	0.10 max
Manganese (Mn)	1.50	1.30 to 2.25
Phosphorus (P)	0.012	1.03 max
Sulphur (S)	0.011	0.03 max
Silicon (Si)	0.50	0.60 max
Chromium (Cr)	0.59	0.30 to 1.50
Nickel (Ni)	2.00	1.75 to 2.50
Molybdenum (Mo)	0.40	0.30 to 0.55

TYPICAL MECHANICAL PROPERTIES*(AS WELDED):

		AWS Spec
Tensile Strength	128,000 psi (883 MPa)	120,000 psi, min
Yield Strength	114,000 psi (787 MPa)	108,000 to 120,000 psi
Elongation % in 2"	24%	18% min
Reduction of Area	63%	Not required

TYPICAL CHARPY V-NOTCH IMPACT VALUES*(AS WELDED):

		AWS Spec
Avg. at -60°F (-51°C)	35 ft•lbf (48 J)	20 ft•lbf

CONFORMANCES AND APPROVALS:

• AWS Spec A5.5, Class E12018-M H4R • ASME SFA 5.5, F-4, A-12, Class E12018-M H4R • ABS

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and McKay expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.5 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 McKay.



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RECOMMENDED WELDING PROCEDURES:

GENERAL:	DCEP (electrode positive, work negative) or AC
ARC LENGTH:	Very short (less than half the diameter of the electrode)
FLAT:	Angle electrode 10-15° from 90°
VERTICAL-UP:	Use weaving technique
VERTICAL DOWN:	Not recommended
OVERHEAD:	Use slight whipping motion within the puddle
STORAGE:	After opening, store in holding oven (250°F to 300°F) until used to ensure low hydrogen weld deposit
RECONDITIONING:	If electrode has been exposed to the atmosphere for an extended period of time, place in 250°F oven and slowly increase temperature to 600°F; bake at 600°F for one (1) hour.

RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	Optimum* Amps	Maximum Amps
Inches	mm				
3/32	3.0	DCEP or AC	75	100	115
1/8	3.2	DCEP or AC	90	135	160
5/32	4.0	DCEP or AC	130	170	220
3/16	4.8	DCEP or AC	200	250	300
1/4	6.4	DCEP or AC	300	350	400

*For out of position welding, reduce amperages by 15%.

TYPICAL DEPOSITION DATA (AT OPTIMUM):

Diameter		Type of Power	Amps	Deposition Rate
Inches	mm			
3/32	3.0	DCEP	100	2.10
1/8	3.2	DCEP	135	3.00
5/32	4.0	DCEP	175	4.00
3/16	4.8	DCEP	250	5.50
1/4	6.4	DCEP	350	8.20

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		10-lb. Can	50-lb. Can
Inches	mm	Inches	mm		
3/32	3.0	14	355	—	S126232-Z35
1/8	3.2	14	355	S126244-Z33	S126244-Z35
5/32	4.0	14	355	S126251-Z33	S126251-Z35
3/16	4.8	14	355	—	S126258-Z35
1/4	6.4	18	457	—	S126281-Z35

Material Safety Data Sheets on any McKay product may be obtained from McKay Customer Service.

Because McKay is constantly improving products, McKay reserves the right to change design and/or specifications without notice.