



# 9018-M XLM

**AWS E9018-M H4R**

Replaces: 050720

140-I, INDEX: 060116

## DESCRIPTION:

Designed for welding low alloy steels with tensile strengths greater than 90,000 psi, **McKay 9018-M XLM** features a specially formulated coating which reduces moisture pick-up and minimizes hydrogen cracking and starting porosity. This makes the 9018-M an excellent choice for conditions of high heat and humidity.

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

## APPLICATIONS:

Ideal for joining high-tensile steels including HY-90, HY-80, T-1, AR and other high tensile steels.

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

## TYPICAL WELD METAL PROPERTIES\* (CHEM PAD):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.08	0.10 max
Manganese (Mn)	1.00	0.60 to 1.25
Phosphorus (P)	0.02	0.03 max
Sulphur (S)	0.01	0.03 max
Silicon (Si)	0.40	0.80 max
Chromium (Cr)	0.07	0.15 max
Vanadium (V)	0.012	0.05 max
Nickel (Ni)	1.60	1.40 to 1.80
Molybdenum (Mo)	0.20	0.35 max

## TYPICAL MECHANICAL PROPERTIES\*(AS WELDED):

		AWS Spec
Tensile Strength	97,000 psi (669 MPa)	90,000 psi, min
Yield Strength	84,000 psi (580 MPa)	78,000-90,000 psi
Elongation % in 2"	26%	24% min
Reduction of Area	70.1%	Not required

## TYPICAL CHARPY V-NOTCH IMPACT VALUES\*:

		AWS Spec
Avg. at -60°F (-51°C)	74 ft•lbf (68 J)	20 ft•lbf

## CONFORMANCES AND APPROVALS:

- AWS Spec A5.5, Class E9018-M H4R • ASME SFA5.5, E9018-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	2.4	DCEP or AC	70	100	110
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 shown by 15%.

## TYPICAL DEPOSITION DATA (AT OPTIMUM):

Diameter		Type of Power	Amps	Deposition Rate Lbs/hr
Inches	mm			
3/32	2.4	DCEP	100	2.62
1/8	3.2	DCEP	135	3.49
5/32	4.0	DCEP	170	4.06
3/16	4.8	DCEP	250	5.86
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	2.4	14	355		S125632-Z35
1/8	3.2	14	355	S125644-Z33	S125644-Z35
5/32	4.0	14	355	S125651-Z33	S125651-Z35
3/16	4.8	14	355		S125658-Z35
1/4	6.4	18	457		S125681-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.