



502-18

AWS E8018-B6 H4R

Replaces: 050719

140-D INDEX: 060116

DESCRIPTION:

McKay 502-18 is an iron powder low hydrogen covered electrode designed for the welding of 5% Cr, 1/2% Mo steels and other chromium-molybdenum steels in service conditions too severe for McKay 9018-B3 XLM. Its special coating reduces moisture pick-up, minimizing hydrogen cracking and starting porosity, McKay 502-18 strikes and re-strikes easily, and provides a stable arc that is easy to control.

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

APPLICATIONS:

Primarily used in the petrochemical and petroleum industries. Excellent for tubes, tube sheets, and plate steels for high pressure hydrogen service.

Features	Benefits
<ul style="list-style-type: none"> • Excellent arc characteristics • Low moisture content • Quick and easy slag removal • Low spatter level • Low hydrogen 	<ul style="list-style-type: none"> • Stable, easy to control arc • Prevents starting porosity • Reduces clean-up time • Improves weld bead appearance, higher deposition • Resistant to hydrogen-induced cracking

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.06	0.05 to 0.10
Manganese (Mn)	0.80	1.00 max
Phosphorus (P)	0.01	0.03 max
Sulphur (S)	0.01	0.03 max
Silicon (Si)	0.40	0.90 max
Chromium (Cr)	5.00	4.00 to 6.00
Nickel (Ni)	0.042	0.40 max
Molybdenum (Mo)	0.50	0.45 to 0.65

TYPICAL MECHANICAL PROPERTIES*(AS WELDED):

	Stress Relieved—1 Hour at 1375°F	AWS Spec
Tensile Strength	93,000 psi (656 MPa)	80,000 psi, min
Yield Strength	78,000 psi (559 MPa)	67,000 psi, min
Elongation % in 2"	22%	19% min

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

Not required

CONFORMANCES AND APPROVALS:

- AWS Spec A5.5, Class E8018-B6 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.



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:

Inches	Diameter		Type of Power	Minimum Amps	Optimum* Amps	Maximum Amps
	Inches	mm				
3/32	3.0		DCEP or AC	70	95	110
1/8	3.2		DCEP or AC	90	140	160
5/32	4.0		DCEP or AC	130	190	210
3/16	4.8		DCEP or AC	200	250	290

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

AVAILABLE DIAMETERS AND PACKAGES:

Inches	Diameter		Length		10-lb. Can
	Inches	mm	Inches	mm	
3/32	2.4		14	355	S123532-Z33
1/8	3.2		14	355	S123544-Z33
5/32	4.0		14	355	S123551-Z33
3/16	4.8		14	355	S123558-Z33

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.