Unibraze 10018-M

(E10018-M)

Conformances And Approvals:
AWS Spec A5.5, Class E10018-M H4R • ASME SFA 5.5, F-4, A-12

Description:
Unibraze 10018-M is designed for welding low alloy, high-strength steels with tensile strengths of at least 100,000 psi. This electrode has high operator appeal due to its good arc characteristics, easy slag removal, and low spatter and smoke. Unibraze 10018-M is ideal for conditions of high heat and humidity because of it moisture-resistant coating which helps to prevent hydrogen cracking and starting porosity.

Applications:
Used for welding reinforcing steel as well as for HY-80, HY-90, T-1, AR and other high-tensile steels.

Features:	**Benefits:**
Low moisture re-absorption	Prevents starting porosity
Good arc characteristics	Stable, easy to control arc
Good ductility	High impact resistance
Low spatter level	Improves weld bead appearance
Quick and easy slag removal	Reduces clean-up time
Low smoke level	Welder safety and comfort

Typical Weld Metal Properties* (Chem Pad):

Weld Metal Analysis		**AWS Specification:**
Carbon (C)	0.06	0.10 max
Manganese (Mn)	1.25	0.75 to 1.70
Phosphorus (P)	0.015	0.03 max
Sulphur (S)	0.01	0.03 max
Silicon (Si)	0.40	0.60
Chromium (Cr)	0.10	0.35
Nickel (Ni)	1.55	1.40 to 2.10
Molybdenum (Mo)	0.30	0.25 to 0.45

Typical Mechanical Properties* (As Welded):

		AWS Spec
Tensile Strength	104,000 psi (718 MPa)	100,000 psi, min
Yield Strength 11	95,000 psi (656 MPa)	88,000 psi, min
Elongation % in 2”	24% min	20% min

Typical Charpy V-Notch Impact Values* (As Welded):

		AWS Spec
Avg. at -60°F (-51°C)	56 ft•lbf (52 J)	20 ft•lbf

*The information contained or otherwise referenced herein is presented only as “typical” without guarantee or warranty, and Unibraze 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 Unibraze.

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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:

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

Diameter	Type of Power	MinimumAmps	Optimum*Amps	Maximum Amps
3/32	DCEP or AC	70	100	110
1/8”	DCEP or AC	90	135	160
5/32”	DCEP or AC	130	170	220
3/16”	DCEP or AC	200	250	300
1/4”	DCEP or AC	300	350	400

TYPICAL DEPOSITION DATA (AT OPTIMUM):

*Allowance made for 2” stub loss included.

Diameter	Type of Power	Amps	Deposition Rate (Lbs/hr)
3/32”	DCEP	100	2.00
1/8”	DCEP	135	2.50
5/32”	DCEP	170	3.90
3/16”	DCEP	250	5.10
1/4”	DCEP	350	7.90