



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 its 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:

Low moisture re-absorption
Good arc characteristics
Good ductility
Low spatter level
Quick and easy slag removal
Low smoke level

Benefits:

Prevents starting porosity
Stable, easy to control arc
High impact resistance
Improves weld bead appearance
Reduces clean-up time
Welder safety and comfort

Typical Weld Metal Properties* (Chem Pad):

Weld Metal Analysis

Carbon (C)	0.06
Manganese (Mn)	1.25
Phosphorus (P)	0.015
Sulphur (S)	0.01
Silicon (Si)	0.40
Chromium (Cr)	0.10
Nickel (Ni)	1.55
Molybdenum (Mo)	0.30

AWS Specification:

0.10 max
0.75 to 1.70
0.03 max
0.03 max
0.60
0.35
1.40 to 2.10
0.25 to 0.45

Typical Mechanical Properties* (As Welded):

Tensile Strength	104,000 psi (718 MPa)
Yield Strength 11	95,000 psi (656 MPa)
Elongation % in 2"	24% min

AWS Spec
100,000 psi, min
88,000 psi, min
20% min

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

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

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