



## Unibrazed 11018-M (E11018-M)

### DESCRIPTION:

The UNIBRAZE 11018M is an outstanding electrode designed for use in applications which requires weld joints with 100,000 psi minimum tensile strength. This electrode provides excellent puddle control with good wetting action and tie in. The electrode offers good arc characteristics and easy slag removal.

### APPLICATIONS:

The UNIBRAZE 11018M is designed for applications requiring at least 100,000 psi tensile strength, good ductility and crack resistance along with high notch toughness at temperatures of -60°F. Low alloy steels typically welded with 11018M include HY-80, HY-90, HY-100 and T-1 steels.

### FEATURES:

- 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

### BENEFITS:

- 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

Carbon (C)	0.05	AWS Spec	0.10 Max
Manganese (Mn)	1.40		1.30 to 1.80
Phosphorus (P)	0.014		0.03 Max
Sulphur (S)	0.014		0.03 Max
Silicon (Si)	0.28		0.60 Max
Chromium (Cr)	0.20		0.40 Max
Vanadium (V)	0.010		0.05 Max
Nickel (Ni)	1.85		1.25 to 2.50
Molybdenum (Mo)	0.33		0.25 - 0.50

### TYPICAL MECHANICAL PROPERTIES (AW):

Tensile Strength	110,000 psi (759 MPa)	AWS Spec	110,000 psi Min
Yield Strength	101,000 psi (694 MPa)		98,000 to 110,000
Elongation % in 2"	21%		20%

### TYPICAL CHARPY V-NOTCH IMPACT VALUES\*(AW):

Avg. at -60°F	52 ft•lbs	AWS Spec	20 ft•lbs
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**DIFFUSIBLE HYDROGEN:** 2.6 ml/100 gr

### CONFORMANCES AND APPROVALS:

- AWS A5.5, E11018M H4R, ASME SFA 5.5, F-4, A-10, E11018M H4R
- ABS

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its product.



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### RECOMMENDED WELDING PROCEDURES:

**GENERAL:** Electrode positive, work negative (DCEP) or AC

**ARC:** Very short arc.

**STORAGE:** After opening, store in holding oven (250°F to 400°F) until used.

**RECONDITIONING:** If exposed to atmosphere for extended periods, the electrodes should be reconditioned for one (1) hour at 600°F.

### RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	*Optimum Amps	Maximum Amps
Inches	mm				
3/32	2.4	DCEP or AC	75	90	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 shown by 15%.

### TYPICAL DEPOSITION RATES:

Diameter		Type of Power	Amperage	Deposition Rate Lbs/Hr.
Inches	mm			
3/32	2.4	DCEP	100	2.0
1/8	3.2	DCEP	135	2.5
5/32	4.0	DCEP	175	3.9
3/16	4.8	DCEP	250	5.1
1/4	6.4	DCEP	300	7.8

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