



## Unibraze 9018-B3L (E9018-B3L)

### DESCRIPTION:

UNIBRAZE 9018-B3L is an outstanding electrode for welding high strength piping, where cracking is a problem. The UNIBRAZE 9018-B3L provides excellent notch toughness, 20 ft•lbs minimum at 100°F. The coating is specially formulated to resist moisture pick-up under conditions of high heat and humidity. The electrode offers resistance to moisture reabsorption which helps prevent hydrogen cracking and aids in elimination of starting porosity. Definitely a preferred electrode with high operator appeal.

### APPLICATIONS:

UNIBRAZE 9018-B3L is used in welding chrome-moly pipes and boiler work.

#### FEATURES:

- Lower carbon version of UNIBRAZE 9018-B3
- Excellent arc characteristics
- Low spatter level
- Quick and easy slag removal
- Low smoke level
- Low hydrogen, less than 4 ml/100 g
- Low moisture reabsorption

#### BENEFITS:

- More resistant to cracking
- Stable, easy to control arc
- Improves weld bead appearance, higher deposition
- Reduces clean-up time
- Welder safety and comfort
- Resistant to hydrogen-induced cracking
- Prevents starting porosity

### TYPICAL WELD METAL PROPERTIES\*(Chem Pad):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.030	0.05 max
Manganese (Mn)	0.61	0.90 max
Phosphorus (P)	0.02	0.03 max
Sulphur (S)	0.010	0.03 max
Silicon (Si)	0.39	0.80 max
Chromium (Cr)	2.10	2.00 to 2.50
Molybdenum (Mo)	0.99	0.90 to 1.20

### TYPICAL MECHANICAL PROPERTIES:

Stress relieved 1 hour at 1275°F		AWS Spec
Tensile Strength	102,000 psi (701 MPa)	90,000 min
Yield Strength	85,000 psi (585 MPa)	77,000 psi
Elongation % in 2"	21%	17%

### TYPICAL CHARPY V-NOTCH IMPACT VALUES:

		AWS Spec
Avg. at -20°F	25 ft•lbs	--

**DIFFUSIBLE HYDROGEN:** 1.7 ml/100 gr

### CONFORMANCES AND APPROVALS:

- AWS A5.5, E9018-B3L/E8018-B3L H4R, ASME SFA 5.5, E9018-B3L 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 LENGTH:** Very short arc  
**FLAT:** Angle electrode 10-15° from 90°  
**VERTICAL-UP:** Use weaving techniques  
**VERTICAL-DOWN:** Not recommended  
**OVERHEAD:** Use slight weaving motion within the puddle  
**STORAGE:** After opening, store in holding oven (250°F to 400°F) until used.  
**RECONDITIONING:** If exposed to atmosphere for extended periods, 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	70	100	110
1/8	3.2	DCEP or AC	90	135	160
5/32	4.0	DCEP or AC	130	170	220

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

### TYPICAL DEPOSITION RATES (at Optimum):

Diameter		Type of Power	Amperage	Deposition Rate Lbs/Hr.
Inches	mm			
3/32	2.4	DCEP	100	2.55
1/8	3.2	DCEP	135	2.83
5/32	4.0	DCEP	170	4.07

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