



## Unibraze 8018-B2L (E8018-B2L )

### DESCRIPTION:

UNIBRAZE 8018-B2L is an outstanding welding electrode for higher strength steels with tensile strengths greater than 80,000 pounds. This electrode offers good arc characteristics and easy slag removal. The coating is specially formulated to resist moisture pick-up under conditions of high heat and humidity. UNIBRAZE 8018-B2L 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 8018-B2L is used for fabrication and maintenance of boilers and associated piping. Such steels as 1 1/4 Cr-1/2 Mo, and 1/2 Cr-1/2 Mo, are suited for UNIBRAZE 8018-B2L.

### FEATURES:

- Lower carbon than UNIBRAZE 8018-B2
- Excellent arc characteristics
- Low spatter level
- Quick and easy slag removal
- Low moisture reabsorption
- Low smoke level
- Low hydrogen, less than 4 ml/100 g

### BENEFITS:

- More resistant to cracking
- Stable, easy to control arc
- 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		AWS Spec
Carbon (C)	0.04	0.05 max
Manganese (Mn)	0.65	0.90 max
Phosphorus (P)	0.011	0.03 max
Sulphur (S)	0.012	0.03 max
Silicon (Si)	0.53	0.80 max
Chromium (Cr)	1.36	1.00 to 1.50
Molybdenum (Mo)	0.62	0.40 to 0.65

### TYPICAL MECHANICAL PROPERTIES\*:

Stress relieved 1 hour at 1275°F		AWS Spec
Tensile Strength	98,000 psi (674 MPa)	80,000 min
Yield Strength	84,000 psi (577 MPa)	67,000 min
Elongation % in 2"	24%	19% min

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

		AWS Spec
Avg. at -20°F (-20°C)	46 ft•lbs	—
Avg. at -40°F (-40°C)	30 ft•lbs	—

### CONFORMANCES AND APPROVALS:

- AWS A5.5, E8018-B2L H4R/E7018 B2L H4R, ASME SFA 5.5, E8018-B2L
- 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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**DIFFUSIBLE HYDROGEN:** 2.3 ml/100 gr

**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 (220°F to 350°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
3/16	4.8	DCEP or AC	200	250	300

\*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	2.51
1/8	3.2	DCEP	145	3.66
5/32	4.0	DCEP	190	4.06
3/16	4.8	DCEP	275	5.88

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