



Unibraze 8018-B8 (E8018-B8)

(505-18)

DESCRIPTION:

Designed for joining creep-resistant, high chromium (9% Cr) alloys of similar composition, UNIBRAZE 8018-B8 is particularly useful for petrochemical applications. Its iron powder low hydrogen coating reduces moisture pick-up and helps to minimize hydrogen cracking and starting porosity. The UNIBRAZE 8018-B8 is the best choice when service conditions are too severe for UNIBRAZE 9018-B3 or UNIBRAZE 8018-B6.

APPLICATIONS:

Ideal for use in the petrochemical and petroleum industries. Excellent for tubes, tube sheets, and plate steels for high pressure hydrogen service, as well as 9% Cr, 1% Mo steels.

FEATURES:

- Excellent arc characteristics
- Low spatter level
- Low moisture content
- Low hydrogen
- Quick and easy slag removal

BENEFITS:

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

TYPICAL WELD METAL PROPERTIES (Chem Pad):

Weld Metal Analysis

Carbon (C)	0.07	AWS Spec	0.05 to 0.10
Manganese (Mn)	0.77		1.00 max
Phosphorus (P)	0.02		0.03 max
Sulphur (S)	0.01		0.03 max
Silicon (Si)	0.42		0.90 max
Chromium (Cr)	9.30		8.00 to 10.50
Nickel (Ni)	0.12		0.40 max
Molybdenum (Mo)	0.86		0.85 to 1.20

TYPICAL MECHANICAL PROPERTIES*:

Stress Relieved - 1 Hour at 1375°F

Tensile Strength	93,000 psi (638 MPa)	AWS Spec	80,000 psi. min
Yield Strength	72,000 psi (496 MPa)		67,000 psi, min
Elongation % in 2"	21%		19% min

TYPICAL CHARPY V-NOTCH IMPACT VALUES:

Not required

DIFFUSIBLE HYDROGEN: 3.6 ml/100 gr

CONFORMANCES AND APPROVALS:

- AWS A5.5, E8018-B8 H4R
- ABS
- 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:** DCEP (electrode positive, work negative)
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:

Diameter		Type of Power	Minimum Amps	Optimum* Volts	Maximum Amps
Inches	mm				
3/32	3.0	DCEP	70	95	110
1/8	3.2	DCEP	90	140	160
5/32	4.0	DCEP	130	190	210

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

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		10-LB. Can
Inches	mm	Inches	mm	
3/32	2.4	14"	355	S124032-033
1/8	3.2	14"	355	S124044-033
5/32	4.0	14"	355	S124051-033

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