



Unibraze 8018-C2 (E8018-C2)

DESCRIPTION:

UNIBRAZE 8018-C2 is excellent for low temperature applications requiring tensile strengths greater than 80,000 psi and for welding 2% to 4% nickel steels. Featuring a special formulated coating designed to reduce moisture pick-up and help minimize hydrogen cracking and starting porosity, UNIBRAZE 8018-C2 is also an outstanding choice in conditions of high heat or humidity.

APPLICATIONS:

Used in shipbuilding, piping and gas storage tanks, as well as in the welding of AR and T-1 steels.

FEATURES:

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

BENEFITS:

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

TYPICAL WELD METAL PROPERTIES (Chem Pad):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.03	0.12 max
Manganese (Mn)	1.01	1.25 max
Phosphorus (P)	0.01	0.03 max
Sulphur (S)	0.02	0.03 max
Silicon (Si)	0.40	0.80 max
Nickel (Ni)	3.18	3.00 to 3.75

TYPICAL MECHANICAL PROPERTIES:

Stressed Relieved -1 Hour at 1125°F		AWS Spec
Tensile Strength	95,000 psi (656 MPa)	80,000 psi, min
Yield Strength	82,000 psi (566 MPa)	67,000 psi, min
Elongation % in 2"	24%	19% min

TYPICAL CHARPY V-NOTCH IMPACT VALUES:

Stressed Relieved -1 Hour at 1125°F		AWS Spec
Avg. at -100°F (-73°C)	52 ft•lb (54 J)	20 ft•lb

DIFFUSIBLE HYDROGEN: 3.2 ml/100 gr

CONFORMANCES AND APPROVALS:

- AWS A5.5, E8018-C2 H4, ASME SFA5.5, F-4, A-10, E8018-C2 H4
- 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* Amps	Maximum Amps
Inches	mm				
3/32	3.0	DCEP	70	100	110
1/8	3.2	DCEP	90	135	160
5/32	4.0	DCEP	130	170	220
1/4	6.4	DCEP	300	350	400

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

TYPICAL DEPOSITION DATA (AT OPTIMUM):

Diameter		Type of Power	Amps	Deposition Rate Lbs/Hr
Inches	mm			
3/32	3.0	DCEP	100	2.47
1/8	3.2	DCEP	135	2.87
5/32	4.0	DCEP	170	3.84
1/4	6.4	DCEP	350	8.20

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