Unibraze 8018-C1

(E8018-C1)

DESCRIPTION:

UNIBRAZE 8018-C1 is a high quality electrode designed for applications of 2% nickel deposits. The outstanding characteristics of this electrode provides good puddle control with excellent wetting action and tie in. This electrode offers good arc characteristics and easy slag removal. The UNIBRAZE 8018-C1 will provide notch toughness of 20 ft•lbs at -75°F. The coating is specially formulated to resist moisture pick-up under conditions of high heat and humidity. This electrode offers resistance to moisture reabsorption, helps retard hydrogen cracking and aids in elimination of starting porosity. Definitely a preferred electrode with high operator appeal.

APPLICATIONS:

UNIBRAZE 8018-C1 is designed for use in the welding of nickel bearing steels for low temperature applications where toughness of the weld metal is important. Such applications include shipbuilding, storage, piping and tanks used in the storage of gases.

FEATURES:	BENEFITS:
• Excellent arc characteristics	• Stable, easy to control arc
• Low spatter level	• Improves weld bead appearance, higher deposition
• Quick and easy slag removal	• Reduces clean-up time
• Low moisture reabsorption	• Prevents starting porosity
• Low smoke level	• Welder safety and comfort
• Low hydrogen, less than 4 ml/100 g	• Resistant to hydrogen-induced cracking

TYPICAL WELD METAL PROPERTIES (Chem Pad):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.042	0.12 max
Manganese (Mn)	0.95	1.25 max
Phosphorus (P)	0.010	0.03 max
Sulphur (S)	0.011	0.03 max
Silicon (Si)	0.36	0.80 max
Nickel (Ni)	2.43	2.00 to 2.75

TYPICAL MECHANICAL PROPERTIES:

Stress relieved 1 hour at 1125°F		AWS Spec
Tensile Strength	91,000 psi (630 MPa)	80,000 min
Yield Strength	80,000 psi (552 MPa)	67,000 min
Elongation % in 2”	26%	19% min

TYPICAL CHARPY V-NOTCH IMPACT VALUES:

		AWS Spec
Avg. at -75°F	58 ft•lbs	20 ft•lbs

DIFFUSIBLE HYDROGEN: 3.1 ml/100 gr

CONFORMANCES AND APPROVALS:

• AWS A5.5, E8018-C1 H4, ASME SFA 5.5, F-4, A-10, E8018-C1 H4

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• ABS

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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 (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 Inches	Diameter mm	Type of Power	Minimum Amps	Optimum* Amps	Maximum Amps
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	220	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 Inches	Diameter mm	Type of Power	Amperage	Deposition Rate Lbs/Hr.
3/32	2.4	DCEP	100	2.0
1/8	3.2	DCEP	140	3.1
5/32	4.0	DCEP	190	3.9
3/16	4.8	DCEP	275	5.7

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