



Unibraze 7018-A1 (E7018A1 H4R)

DESCRIPTION:

UNIBRAZE 7018-A1 is an outstanding welding electrode for welding the 0.50% Molybdenum steel and other low alloy steels. The coating is specially formulated to resist moisture pick-up of high heat and humidity. UNIBRAZE 7018-A1 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 7018-A1 is used primarily for pressure vessel applications. This includes construction and maintenance of boilers, piping and tubing.

FEATURES:

- Low moisture pick-up
- Low hydrogen, less than 4 ml/100 g
- Quick and easy slag removal
- Low spatter level
- Good arc characteristics

BENEFITS:

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

TYPICAL WELD METAL PROPERTIES*(CHEM PAD):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.04	0.12 max
Manganese (Mn)	0.72	0.90 max
Phosphorus (P)	0.014	0.03 max
Sulphur (S)	0.011	0.03 max
Silicon (Si)	0.31	0.80 max
Molybdenum (Mo)	0.54	0.40 - 0.65

TYPICAL MECHANICAL PROPERTIES*:

Stress Relieve 1 hour @ 1150°F		AWS Spec
Tensile Strength	89,000 psi (615 MPa)	70,000 psi
Yield Strength	77,000 psi (529 MPa)	57,000 psi
Elongation % in 2"	27%	25%

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

		AWS Spec
Avg. at -20°F	102 ft•lbs	---
Avg. at -40°F	42 ft•lbs	---

DIFFUSIBLE HYDROGEN: 1.9 mls/100 gr

CONFORMANCES AND APPROVALS:

- AWS A5.5, E7018A1 H4R, ASME SFA 5.5, E7018A1
- 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.



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

*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	110	2.65
1/8	3.2	DCEP	160	2.90
5/32	4.0	DCEP	170	4.16

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