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E8018-B2L DATA SHEET

Pinnacle Alloys E8018-B2L
AWS CLASS E8018-B2L H4R, E7018-B2L H4R
CODE AND SPECIFICATION DATA:
AWS A5.5 ASME SFA 5.5, F-4, A-3

DESCRIPTION:
Pinnacle Alloys E8018-B2L is an outstanding welding electrode for higher strength steels with tensile strengths greater than 80,000 pounds. The coating is specially formulated to resist moisture pick-up under conditions of high heat and humidity. The electrode offers resistance to moisture reabsorption, which helps prevent hydrogen cracking and aids in eliminating starting porosity. This is the same as Pinnacle Alloys E8018-B2 with the exception that this is a low carbon grade electrode. Pinnacle Alloys E8018-B2L is an excellent choice for boiler fabrication and maintenance.

FEATURES:
- Good arc characteristics
- Quick and easy slag removal
- Low moisture reabsorption
- Low smoke level
- Low hydrogen, less than 4 ml/100 g
- Lower carbon than E8018-B2
- Low spatter level

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

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) or AC

DIAMETERS: 3/32”, 1/8”, 5/32”, 3/16”, 7/32”, 1/4”

RECONDITIONING & STORAGE: If electrode has been exposed to the atmosphere for an extended period of time, recondition for one hour at 600°F. After opening, store in holding oven (220°F to 350°F) until used.

RECOMMENDED WELDING TECHNIQUES:

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

TYPICAL DIFFUSIBLE HYDROGEN BY GAS CHROMATOGRAPHY: 3.5 ml/100g

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TYPICAL DEPOSIT COMPOSITION:

	Weld Metal Analysis (%)	AWS Spec
Carbon (C)	0.03	0.05 max
Chromium (Cr)	1.48	1.00-1.50
Manganese (Mn)	0.63	0.90 max
Molybdenum (Mo)	0.53	0.40-0.65
Phosphorous (P)	0.014	0.03 max
Silicon (Si)	0.56	0.80 max
Sulfur (S)	0.01	0.03 max

TYPICAL MECHANICAL PROPERTIES:

	SR 1 Hr. @ 1275°F	AWS Spec (min)
Ultimate Tensile Strength	89,000 psi (612 MPa)	80,000 psi
Yield Strength	74,000 psi (510 MPa)	67,000 psi
Percent Elongation in 2”	28%	19%
CVN (as welded) @ -20°F	46 ft•lb$_f$ (62 Joules)	Not required
CVN (as welded) @ -40°F	30 ft•lb$_f$ (41 Joules)	Not required

TYPICAL WELDING PARAMETERS:

Diameter	Type of Power	Amperage	Deposition Rate (lbs/hr)	Amperage Range
3/32”	**DCEP** or AC	**100**	**2.51**	70-110
1/8”	**DCEP** or AC	**145**	**3.66**	90-160
5/32”	**DCEP** or AC	**190**	**4.06**	130-220
3/16”	**DCEP** or AC	**275**	**5.88**	200-300
7/32”	**DCEP** or AC	**350**	**8.00**	275-375
1/4”	**DCEP** or AC	**375**	**8.90**	300-400

NOTE: Optimum conditions are in boldface type. For out of position welding, decrease amperage by 15%. Allowance made for 2” stub loss included. Maintaining a proper welding procedure, including pre-heat and interpass temperatures, may be critical depending on the type and thickness of steel being welded.

Pinnacle Alloys MSDS sheet may be obtained at www.pinnaclealloys.com.