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ER80S-B8 DATA SHEET

Pinnacle Alloys ER80S-B8
AWS CLASS ER80S-B8
CODE AND SPECIFICATION DATA:
AWS A5.28 ASME SFA 5.28

DESCRIPTION:
Pinnacle Alloys ER80S-B8 is a low alloy copper-coated solid wire with 9% Cr and 1% Mo content to be used for the welding of creep resistant steel. Its corrosion resistance is higher than 5Cr-0.5Mo steel requirements. Pinnacle Alloys ER80S-B8 is suitable for applications in power plants, the chemical or petro-chemical industry, and in the ammonia synthesis process. It can also be used for heat exchangers, boilers, and piping and pressure vessels for temperature service up to 1110°F (600°C).

BASE MATERIALS TO BE WELDED:

- A182 Gr F9
- A199 Gr T9
- A213 Gr T9
- A217 Gr C12
- A234 Gr WP9
- A335 Gr 9
- A336 Gr F9
- A387 Gr 9

DIAMETERS: .035", .045", 1/16", 3/32", 1/8", 5/32"

WELDING POSITIONS: All positions

WELDING GUIDELINES: Preheat and interpass temperature 390°F-480°F (200°C-250°C). PWHT at 1370°F (745°C) for one hour.

TYPICAL DEPOSIT COMPOSITION (Wt %):

Carbon (C)	0.07
Chromium (Cr)	9.00
Copper (Cu)	0.12
Manganese (Mn)	0.50
Molybdenum (Mo)	1.00
Phosphorous (P)	0.008
Silicon (Si)	0.40
Sulfur (S)	0.008

TYPICAL MECHANICAL PROPERTIES (after PWHT):

Ultimate Tensile Strength (psi)	97,180 psi (670 MPa)
Yield Strength (psi)	76,880 psi (530 MPa)
Percent Elongation	24%
CVN ($ft•lb_f$) @ 68°F (20°C)	50 ft•lbs (60 Joules)

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TYPICAL WELDING PARAMETERS:

	Diameter	Amperage	Volts	Shielding Gas
GTAW	.035”	50-70	10-12	100% Ar
	.045”	70-100	10-12	
	1/16”	100-125	12-15	
	3/32”	125-175	15-20	
	1/8”	175-250	15-20	
	5/32”	175-250	15-20	
GMAW – Spray Transfer	.035”	165-200	28-32	80-85% Ar/ Bal CO_2 95-98% Ar/ Bal O_2
	.045”	180-220	30-34	
	1/16”	230-260	30-34	
GMAW – Short Circuiting Transfer	.035”	100-140	22-25	100% CO_2* 75% Ar/ 25% CO_2**
	.045”	120-150	23-26	

***With 100% CO_2 gas shielding, weld metal undergoes short circuit or globular transfer.**
****Only facilitates short circuit or globular transfer.**

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 the use in the field. The manufacturer disclaims any warranty of merchantability of fitness for any particular purpose with respect to its products.

CAUTION: Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standards A49.1, “Safety in Welding and Cutting,” published by the American Welding Society, 550 NW LeJune Road, Miami, FL 33126: OSHA Safety and Health Standards 29 CRF 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

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