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ER80S-Ni1 DATA SHEET

Pinnacle Alloys ER80S-Ni1

AWS CLASS ER80S-Ni1

CODE AND SPECIFICATION DATA:

AWS A5.28 ASME SFA 5.28

DESCRIPTION:

Pinnacle Alloys ER80S-Ni1 is a low alloy copper-coated solid wire designed for welding low alloy steels with 1% Ni content, fine grained for low temperature applications (-58°F or -50°C). Nickel increases atmospheric weathering resistance and improves electrochemical balance between weld and base metal. Pinnacle Alloys ER80S-Ni1 is suitable for the construction of offshore platforms, pressure vessels, and pipelines.

BASE MATERIALS TO BE WELDED:

- A131 Gr A
- A131 Gr B
- A131 Gr D
- A131 Gr E
- A333 Gr 6
- A334 Gr 6
- A350 Gr LF2
- A350 Gr LF5
- API 5LX42
- API 5LX46
- API 5LX52
- API 5LX60
- API 5LX65

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

WELDING POSITIONS: All positions

WELDING GUIDELINES: Preheat and interpass temperature 300°F (150°C). PWHT is not required.

TYPICAL DEPOSIT COMPOSITION (Wt %):

Carbon (C)	0.10
Copper (Cu)	0.12
Manganese (Mn)	1.10
Molybdenum (Mo)	0.10
Nickel (Ni)	1.00
Phosphorous (P)	0.01
Silicon (Si)	0.60
Sulfur (S)	0.01



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TYPICAL MECHANICAL PROPERTIES (as welded):

Ultimate Tensile Strength (psi)	87,030 psi (600 MPa)
Yield Strength (psi)	76,880 psi (530 MPa)
Percent Elongation	26%
CVN (ft•lb _f) @ -4°F (-20°C)	100 ft•lbs (130 Joules)
CVN (ft•lb _f) @ -40°F (-40°C)	60 ft•lbs (80 Joules)
CVN (ft•lb _f) @ -58°F (-50°C)	50 ft•lbs (60 Joules)

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% CO₂ 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.