AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

ER100S-G DATA SHEET

Pinnacle Alloys ER100S-G
AWS CLASS ER100S-G
CODE AND SPECIFICATION DATA:
AWS A5.28 ASME SFA 5.28

DESCRIPTION:
Pinnacle Alloys ER100S-G has a nominal composition (wt-%) of **1.5 Mn, 0.45 Mo, 0.25 Cr, with Ni just under 1 percent** (meeting NACE MR0 175 requirements). This material is designed for welding high yield strength steels and steels with tensile strengths higher than 101ksi. It has good impact strength at low temperatures. Pinnacle Alloys ER100S-G is suitable for the metal working industry, offshore fabrication, chemical and petrochemical industries. Typical base material applications are ASTM A 514, A 517, and HY80. Preheat and interpass temperatures are typically kept between 275-325°F. PWHT is not required.

Pinnacle Alloys ER100S-G is available in spools and cut-lengths, as well as in various finishes/coatings, such as copper coated and copper free (bare).

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

WELDING POSITIONS: All positions
GMAW spray transfer limited to flat and horizontal fillet positions only

TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	N.S.	0.13
Chromium (Cr)	N.S.	0.30
Copper (Cu)	N.S.	0.12
Manganese (Mn)	N.S.	1.50
Molybdenum (Mo)	N.S.	0.45
Nickel (Ni)	N.S.	0.95
Phosphorus (P)	N.S.	0.010
Silicon (Si)	N.S.	0.60
Sulfur (S)	N.S.	0.010

*N.S. means Not Specified.
NOTE: Single values are maximums.

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TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded (GMAW)	As Welded (GTAW)
Ultimate Tensile Strength	100,000 psi (690 MPa)	104,000 psi (720 MPa)	108,700 psi (750 MPa)
Yield Strength	Not required	88,000 psi (610 MPa)	91,000 psi (630 MPa)
Percent Elongation in 2”	Not required	22%	21%
CVN @ -40°F (-40°C)	Not required	55 ft•lb$_f$ (75 Joules)	59 ft•lb$_f$ (80 Joules)

TYPICAL WELDING PARAMETERS:

	Diameter	Amperage	Volts	Shielding Gas
GTAW	3/32”	70-210	9-16	100% Ar
	1/8”	90-280	10-19	
	5/32”	120-320	10-19	
GMAW Spray Transfer	.035”	200-260	26-32	98% Ar/ 2% O_2
	.045”	240-360	26-34	
	1/16”	270-450	27-38	

NOTE: Maintaining a proper welding procedure, including pre-heat and interpass temperatures, may be critical depending on the type and thickness of steel being welded.

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, 8669 NW 36 Street, #130, 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 SDS sheets may be obtained on the website below.