AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

PREMIER S-6 DATA SHEET

Pinnacle Alloys Premier S-6
AWS CLASS ER70S-6
CODE AND SPECIFICATION DATA:
AWS A5.18 ASME SFA 5.18; UNS K11140

DESCRIPTION:
Pinnacle Alloys Premier S-6 is intended for both single-pass and multipass welding. They are especially suited for sheet metal applications, where smooth weld beads are desired, and structural and plate steels that have moderate amounts of rust or mill scale. These electrodes permit the use of higher current ranges with either CO_2 shielding gas or with mixtures of Ar and O_2 or Ar and CO_2. However, these electrodes do require a higher level of oxidation than other classifications in A5.18 when using either binary or ternary argon shielding gas mixtures. Typical base metal specifications for these steels are ASTM A 36, A 285-C, A 515-55, and A 516-70, which have UNS Numbers K02600, K02801, K02001, and K02700, respectively.

DIAMETERS: .023", .030", .035", .045", .052", 1/16"

WELDING POSITIONS: All positions
Spray Transfer is recommended for use in flat position and for and horizontal fillet welds.

TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.06-0.15	0.08
Chromium (Cr)	0.15	0.032
Copper (Cu)	0.50	0.17
Manganese (Mn)	0.40-1.85*	1.50
Molybdenum (Mo)	0.15	0.019
Nickel (Ni)	0.15	0.016
Phosphorus (P)	0.025	0.014
Silicon (Si)	0.80-1.15*	0.90
Sulfur (S)	0.035	0.013
Vanadium (V)	0.03	0.006

NOTE: Single values are maximums.
*Pinnacle Alloys restricts Mn to 1.60% maximum and Si to 1.00% maximum (meeting ASME Sec. IX requirement for A1 chemistry)

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TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	70,000 psi (480 MPa)	83,000 psi (550 MPa)
Yield Strength	58,000 psi (400 MPa)	70,000 psi (480 MPa)
Percent Elongation in 2”	22%	32%
CVN @ -20°F (-30°C)	20 ft•lb_f (27 Joules)	88 ft•lb_f (120 Joules)

TYPICAL WELDING PARAMETERS:

	Diameter	Amperage	Volts	Shielding Gas
GMAW Spray Transfer	.035”	280-320	27-30	90% Ar/ 10% CO_2
	.045”	300-360	27-29	
	.052”	310-380	28-31	
	1/16”	320-390	29-33	
GMAW Spray Transfer	.035”	290-330	27-30	90% Ar/ 10% CO_2
	.045”	310-370	28-30	
	.052”	320-390	29-31	
	1/16”	330-400	30-34	
GMAW Short-Circuit	.035”	90-160	15-19	75% Ar/ Balance CO_2
	.045”	130-200	17-19	
	.052”	150-200	17-20	
	1/16”	160-210	18-21	

NOTE: For out of position welding, decrease amperage by 15%. 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.