



Pinnacle Alloys are products of SOWESCO

4130C DATA SHEET

Pinnacle Alloys 4130C

No AWS classification

DESCRIPTION:

Pinnacle Alloys 4130C is a low alloy steel, composite metal cored electrode for gas-shielded arc welding of 4130, 4140, 8630, and similar alloy steels that are to be post weld heat treated. This electrode is designed to meet the properties of quenched and tempered steels, and therefore should not be used for as-welded applications. Pinnacle Alloys is intended for single or multiple pass welding in horizontal fillets and the flat position.

CHARACTERISTICS:

- Smooth spray arc transfer with minimal spatter.
- Contains <1% Ni, making it suitable for most sour service applications.
- Low diffusible hydrogen content of <4mL per 100g.

SHIELDING GAS: 98% Ar-2% O₂, 90% Ar-10% CO₂, 40-50 cfh

DIAMETERS: .045", 1/16"

TYPICAL DEPOSIT COMPOSITION (Wt%):

	Wt% 98 Ar/ 2 O ₂	Wt% 90 Ar/ 10 CO ₂
Carbon (C)	0.21	0.21
Chromium (Cr)	0.65	0.72
Manganese (Mn)	1.32	1.42
Molybdenum (Mo)	0.20	0.21
Nickel (Ni)	0.68	0.85
Phosphorous (P)	0.006	0.010
Silicon (Si)	0.75	0.84
Sulfur (S)	0.010	0.012

TYPICAL MECHANICAL PROPERTIES (Wt% 90 Ar/ 10 CO₂):

	SR 4 Hrs. @ 1175°F	SR 32 Hrs. @ 1175°F	Aust. 1 Hr. @ 1625°F Temper 2 Hrs. @ 1100°F
Ultimate Tensile Strength (psi)	107,000	100,000	132,000
Yield Strength (psi)	88,000	80,700	118,000
Percent Elongation	25	25	18
CVN (ft•lb _f) @ -20° F	33	30	--
CVN (ft•lb _f) @ -40° F	26	26	--
Hardness (Rockwell B)	93	95	23 (HRC)



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TYPICAL WELDING PARAMETERS (Wt% 98 Ar/ 2 O₂):

Diameter	WFS (ipm)	Amperage	Volts	WFS Range (ipm)	Amperage Range	Volts Range	ESO (in.)
.045"	410	255	26	240-600	180-330	22-31	1/2-1"
1/16"	300	360	26	160-500	230-520	22-32	3/4-1"

Note: Optimum conditions are in boldface type. Welding parameters for 98% Ar/ 2% O₂. For 90% Ar/ 10% CO₂ mixture, increase voltage to 30V.

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 guaranteed 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 CFR 1910 is also available from the U.S. Department of Labor, Washington, D.C. 20210.

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