

SelectAlloy 625-AP

Description:

SelectAlloy 625-AP is a gas-shielded, flux cored, nickel based electrode designed to weld in all positions. It has a nominal weld metal composition of 22% Cr, 9% Mo, 3% Fe, 3.6% Nb, balance Nickel. It is primarily used for welding alloys 625, 601, 802 and 9% nickel to themselves and to steel. It is also widely used for surfacing steel and for joining other nickel based alloys to steel. **SelectAlloy 625-AP** is designed for use with either 75% argon/balance CO₂ or 100% CO₂ shielding gas.

Classification:

- ENiCrMo3T1-1/4 per AWS A5.34

Characteristics:

SelectAlloy 625-AP provides superb performance characteristics in all positions, using either argon + 25% CO₂ or 100% CO₂ shielding gas. Out of position deposition rates are significantly higher than those achieved with solid wires or covered electrodes. Flat, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup.

Applications:

SelectAlloy 625-AP is widely used in offshore and marine environments. It is used to clad steel when exceptional corrosion resistance is required, such as exposure to chloride contaminated water in heat exchangers. Other applications are the joining of 9% nickel steels utilized in LNG storage and conveyance equipment and in joining steel to nickel based alloys.

Typical Mechanical Properties:

	<u>75Ar/25CO₂</u>	<u>100CO₂</u>
Ultimate Tensile Strength (psi)	117,000	109,000
Yield Strength (psi)	74,000	65,000
Percent Elongation	33	46
CVN (ft-lbs) @ -320°F	75	59

Typical Weld Deposit Chemistry:

	<u>C</u>	<u>Cr</u>	<u>Mo</u>	<u>Nb</u>	<u>Fe</u>	<u>Ni</u>
75Ar/25CO ₂	0.03	20.70	8.70	3.70	0.60	Bal

Typical Welding Parameters (Ar-25% CO₂)*:

Diameter	Position	Optimum			Range	
		Amperage	WFS	Voltage	Amperage	Voltage
.045"	Flat	190	400	27	125-215	24-28
	V-up/OH	155	320	24	125-175	23-26
1/16"	Flat	200	225	26	150-230	23-28
	V-up/OH	175	175	24	150-190	23-25

Use 1/2-5/8" Contact tip to work distance

*For CO₂ shielding raise voltage by 1/2-1 volt

Rev 1 (10/19/2015)

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. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.