

SelectAlloy 182-AP

Description:

SelectAlloy 182-AP is a gas-shielded, flux cored, nickel based electrode designed to weld in all positions. It has a nominal weld metal composition of 15% Cr, 7% Fe, 6% Mn, 2% Nb, balance nickel. It is primarily used for welding Ni-Cr-Fe (such as Alloys 600, 601) and Ni-Fe-Cr (such as alloy 800) base material, for welding the clad side of joints in steel clad with nickel-chromium-iron alloys and for dissimilar welding of carbon and low alloy steels to austenitic stainless steels or nickel based alloys. **SelectAlloy 182-AP** is designed for use with either argon + 20-25% CO₂ or 100% CO₂ shielding gas.

Classification:

- ENiCrFe3T1-1/4 per AWS A5.34

Characteristics:

SelectAlloy 182-AP provides superb performance characteristics in all positions, using either argon + 20-25% CO₂ or 100% CO₂ shielding gas. Out of position deposition rates are significantly higher than those achieved with solid wires or covered electrodes. Uniform, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup. This ENiCrFe-3 class electrode is more resistant to hot cracking than the ENiCrFe-1 and ENiCrFe-2 classes.

Applications:

SelectAlloy 182-AP offers an excellent combination of corrosion resistance, high temperature strength and oxidation resistance. It is designed for welding in harsh environments such as desalination plants, petrochemical facilities, power generation plants and in temperature critical conditions such as furnace equipment and piping.

Typical Mechanical Properties*:

Ultimate Tensile Strength	91,000 psi (627 MPa)
Yield Strength	51,000 psi (352 MPa)
Percent Elongation	42
CVN @ -320°F (-196°C)	100 ft-lbs (135 J)

Typical Weld Deposit Chemistry*:

Carbon	0.02
Chromium	16.0
Manganese	5.5
Niobium	2.1
Iron	7.5
Nickel	Bal.

*The properties shown are with Ar-25% CO₂ shielding gas. Results with CO₂ are very similar.

Typical Welding Parameters (Ar + 20-25%CO₂)*:

Diameter	Position	Amperage	Optimum	Voltage	Range	
			WFS		Amperage	Voltage
.045" (1.2 mm)	Flat	180	400 (1015)	27-28	125-200	25-30
	V-up/OH	140	300 (760)	26	120-165	25-27
1/16" (1.6 mm)	Flat	250	300 (760)	28	130-300	23-30
	V-up/OH	200	200 (510)	26	140-240	23-27

Use 1/2" Contact tip to work distance

* For CO₂ shielding increase voltage by ½-1 volt

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.

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