



SelectAlloy 316L-AP CRYO

Description:

SelectAlloy 316L-AP CRYO is a gas-shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 17.5% Cr, 13% Ni, 2.5% Mo and a maximum carbon content of 0.04%. It is designed for cryogenic applications where good weld metal toughness is required. The recommended shielding gas is argon + 20-25% CO₂.

Classifications:

- E316LT1-4 per AWS A5.22

Characteristics:

SelectAlloy 316L-AP CRYO provides superb performance characteristics in all positions, using Ar/ 20-25% CO₂ shielding gas. Flat, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup.

Applications:

SelectAlloy 316L-AP CRYO is designed to be used in the fabrication and repair of cryogenic components. These applications require weld metal toughness and lateral expansion at temperatures of -320°F.

Typical Mechanical Properties(Ar-25%CO₂):

Ultimate Tensile Strength (psi)	80,000
Yield Strength (psi)	57,000
Percent Elongation	45
CVN @ -320°F (ft-lbs)	27
Lateral Expansion @-320°F (mils)	24

Typical Weld DepositChemistry(Ar-25%CO₂):

Shielding Gas	C	Cr	Ni	Mn	Si	N	Mo
75Ar/25CO ₂	0.03	17.50	12.90	1.0	0.60	0.05	2.5

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

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Ratelbs/hr
.035"	300	110	25	5/8-3/4	3.3
.035"	500	150	26	5/8-3/4	5.4
.035"	600	165	27	5/8-3/4	6.3
.035"	700	175	28	5/8-3/4	7.7
.045"	250	130	24	5/8-3/4	5.4
.045"	300	160	26	5/8-3/4	6.3
.045"	425	200	28	5/8-3/4	9.2
.045"	780	270	34	5/8-3/4	16.2
1/16"	150	170	25	3/4-1	5.4
1/16"	195	215	27	3/4-1	7.0
1/16"	240	250	28	3/4-1	8.6
1/16"	320	305	29	3/4-1	11.5

* Optimum conditions are in **boldface type**.

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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.