



SelectAlloy 309H-AP

Description:

SelectAlloy 309H-AP is a gas-shielded, flux cored, stainless steel electrode with a nominal weld metal composition of 24% chromium and 13% nickel with a carbon content of .04-.08%. The higher carbon in this all position alloy wire makes it suitable for higher temperature use.

Classifications:

- E309HT1-1, E309HT1-4 per AWS A5.22 (Also meets E309T1-1, E309T1-4 per AWS A5.22)

Characteristics:

SelectAlloy 309H-AP provides superb all position performance. Achieves flat, well washed beads with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup.

Applications:

SelectAlloy 309H-AP is utilized to weld type 309 stainless steel where higher temperature strength is required. This electrode may also be used to join carbon and low alloy steels to austenitic stainless steels. SelectAlloy 309H-AP is well suited for refinery and chemical processing equipment welding.

Typical Mechanical Properties (CO₂)*:

Ultimate Tensile Strength (psi)	89,100
Yield Strength (psi)	69,800
Percent Elongation	35

*Strength levels will be slightly higher w/Ar20-25% CO₂

Typical Weld Deposit Chemistry (wt%):

<u>Shielding Gas</u>	<u>C</u>	<u>Cr</u>	<u>Ni</u>	<u>Mn</u>	<u>Si</u>	<u>N</u>
100CO ₂	0.07	23.80	12.60	1.20	0.80	0.05
Ferrite Number (WRC, 1992) - 9						

Typical Welding Parameters (CO₂)*:

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate lbs/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**. Reduce by 2 volts when using Ar+20-25% CO₂.

Select-Arc all position electrodes do not contain bismuth.

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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.