

SelectAlloy 309L-C

Description:

SelectAlloy 309L-C is a gas-shielded, metal cored, stainless steel electrode. It has a nominal composition of 24% chromium and 13% nickel with a maximum carbon content of 0.03%. The low carbon minimizes carbide precipitation and makes the weld metal more resistant to intergranular corrosion. It is designed for use with argon/1-2% oxygen or argon/1-2% CO₂ shielding gases.

Classification:

- EC309; EC309L per AWS A5.22 (Also per AWS A5.2:2006)
- CWB approval EC309L

Characteristics:

SelectAlloy 309L-C operates with a smooth, spray arc transfer. It produces little or no slag and virtually no spatter, minimizing cleanup. It offers higher deposition rates and more controlled penetration than the equivalent solid electrode. As a result it operates at higher travel speeds and handles poor fit-up.

Applications:

SelectAlloy 309L-C is ideally suited for making small butt, lap and fillet welds on thin material at elevated travel speeds. It finds application in the welding of refinery and chemical processing equipment, as well as furnace and auto exhaust parts. It is used to weld type 309 stainless steel, to join carbon and low alloy steels to austenitic stainless steel, to join carbon and low alloy steels to austenitic stainless steels, to weld 304 clad sheets and for first layer cladding of carbon steel.

Typical Mechanical Properties

Ultimate Tensile Strength (psi)	84,000
Yield Strength (psi)	64,200
Percent Elongation	35

Typical Weld Deposit Chemistry (Ar-2%O₂):

<u>C</u>	<u>Mn</u>	<u>Cr</u>	<u>Si</u>	<u>Ni</u>	<u>N*</u>
0.03	1.50	23.80	0.50	12.30	0.05
Ferrite Number (WRC, 1992) - 17					

Typical Welding Parameters (DCEP)*:

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.035"	350	155	22	1/2-5/8"	5.9
.035"	500	205	23	1/2-5/8"	8.6
.035"	600	230	25	1/2-5/8"	10.2
.035"	700	245	26	1/2-5/8"	11.8
.045"	250	180	21	1/2-5/8"	7.1
.045"	400	240	23	1/2-5/8"	11.3
.045"	500	280	25	1/2-5/8"	14.1
.045"	650	300	28	1/2-5/8"	18.4
1/16"	150	190	24	3/4-1"	7.7
1/16"	250	280	25	3/4-1"	12.8
1/16"	350	385	26	3/4-1"	17.9
1/16"	400	490	32	3/4-1"	23.1

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

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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