

## SelectAlloy 309LSi-C

### Description:

SelectAlloy 309LSi-C is a gas-shielded, metal cored, stainless steel electrode. It has a nominal composition of 24% Cr, 13% Ni and 0.8% Si, with a maximum carbon content of 0.03%. The higher silicon level improves bead wetting. The low carbon minimized carbide precipitation and makes the weld metal more resistant to intergranular corrosion. It is designed to use with argon/1-2% oxygen or argon/1-2% CO<sub>2</sub> shielding gases.

### Classification:

- EC309LSi per AWS A5.22 (Also per AWS A5.9:2006)

### Characteristics:

SelectAlloy 309LSi-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 309LSi-C is ideally suited for making small butt, lap and fillet welds on thin material at elevated travel speeds. The additional silicon in this product will improve bead wetting and produce a cosmetically appealing weld. 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, and may be used to join carbon and low alloy steels to austenitic stainless steels.

### Typical Mechanical Properties (Ar-2%O<sub>2</sub>)

Ultimate Tensile Strength (psi)	87,000
Yield Strength (psi)	66,200
Percent Elongation	39

### Typical Weld Deposit Chemistry (Ar-2%O<sub>2</sub>):

<u>C</u>	<u>Mn</u>	<u>Cr</u>	<u>Si</u>	<u>Ni</u>	<u>Ti</u>
0.03	1.40	23.90	0.80	12.80	0.05
Ferrite Number (WRC, 1992) – 15					

### 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
<b>.035"</b>	<b>500</b>	<b>205</b>	<b>23</b>	<b>1/2-5/8"</b>	<b>8.6</b>
<b>.035"</b>	<b>600</b>	<b>230</b>	<b>25</b>	<b>1/2-5/8"</b>	<b>10.2</b>
.035"	700	245	26	1/2-5/8"	11.8
.045"	250	180	21	1/2-5/8"	7.1
<b>.045"</b>	<b>400</b>	<b>240</b>	<b>23</b>	<b>1/2-5/8"</b>	<b>11.3</b>
<b>.045"</b>	<b>500</b>	<b>280</b>	<b>25</b>	<b>1/2-5/8"</b>	<b>14.1</b>
.045"	650	300	28	1/2-5/8"	18.4
1/16"	150	190	24	3/4-1"	7.7
<b>1/16"</b>	<b>250</b>	<b>280</b>	<b>25</b>	<b>3/4-1"</b>	<b>12.8</b>
<b>1/16"</b>	<b>350</b>	<b>385</b>	<b>26</b>	<b>3/4-1"</b>	<b>17.9</b>
1/16"	450	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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