



# Unibraze 309LSi-C

## Metal Core

**Classification:** EC309LSi per AWS A5.9

### **Description:**

Unibraze 309LSi-C is a metal cored, stainless steel electrode that is composed of 24% chromium, 13% nickel and 0.8% silicon with a maximum carbon content of .03%. The higher silicon level improves bead wetting while the lower carbon content minimizes carbide precipitation and makes the weld metal more resistant to intergranular corrosion. Unibraze E309LSi-C produces smooth, well washed beads that are ideally suited for making small butt, lap and fillet welds on thin material at elevated travel speeds. It produces little or no slag and virtually no spatter. Deposition rates of the Unibraze 309LSi-C are higher than equivalent solid wire.

### **Applications:**

Unibraze 309LSi-C is utilized in the welding of refinery and chemical processing equipment as well as furnace and auto exhaust parts. This electrode welds Type 309 stainless steel and may be used to join carbon and low alloy steels to austenitic stainless steels.

**Diameters:** .045", 1/16"

**Shielding Gas:** Ar/1-2% O<sub>2</sub> or Ar/1-2% CO<sub>2</sub>, 40-50 cfh

**Welding positions:** Flat and Horizontal

### **Typical Mechanical Properties: ( 98/2 Ar/O<sub>2</sub> )**

Ultimate Tensile Strength (psi) 87,100  
Yield Strength (psi) 66,200  
Percent Elongation 39 %

### **Typical Weld Deposit Chemistry: ( 98/2 Ar/O<sub>2</sub> )**

C - 0.03 Mn - 1.40 Cr - 23.90 Si - 0.80 Ni - 12.75 N - 0.05  
Ferrite Number (WRC, 1992) - ~15

### **Typical Welding Parameters: ( 98/2 Ar/O<sub>2</sub> )**

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.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>11.2</b>
<b>.045"</b>	<b>500</b>	<b>280</b>	<b>25</b>	<b>1/2-5/8"</b>	<b>14.2</b>
.045"	650	300	28	1/2-5/8"	18.5
1/16"	150	190	24	3/4-1"	7.6
<b>1/16"</b>	<b>250</b>	<b>280</b>	<b>25</b>	<b>3/4-1"</b>	<b>12.9</b>
<b>1/16"</b>	<b>350</b>	<b>385</b>	<b>26</b>	<b>3/4-1"</b>	<b>17.8</b>
1/16"	450	490	32	3/4-1"	23.2

\*\* 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. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. 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.