



Unibraze 309LT1

All Position

Classification:

E309LT1-1, E309LT1-4 per AWS A5.22. (Also meets E309T1-1, E309T1-4 per AWS A5.22)

Approval:

ABS E309LT1-1, E309LT1-4

Description:

Unibraze 309LT1 is a gas-shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 24% chromium and 13% nickel with a maximum carbon content of 0.04%. The low carbon minimizes carbide precipitation and makes the weld metal more resistant to intergranular corrosion. Unibraze 309LT1 can be used with 100% carbon dioxide shielding or a blend of 75-80% argon/balance carbon dioxide. Shielding gas mixtures with more than 75-80% argon are not recommended.

Characteristics:

Unibraze 309LT1 provides superb performance characteristics in all positions, using either CO₂ or argon + 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:

Unibraze 309LT1 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 steels, to weld 304 clad sheets and for first layer cladding of carbon steel.

Diameters: .045", 1/16"

Shielding Gases: 100% CO₂, 75-80% Ar/balance CO₂, 35-50 cfh

Welding Positions: All positions

Typical Mechanical Properties: (CO₂)*

Ultimate Tensile Strength (psi)	85,100
Yield Strength (psi)	66,900
Percent Elongation	38 %

* Strength levels will be slightly higher w/Ar+20-25% CO₂

Typical Weld Deposit Chemistry: (CO₂)

C - 0.03 Mn - 0.95 Cr - 24.20 Si - 0.80 Ni - 12.50 N - 0.05
Ferrite Number (WRC, 1992) -18

Typical Welding Parameters: (CO₂)**

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.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.

Unibraze all position electrodes do not contain bismuth

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.