# SelectAlloy 308L-AP

**Description:**

**SelectAlloy 308L-AP** is a gas shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 20% Cr, 10% Ni and a maximum carbon content of 0.04%. The low carbon in this alloy minimizes carbide precipitation and makes it more resistant to intergranular corrosion. It is designed for use with 100% carbon dioxide or a blend of 75-80% argon/balance carbon dioxide. Shielding gas mixtures with more than 75-80% Argon are not recommended.

**Classifications & Approvals:**

- E308LT1-1, E308LT1-4 per AWS A5.22 (Also meets E308T1-1, E308T1-4)
- ABS: E308LT1-1, E308LT1-4
- CWB: E308LT1-1, E308LT1-4
- DNV NV 308L ($CO_2$)

**Characteristics:**

**SelectAlloy 308L-AP** provides superb performance characteristics in all positions, using either $CO_2$ or 75-80% Ar/balance $CO_2$ shielding gas. Flat, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup.

**Applications:**

**SelectAlloy 308L-AP** finds wide application in the welding of components for the chemical, paper, textile, and pharmaceutical industries**.** It may be used to weld 301, 302, 304L, 308, and 308L stainless steel. Types 321 and 347 may also be welded, as long as the service temperature does not exceed 500ºF.

**Typical Mechanical Properties:**

| | $CO_2$ | 75% Ar/25% $CO_2$ |
|---|---|---|
| **Ultimate Tensile Strength (psi)** | 81,000 | 84,000 |
| **Yield Strength (psi)** | 56,500 | 57,500 |
| **Percent Elongation** | 43 | 45 |

**Typical Weld Deposit Chemistry:**

| | $CO_2$ | 75% Ar/25% $CO_2$ |
|---|---|---|
| **Carbon (C)** | 0.04 | 0.04 |
| **Chromium (Cr)** | 18.9 | 19.3 |
| **Nickel (Ni)** | 10.2 | 10.2 |
| **Manganese (Mn)** | 1.39 | 1.59 |
| **Silicon (Si)** | 0.54 | 0.70 |
| **Ferrite Number (WRC, 1992)** | 4 | 5 |

**Typical Welding Parameters ($CO_2$)*:**

| Diameter | WFS (ipm) | Amperage | Voltage | CTWD | 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 | 70 | 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. Lower by 1-2 volts when using 75-80% Ar/balance $CO_2$.

**Standard Diameters: ****

1/16”, 0.045”

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**Rev 1 (12/4/17)**