

ULTRACORE® FCP 308L

Stainless ▪ AWS E308LT1-1, E308LT1-4, E308T1-1, E308T1-4

KEY FEATURES

- Designed for all-position welding
- Dual classified-meets 308/308L
- Q2 Lot® - Certificate showing actual deposit composition and ferrite number (FN) available online
- Stable and consistent with CO₂ and mixed gas
- Easy to control out of position

WELDING POSITIONS

All

SHIELDING GAS

100% CO₂
75% Argon / 25% CO₂

CONFORMANCES

AWS A5.22/A5.22M: 2012 & ASME SFA-A5.22: E308LT1-1, E308LT1-4, E308T1-1, E308T1-4
ABS: E308LT1-1, E308LT1-4, E308T1-1, E308T1-4
CWB/CSA W48-06: E308LT1-1, E308LT1-4

TYPICAL APPLICATIONS

- 304L and other common 18/8 stainless steels
- Nitrogen bearing 304LN and titanium stabilized 321
- General fabrication including piping, tanks, and pressure vessels

DIAMETERS / PACKAGING

| Diameter in (mm) | 25 lb (11.3 kg) Plastic Spool (Vacuum Sealed Foil Bag) |
|---------------------|---|
| 0.045 (1.1) | ED027949 |
| 1/16 (1.6) | ED027950 |

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.22/A5.22M: 2012

| | Yield Strength ⁽²⁾ MPa (ksi) | Tensile Strength MPa (ksi) | Elongation % | Ferrite Number |
|--|--|-------------------------------|-----------------|--------------------------------|
| Requirements AWS E308LT1-1, E308LT1-4 AWS E308T1-1, E308T1-4 | Not Specified Not Specified | 520 (75) min 550 (80) min | 35 min | Not Specified Not Specified |
| Typical Performance⁽³⁾ As-Welded with 100% CO ₂ As-Welded with 75% Ar/25% CO ₂ | 386 (56) 393 (57) | 566 (82) 572 (83) | 40 39 | 7 - 11 8 - 12 |

⁽¹⁾ Typical all weld metal, DC+. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ See test results disclaimer

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.22/A5.22M: 2012

| | %C⁽⁴⁾ | %Mn | %Si | %S | %P |
|---|-------------------------|-------------|------------|------------|------------|
| Requirements - AWS E308LT1-1 & E308LT1-4 | 0.04 max | 0.5 - 2.5 | 1.0 max | 0.03 max | 0.04 max |
| Test Results⁽³⁾ | | | | | |
| As-Welded with 100% CO ₂ | ≤ 0.03 | 1.2 - 1.3 | 0.6 - 0.7 | ≤ 0.01 | ≤ 0.02 |
| As-Welded with 75% Ar/25% CO ₂ | ≤ 0.03 | 1.4 - 1.5 | 0.7 - 0.8 | ≤ 0.01 | ≤ 0.02 |
| | %Ni | %Cr | %Mo | %Cu | %Bi |
| Requirements - AWS E308LT1-1 & E308LT1-4 | 9.0 - 11.0 | 18.0 - 21.0 | 0.75 max | 0.75 max | - |
| Test Results⁽³⁾ | | | | | |
| As-Welded with 100% CO ₂ | 9.5 - 9.9 | 18.0 - 18.6 | ≤ 0.20 | ≤ 0.25 | 0.01-0.02 |
| As-Welded with 75% Ar/25% CO ₂ | 9.7 - 9.9 | 18.5 - 19.0 | ≤ 0.20 | ≤ 0.25 | 0.01-0.02 |

TYPICAL OPERATING PROCEDURES

| Diameter, Polarity Shielding Gas | CTWD⁽⁵⁾ mm (in) | Wire Feed Speed m/min (in/min) | Voltage (Volts) | Approx. Current (Amps) | Melt-Off Rate kg/hr (lb/hr) | Deposition Rate kg/hr (lb/hr) | Efficiency (%) |
|--|---------------------------------------|---|----------------------------|-----------------------------------|--|--|---------------------------|
| 0.045 in (1.1 mm), DC+ 75% Ar/25% CO ₂ | 19 (3/4) | 5.1 (200) | 23-26 | 120 | 2.1 (4.7) | 1.8 (4.0) | 85 |
| | 19 (3/4) | 7.6 (300) | 25-28 | 155 | 3.2 (7.0) | 2.7 (6.0) | 86 |
| | 19 (3/4) | 10.2 (400) | 27-30 | 185 | 4.3 (9.4) | 3.6 (7.9) | 84 |
| 1/16 in (1.6 mm), DC+ 75% Ar/25% CO ₂ | 25 (1) | 3.6 (140) | 23-26 | 175 | 2.8 (6.2) | 2.4 (5.3) | 85 |
| | 25 (1) | 5.1 (200) | 24-27 | 210 | 4.0 (8.9) | 3.4 (7.4) | 83 |
| | 25 (1) | 8.9 (350) | 26-29 | 290 | 7.0 (15.5) | 5.9 (13.0) | 84 |

⁽¹⁾ Typical all weld metal, DC+. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ See test results disclaimer. ⁽⁴⁾ Requirement for E308T1-1, E308T1-4 maximum carbon 0.08%. Chart values for %C are for E308LT1-1, E308LT1-4. ⁽⁵⁾ To estimate ESO, subtract 1/4 in (6.0 mm) from CTWD. NOTE: Increase Voltage by 2V when using 100% CO₂.

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m³ maximum exposure guideline for general welding fume.

BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

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