

# SUPERCORE™ 316LCF

Stainless ▪ AWS E316LT1-1/4 J

## KEY FEATURES

- Controlled Low Ferrite (Range 3-5)
- Charpy V-Notch test results capable of exceeding 27 J (20 ft•lbf) @ -196 °C (-320 °F)
- Exceeds 15 mils (0.38 mm) of lateral expansion @ -196 °C (-320 °F)
- Q2 Lot® - Certificates showing deposit composition, ferrite number, and charpy impact properties tested @ -196 °C (-320 °F)
- Batch Managed Inventory

## WELDING POSITIONS

All

## DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Spool
0.045 (1.2)	ED034816, SC316LCF-12*

\*The Metrode part number will be replacing the current EDO numbers after the inventory has been depleted.

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.22

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lb) -196 °C (-320 °F)	Lateral Expansion mm (mils) -196 °C (-320 °F)
<b>Requirements</b> AWS E316LT1-1/4 J As-Welded with 80% Ar/20% CO <sub>2</sub>	Not Specified	485 (70) min	30 min	Not Specified	0.38 (15)
<b>Typical Results<sup>(3)</sup></b> As-Welded with 80% Ar/20% CO <sub>2</sub>	410 (69)	550 (80)	40	34 (25)	0.55 (22)

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.22

	%C	%Mn	%Si	%S	%P
<b>Requirements</b> As-Welded with 80% Ar/20% CO <sub>2</sub>	0.04 max	0.5-2.5	1.0 max	0.03 max	0.04 max
<b>Typical Results<sup>(3)</sup></b>	0.03	1.4	0.6	0.01	0.02
	%Cr	%Ni	%Mo	%Cu	%FN
<b>Requirements</b> As-Welded with 80% Ar/20% CO <sub>2</sub>	17.0-20.0	11.0-14.0	2.0-3.0	0.75	Not Specified
<b>Typical Results<sup>(3)</sup></b>	18.0	12.4	2.2	0.1	3

## TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD <sup>(5)</sup> 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 <sub>2</sub>	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

<sup>(1)</sup>Typical all weld metal <sup>(2)</sup>Measured with 0.2% offset <sup>(3)</sup>See test results disclaimer

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/m <sup>3</sup> maximum exposure guideline for general welding fume.
BEFORE USE, READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

## CONFORMANCES

AWS A5.22: E316LT1-1/4 J

ASME SFA 5.22: E316LT1-1/4 J

## TYPICAL APPLICATIONS

- LNG Storage
- Cryogenic Vessels and Piping

## TYPICAL BASE METALS

316L stainless steel

## SHIELDING GAS

80% Argon/20% CO<sub>2</sub> or 100% CO<sub>2</sub>

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://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

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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