# 317L AC-DC

**AWS E317L-16**

REPLACES: 020501 160-I, INDEX: 060214

## DESCRIPTION:

The increased molybdenum content of the **317L AC-DC** all-position electrode results in higher tensile strength and improved corrosion resistance, as well as greater high-temperature creep strength than 316L-type electrodes. It is also highly resistant to moisture pick-up. It has a smooth running arc that results in a uniform bead that is flat to slightly convex.
Note: Actual certs are included in every master carton of stainless stick electrodes at no charge.

| FEATURES | BENEFITS |
|---|---|
| • Electrode doesn't overheat | • Less stub loss, cost-effective |
| • Spray-like arc transfer | • Low spatter and less clean-up |
| • Easy slag release | • Less chance of slag inclusions |
| • Easy strike and re-strike | • Easy to use, less chance of starting defects |
| • Extremely high moisture resistance | • Extends shelf life of product in open environments |
| • All-position | • Welds extremely well in flat, horizontal, vertical (up) and overhead positions |
| • Directional arc | • Metal goes where directed |

## TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

| WELD METAL ANALYSIS | | AWS Spec |
|---|---|---|
| Carbon (C) | 0.03 | 0.04 max |
| Manganese (Mn) | 1.21 | 0.5 to 2.5 |
| Phosphorus (P) | 0.025 | 0.04 max |
| Sulphur (S) | 0.016 | 0.03 max |
| Silicon (Si) | 0.51 | 0.90 max |
| Copper (Cu) | 0.10 | 0.75 max |
| Chromium (Cr) | 18.80 | 18.0 to 21.0 |
| Nickel (Ni) | 13.70 | 12.0 to 14.0 |
| Molybdenum (Mo) | 3.40 | 3.0 to 4.0 |

## TYPICAL MECHANICAL PROPERTIES*(AS WELDED):

| | | AWS Spec |
|---|---|---|
| Tensile Strength | 92,000 psi (635 MPa) | 75,000 psi |
| Yield Strength | 69,000 psi (476 MPa) | not required |
| Elongation % in 2" | 35% | 30% |
| DeLong Ferrite Number Range | 1-5 | not required |
| Schaeffler Number Range | 1-5 | not required |
| WRC Number Range (1992) | 1-5 | not required |

## CONFORMANCES AND APPROVALS:

• AWS Spec A5.4, Class E317-16 • ASME SFA5.4

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and McKay expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.4 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by McKay.

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# 317L AC-DC

## Recommended Welding Procedures:

| | |
|---|---|
| **General:** | DCEP (electrode positive, work negative) or AC |
| **Arc Length**: | Short (less than half the diameter of the electrode) |
| **Flat & Horizontal:** | Angle electrode 10°-15° from 90° |
| **Vertical-Up:** | Use weaving techniques. Reduced amperage compared to flat position setting |
| **Overhead:** | Use slight weaving motion within the puddle |
| **Storage**: | AC-DC electrodes have a high degree of moisture resistance; however, for critical applications, the electrode should be held at 225°F after opening |
| **Reconditioning:** | If exposed to atmosphere for extended periods, recondition at 500°F for one (1) hour |

## Recommended Operating Parameters:

| | | | Flat & Horizontal | | |
|---|---|---|---|---|---|
| Diameter | | | Minimum | Optimum | Maximum |
| Inches | mm | Type of Power | Amps | Amps | Amps |
| 3/32 | 2.4 | DCEP or AC | 45 | 65 | 80 |
| 1/8 | 3.2 | DCEP or AC | 55 | 105 | 120 |
| 5/32 | 4.0 | DCEP or AC | 65 | 140 | 170 |
| 3/16 | 4.8 | DCEP or AC | 160 | 170 | 205 |

## Available Diameters and Packages:

| Diameter | | Length | | 6-lb. | 10-lb. |
|---|---|---|---|---|---|
| Inches | mm | Inches | mm | Can | Can |
| 3/32 | 2.4 | 10 | 254 | S482430-032 | — |
| 1/8 | 3.2 | 14 | 355 | — | S482444-033 |
| 5/32 | 4.0 | 14 | 355 | — | S482451-033 |
| 3/16 | 4.8 | 14 | 355 | — | S482458-033 |

Material Safety Data Sheets on any McKay product may be obtained from McKay Customer Service.

Because McKay is constantly improving products, McKay reserves the right to change design and/or specifications without notice.