

# TECH-ROD® 112LFE

Nickel ■ AWS ENiCrMo-3

## KEY FEATURES

- A low iron version of the standard Tech-Rod® 112 covered electrode which is used to weld nickel-chromium-molybdenum alloys
- The product is designed to have less than 1% Iron (Fe) for overlay applications to minimize dilution of parent metal iron in the deposit

## CONFORMANCES

**AWS A5.11/A5.11M: 2010** ENiCrMo-3  
**UNS** W86112  
**ASME SFA-5.11** ENiCrMo-3

## DIAMETERS / PACKAGING

| Diameter<br>in (mm) | Length<br>in (mm) | 10 lb (4.5 kg) Can<br>30 lb (13.6 kg) Master Can |
|---------------------|-------------------|--------------------------------------------------|
| 1/8 (3.2)           | 14 (355)          | EL112LFE125634                                   |
| 5/32 (4.0)          | 14 (355)          | EL112LFE156634                                   |
| 3/16 (4.8)          | 14 (355)          | EL112LFE187634                                   |

## MECHANICAL PROPERTIES - As Required per AWS A5.11/A5.11M: 2010

|                                                | Tensile Strength<br>Mpa (ksi) | Elongation % |
|------------------------------------------------|-------------------------------|--------------|
| <b>Requirements</b><br>AWS A5.11/A5.11M:2010   | 690 (110 min)                 | 30 min       |
| <b>Typical Performance</b><br>Tech-Rod® 112LFE | 770 (111)                     | 42           |

## DEPOSIT COMPOSITION<sup>(1)</sup> - As Required per AWS A5.11: 2010

|                                                              | %C       | %Mn       | %Fe         | %P          | %S         | %Si      |
|--------------------------------------------------------------|----------|-----------|-------------|-------------|------------|----------|
| <b>Requirements</b><br>AWS ENiCrMo-3                         | 0.10 max | 1.0 max   | 7.0 max     | 0.03        | 0.02 max   | 0.75 max |
| <b>Typical Performance<sup>(2)</sup></b><br>Tech-Rod® 112LFE | 0.02     | 0.5       | 0.9         | 0.01        | 0.01       | 0.3      |
|                                                              | %Cu      | %Ni       | %Cr         | %Nb+Ta      | %Mo        | %Other   |
| <b>Requirements</b><br>AWS ENiCrMo-3                         | 0.50 max | 55.00 min | 20.0 - 23.0 | 3.15 - 4.15 | 8.0 - 10.0 | 0.50 max |
| <b>Typical Performance<sup>(2)</sup></b><br>Tech-Rod® 112LFE | 0.01     | 62.7      | 22.5        | 3.72        | 8.7        | —        |

## TYPICAL OPERATING PROCEDURES

| Diameter<br>in (mm) | Length<br>in (mm) | Flat    | Amperage | Vertical & Overhead |
|---------------------|-------------------|---------|----------|---------------------|
| 1/8 (3.2)           | 14 (355)          | 85-110  |          | 80-90               |
| 5/32 (4.0)          | 14 (355)          | 110-140 |          | 110-120             |
| 3/16 (4.8)          | 14 (355)          | 120-160 |          | 110-130             |

<sup>(1)</sup>Typical all wire chemistry. <sup>(2)</sup>See test results disclaimer on pg. 13.  
 Safety Data Sheets (SDS) are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)

*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**

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Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

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