

TECH-ROD® 112

Nickel ■ AWS ENiCrMo-3

KEY FEATURES

- A covered electrode which is used to weld nickel-chromium-molybdenum alloys
- These electrodes are used in applications where the temperature ranges from cryogenic up to 1800°F (982°C)
- Q2 Lot® - certificates showing actual deposit composition available online

CONFORMANCES

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

TYPICAL APPLICATIONS

- Used extensively in overlay cladding where a similar chemical composition is required on the clad side
- Dissimilar joints between nickel-chromium molybdenum alloys to stainless steels, carbon or low alloys steels

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	8 lb (3.6 kg) Can 24 lb (10.9 kg) Master Carton	10 lb (4.5 kg) Can 30 lb (13.6 kg) Master Can
3/32 (2.4)	12 (305)	EL112093632	
1/8 (3.2)	14 (355)		EL112125634
5/32 (4.0)	14 (355)		EL112156634
3/16 (4.8)	14 (355)		EL112187634

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

	Tensile Strength Mpa (ksi)	Elongation %
Requirements AWS A5.11/A5.11M:2010	690 (110 min)	30 min
Typical Performance Tech-Rod® 112	790 (114)	42

DEPOSIT COMPOSITION⁽¹⁾ - As Required per AWS A5.11: 2010

	%C	%Mn	%Fe	%P	%S	%Si
Requirements AWS ENiCrMo-3	0.10 max	1.0 max	7.0 max	0.03 max	0.02 max	0.75 max
Typical Performance⁽²⁾ Tech-Rod® 112	0.05	0.5	1.9	0.01	0.003	0.33
	%Cu	%Ni	%Cr	%Nb+Ta	%Mo	%Other
Requirements AWS ENiCrMo-3	0.50 max	55.0 min	20.0 - 23.0	3.15 - 4.15	8.0 - 10.0	0.50 max
Typical Performance⁽²⁾ Tech-Rod® 112	0.01	62.1	22.4	3.63	8.7	<0.5

TYPICAL OPERATING PROCEDURES

Diameter in (mm)	Length in (mm)	Flat	Amperage	Vertical & Overhead
3/32 (2.4)	12 (305)	70-85		65-75
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

⁽¹⁾Typical all wire chemistry. ⁽²⁾See test results disclaimer on pg. 13.
 Safety Data Sheets (SDS) are available on our website at www.lincolnelectric.com

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

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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Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

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