

TECH-ROD® 182

Nickel ▪ AWS ENiCrFe-3

KEY FEATURES

- High manganese of this weld deposit reduces the possibility of micro fissures but reduces creep strength which limits its usage up to 900°F (482°C)
- Q2 Lot® - certificates showing actual deposit composition available online
- Wide range of applications

CONFORMANCES

AWS A5.11/A5.11M: 2010 ENiCrFe-3
ASME SFA-A5.11 ENiCrFe-3
UNS W86182

TYPICAL APPLICATIONS

- Used for welding nickel-chromium-iron alloys to themselves
- Used for dissimilar welding between nickel-chromium-iron alloys to mild steel or stainless steel

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)	EL182093632	
1/8 (3.2)	14 (355)		EL182125634
5/32 (4.0)	14 (355)		EL182156634
3/16 (4.8)	14 (355)		EL182187634

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

	Tensile Strength Mpa (ksi)	Elongation %
Requirements AWS A5.11/A5.11M:2010	550 (80 min)	30 min
Typical Performance Tech-Rod® 182	600 (87)	34

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

	%C	%Mn	%Fe	%P	%S	%Si
Requirements AWS ENiCrFe-3	0.10 max	5.0 - 9.5	10.0 max	0.03 max	0.015 max	1.0 max
Typical Performance⁽²⁾ Tech-Rod® 182	0.04	5.7	8.4	0.02	0.005	0.3
	%Cu	%Ni	%Ti	%Cr	%Nb+Ta	%Other
Requirements AWS ENiCrFe-3	0.50 max	59.0 min	1.0 max	13.0 - 17.0	1.0 - 2.5	0.50 max
Typical Performance⁽²⁾ Tech-Rod® 182	0.04	68.5	0.1	15.1	1.2	<0.5

TYPICAL OPERATING PROCEDURES

Diameter in (mm)	Length in (mm)	Amperage	
		Flat	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	100-120
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.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

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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