

TECH-ROD® 312-16

Stainless · AWS E312-16

KEY FEATURES

- Can be used for joining hard to weld materials and dissimilar metals
- Applications should be limited to 800°F (420°C)
- The weld deposits exhibit high tensile strength and offer some resistance to abrasion
- Weld deposits work-hardens and allows for good wear resistance
- Q2 Lot® - Certificate showing actual deposit composition

WELDING POSITIONS

All, except vertical down

CONFORMANCES

AWS A5.4:	E312-16
ASME SFA-A5.4:	E312-16

TYPICAL APPLICATIONS

- Tool Steels
- Hard to Weld Steels
- Cast and Wrought Alloys
- Dissimilar Metals

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	10 lb (4.5 kg) Easy Open Can 30 lb (13.5 kg) Master Carton
3/16 (4.8)	14 (355)	EL31216187634

DEPOSIT COMPOSITION⁽¹⁾ - As Required per AWS A5.4

	%C	%Cr	%Ni	%Mo	%Mn
Requirements AWS E312-16	0.15 max	28.0 - 32.0	8.0 - 10.5	0.75 max	0.5 - 2.5
Typical Results⁽²⁾	0.11-0.12	29.4-30.6	8.6-9.7	0.04-0.22	1.40-2.22
	%Si	%P	%S	%Cu	FN
Requirements AWS E312-16	1.00 max	0.04 max	0.03 max	0.75 max	Not Required
Typical Results⁽²⁾	0.68-0.77	≤0.03	≤0.01	0.05-0.16	30 - 60

TYPICAL OPERATING PROCEDURES

Polarity	Current (Amps)			
	3/32 in (2.4 mm)	1/8 in (3.2 mm)	5/32 in (4.0 mm)	3/16 in (4.8 mm)
DC+	40-80	75-110	95-150	130-200
AC	40-80	75-110	95-150	130-200

⁽¹⁾Typical all weld metal. ⁽²⁾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/m³ 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.

Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

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 business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, and cutting equipment. Our challenge is to meet the needs of our customers, who are experts in their fields, and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or technical information about their use of our products. Our employees respond to inquiries to the best of their ability based on information and specifications 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, or to provide engineering advice in relation to a specific situation. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or communications. Moreover, the provision of such information or technical information does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or technical information, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose or any other equivalent or similar warranty is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the definition of specifications, and 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.

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