

# LINCOLN® ER312

Stainless ▪ AWS ER312

## KEY FEATURES

- Weld deposit work-hardens, providing good wear resistance and high tensile strength
- Applications should be limited to 800°F (420°C)
- Q2 Lot® - Certificate showing actual wire composition and calculated ferrite number (FN) available online
- Ink jet printing identification on entire length of electrode

## WELDING POSITIONS

All

## CONFORMANCES

**AWS A5.9/A5.9M:** ER312  
**ISO 14343: 2009:** (29.9)  
**ASME SFA-5.9:** ER312

## TYPICAL APPLICATIONS

- Tool steels
- Hard to weld steels
- Cast and wrought alloys
- Dissimilar metals
- Used to weld cast and wrought alloys of similar compositions
- Can be used for joining hard to weld materials and dissimilar metals

## SHIELDING GAS

100% Argon

## DIAMETERS / PACKAGING

Diameter in (mm)	10 lb (4.5 kg) Tube 30 lb (13.6 kg) Master Carton
1/16 (1.6)	ED035217
3/32 (2.4)	ED035218
1/8 (3.2)	ED035219

## WIRE COMPOSITION<sup>(1)</sup> – As Required per AWS A5.9/A5.9M

	%C	%Cr	%Ni	%Mo	%Mn
<b>Requirements</b> AWS ER312	0.15 max	28.0 - 32.0	8.0 - 10.5	0.75 max	1.0 - 2.5
<b>Typical Performance<sup>(2)</sup></b>	0.11	29.6	8.9		1.6
	%Si	%P	%S	%Cu	FN
<b>Requirements</b> AWS ER312	0.30 - 0.65	0.03 max	0.03 max	0.75 max	Not Required
<b>Typical Performance<sup>(2)</sup></b>	0.44	0.02	0.01	0.10	50 - 80

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>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/m<sup>3</sup> 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.

*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

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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