

# LINCOLN® RED MAX® 308LSi

Stainless ▪ AWS ER308Si, ER308LSi

## KEY FEATURES

- Engineered surface treatment for weldability control in semiautomatic applications
- High silicon level for increased puddle fluidity and toe wetting
- Q2 Lot® - Certificate showing actual wire composition and calculated ferrite number (FN) available online

## WELDING POSITIONS

All

## SHIELDING GAS

Short Circuiting Transfer:

90% He/ 7.5% Ar/ 2.5% CO<sub>2</sub>

Axial Spray Transfer:

98% Argon/ Balance O<sub>2</sub> or CO<sub>2</sub>

## CONFORMANCES

<b>AWS A5.9:</b>	ER308Si, ER308LSi
<b>ASME SFA-A5.9:</b>	ER308Si, ER308LSi
<b>ABS:</b>	ER308Si, ER308LSi
<b>CWB/CSA W48-06:</b>	ER308LSi
<b>EN ISO 14343-B:</b>	SS308LSi
<b>ISO 14343:2009:</b>	(19 9 LSi)

## TYPICAL APPLICATIONS

- Semiautomatic welding
- 304 and 304L stainless steel
- Common austenitic stainless steels referred to as "18-8" steels
- ASTM A743 or A744 Types CF-8 and CF-3

## DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Steel Spool	500 lb (227 kg) Accu-Trak® Drum	500 lb (227 kg) Accu-Pak® Box
0.035 (0.9)	ED036760	ED036895	ED036924
0.045 (1.1)	ED036761	ED036896	ED036925
1/16 (1.6)	ED036762	ED036897	ED036926

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.9

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Ferrite Number
<b>Requirements</b> - AWS ER308Si, ER308LSi	Not Specified			
<b>Typical Results<sup>(3)</sup></b> - As-Welded	455 (66)	635 (92)	46	10

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

	%C <sup>(4)</sup>	%Cr	%Ni	%Mo	%Mn
<b>Requirements</b> - AWS ER308Si, ER308LSi	0.03 max	19.5-22.0	9.0- 11.0	0.75 max	1.0-2.5
<b>Typical Results<sup>(3)</sup></b>	0.01	19.9	10.0	0.16	2.1
	%Si	%P	%S	%N <sup>(5)</sup>	%Cu
<b>Requirements</b> - AWS ER308Si, ER308LSi	0.65-1.00	0.03 max	0.03 max	Not Specified	0.75 max
<b>Typical Results<sup>(3)</sup></b>	0.88	0.02	0.01	0.05	0.17

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer. <sup>(4)</sup>AWS Requirement for ER308Si is 0.08% max carbon. <sup>(5)</sup>Included in 0.50% max. for other elements not specified.

**TYPICAL OPERATING PROCEDURES**

Diameter, Polarity Shielding Gas	CTWD <sup>(6)</sup> mm (in)	Wire Feed Speed m/min (in/min)	Voltage (Volts)	Approx. Current (Amps)	Deposition Rate kg/hr (lb/hr)		
<i>Short Circuit Transfer</i>							
<b>0.035 in (0.9 mm), DC+</b> 90% He / 7.5% Ar / 2.5% CO <sub>2</sub>	13 (1/2)	3.0 (120)	20-21	60	0.9 (2.0)		
	13 (1/2)	4.6 (180)	21-23	90	1.4 (3.0)		
	13 (1/2)	5.8 (230)	22-24	105	1.8 (3.9)		
	13 (1/2)	7.6 (300)	23-25	130	2.3 (5.0)		
	13 (1/2)	8.9 (350)	24-26	145	2.7 (5.9)		
	13 (1/2)	10.2 (400)	25-27	155	3.1 (6.7)		
<b>0.045 in (1.1 mm), DC+</b> 90% He / 7.5% Ar / 2.5% CO <sub>2</sub>	13 (1/2)	2.5 (100)	20-21	80	1.1 (2.8)		
	13 (1/2)	3.2 (125)	21-22	110	1.5 (3.5)		
	13 (1/2)	3.8 (150)	21-23	130	1.7 (4.2)		
	13 (1/2)	4.4 (175)	22-24	145	2.0 (4.8)		
	13 (1/2)	5.6 (220)	23-25	170	2.6 (6.1)		
	13 (1/2)	6.4 (250)	24-26	180	2.9 (6.9)		
<i>Axial Spray Transfer</i>	<b>0.035 in (0.9 mm), DC+</b> 98% Ar / 2% O <sub>2</sub>	13 (1/2)	10.2 (400)	23-24	190	3.1 (6.7)	
		13 (1/2)	10.8 (425)	24-25	200	3.3 (7.1)	
		13 (1/2)	11.4 (450)	24-25	210	3.5 (7.5)	
		13 (1/2)	12.1 (475)	25-26	220	3.7 (8.0)	
		<b>0.045 in (1.1 mm), DC+</b> 98% Ar / 2% O <sub>2</sub>	13 (1/2)	6.1 (240)	22-24	195	2.8 (6.6)
			13 (1/2)	6.6 (260)	23-25	215	3.0 (7.2)
13 (1/2)	7.6 (300)		24-26	245	3.5 (8.3)		
13 (1/2)	8.3 (325)		25-27	250	3.8 (9.0)		
13 (1/2)	9.1 (360)		25-27	275	4.2 (10.0)		

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer. <sup>(4)</sup>AWS Requirement for ER308Si is 0.08% max carbon. <sup>(5)</sup>Included in 0.50% max. for other elements not specified. <sup>(6)</sup>To estimate ESO, subtract 1/8 in (3.2 mm) from CTWD.

**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.

*Safety Data Sheets (SDS) 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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