# Blue Max® MIG 308LSi

Stainless • AWS ER308Si, ER308LSi

## Key Features

- High silicon level for increased puddle fluidity and toe wetting
- Proprietary surface lubricant for steady feeding and arc stability
- Versatile electrode designed to weld CrNi austenitic steels
- Q2 Lot® - Certificate showing actual wire composition and calculated ferrite number (FN) available online
- Controlled ferrite content for maximum corrosion resistance

## Typical Applications

- 304 and 304L stainless steels
- Common austenitic stainless steels referred to as “18-8” steels
- ASTM A743 or A744 Types CF-8 and CF-3

## Conformances

| | |
|---|---|
| AWS A5.9/A5.9M: 2006 | ER308Si, ER308LSi |
| ASME SFA-A5.9: | ER308Si, ER308LSi |
| ABS: | ER308Si, ER308LSi |
| CWB/CSA W48-06: | ER308LSi |
| EN ISO 14343-B: | SS308LSi |

## Welding Positions

All

## Shielding Gas

Short Circuiting Transfer:
90% Helium / 7-1/2% Argon / 2-1/2% $CO_2$

Axial Spray Transfer:
98% Argon / Balance Oxygen

## DIAMETERS / PACKAGING

| Diameter in (mm) | 25 lb (11.3 kg) Plastic Spool | 500 lb (227 kg) Accu-Trak® Drum |
|---|---|---|
| 0.030 (0.8) | ED023961 | |
| 0.035 (0.9) | ED019292 | ED029768 |
| 0.045 (1.1) | ED019293 | ED029769 |
| 1/16 (1.6) | ED019294 | |

## MECHANICAL PROPERTIES[1] – *As Required per AWS A5.9/A5.9M: 2006*

| | Yield Strength[2] MPa (ksi) | Tensile Strength MPa (ksi) | Elongation % | Ferrite Number |
|---|---|---|---|---|
| Requirements - AWS ER308Si, ER308LSi | Not Specified | | | |
| Test Results[3] - As-Welded | 455 (66) | 635 (92) | 46 | 13 |

# Blue Max® MIG 308LSi

(AWS ER308Si, ER308LSi)

## WIRE COMPOSITION[1] – *As Required per AWS A5.9/A5.9M: 2006*

| | %C[3] | %Cr | %Ni | %Mo | %Mn |
|---|---|---|---|---|---|
| **Requirements** - AWS ER308LSi | 0.03 max. | 19.5-22.0 | 9.0-11.0 | 0.75 max. | 1.0-2.5 |
| **Test Results**[3] | 0.01 | 19.9 | 10.0 | 0.16 | 2.1 |
| | **%Si** | **%P** | **%S** | **%N[4]** | **%Cu** |
| **Requirements** - AWS ER308LSi | 0.65-1.00 | 0.03 max. | 0.03 max. | Not Specified | 0.75 max. |
| **Test Results**[3] | 0.88 | 0.02 | 0.01 | 0.05 | 0.17 |

## TYPICAL OPERATING PROCEDURES

| Diameter, Polarity Shielding Gas | CTWD[5] mm (in) | Wire Feed Speed m/min (in/min) | Voltage (Volts) | Approx. Current (Amps) | Deposition Rate kg/hr (lb/hr) |
|---|---|---|---|---|---|
| **Short Circuit Transfer** | | | | | |
| **0.035 in (0.9 mm),** DC+ 90% He / 7-1/2% Ar / 2-1/2% $CO_2$ | 13 (1/2) | 3.0 (120) | 19-20 | 55 | 0.9 (2.0) |
| | 13 (1/2) | 4.6 (180) | 19-20 | 85 | 1.4 (3.0) |
| | 13 (1/2) | 5.8 (230) | 20-21 | 105 | 1.8 (3.9) |
| | 13 (1/2) | 7.6 (300) | 20-21 | 125 | 2.3 (5.0) |
| | 13 (1/2) | 8.9 (350) | 21-22 | 140 | 2.7 (5.9) |
| | 13 (1/2) | 10.2 (400) | 22-23 | 160 | 3.1 (6.7) |
| **0.045 in (1.1 mm),** DC+ 90% He / 7-1/2% Ar / 2-1/2% $CO_2$ | 13 (1/2) | 2.5 (100) | 19-20 | 100 | 1.1 (2.8) |
| | 13 (1/2) | 3.2 (125) | 19-20 | 120 | 1.5 (3.5) |
| | 13 (1/2) | 3.8 (150) | 21 | 135 | 1.7 (4.2) |
| | 13 (1/2) | 4.4 (175) | 21 | 140 | 2.0 (4.8) |
| | 13 (1/2) | 5.6 (220) | 22 | 170 | 2.6 (6.1) |
| | 13 (1/2) | 6.4 (250) | 22-23 | 175 | 2.9 (6.9) |
| | 13 (1/2) | 7.0 (275) | 22-23 | 185 | 3.2 (7.6) |
| **Axial Spray Transfer** | | | | | |
| **0.035 in (0.9 mm),** DC+ 98% Ar/2% $O_2$ | 13 (1/2) | 10.2 (400) | 22 | 180 | 3.1 (6.7) |
| | 13 (1/2) | 10.8 (425) | 23 | 190 | 3.3 (7.1) |
| | 13 (1/2) | 11.4 (450) | 23 | 200 | 3.5 (7.5) |
| | 13 (1/2) | 12.1 (475) | 23 | 210 | 3.7 (8.0) |
| **0.045 in (1.1 mm),** DC+ 98% Ar/2% $O_2$ | 13 (1/2) | 6.1 (240) | 23 | 195 | 2.8 (6.6) |
| | 13 (1/2) | 6.6 (260) | 24 | 230 | 3.0 (7.2) |
| | 13 (1/2) | 7.6 (300) | 24 | 240 | 3.5 (8.3) |
| | 13 (1/2) | 8.3 (325) | 25 | 250 | 3.8 (9.0) |
| | 13 (1/2) | 9.1 (360) | 25 | 260 | 4.2 (10.0) |
| **1/16 in (1.6 mm),** DC+ 98% Ar/2% $O_2$ | 19 (3/4) | 4.4 (175) | 25 | 260 | 4.3 (9.2) |
| | 19 (3/4) | 5.1 (200) | 26 | 310 | 4.9 (10.5) |
| | 19 (3/4) | 6.4 (250) | 26 | 330 | 6.2 (13.1) |
| | 19 (3/4) | 7.0 (275) | 27 | 360 | 6.8 (14.4) |
| | 19 (3/4) | 7.6 (300) | 28 | 390 | 7.4 (15.8) |

**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$^3$ maximum exposure guideline for general welding fume. BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

[1]Typical all weld metal. [2]See test results disclaimer below. [3]AWS Requirement for ER308Si is 0.08% max. carbon. [4]Included in 0.50% max. for other elements not specified. [5]To estimate ESO, subtract 1/8 in (3 mm) from CTWD.

*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.

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