

LINCOLN ELECTRIC ADDITIVE SOLUTIONS

# 316LSi STAINLESS STEEL



## KEY FEATURES

316LSi stainless steel is known for its good atmospheric and chemical corrosion resistance. Its high creep strength, stress-to-rupture and tensile strength at high temperatures along with excellent toughness at cryogenic temperatures makes 316LSi stainless steel ideal for applications such as: oil & gas, petrochemical, power generation, marine, chemical and more.

316LSi stainless steel mechanical properties compare favorably to the following stainless steel grades:

- ASTM A240, Grade 316/316L
- ASTM A351, Grade CF3M
- ASTM A743, Grade CF3M
- ASTM A744, Grade CF3M

## Typical Applications »

- Oil & Gas and Petrochemical
- Energy and Power Generation
- Marine
- Pulp & Paper
- Chemical
- Architectural

## NOMINAL MECHANICAL PROPERTIES (AS-PRINTED)<sup>[1]</sup>

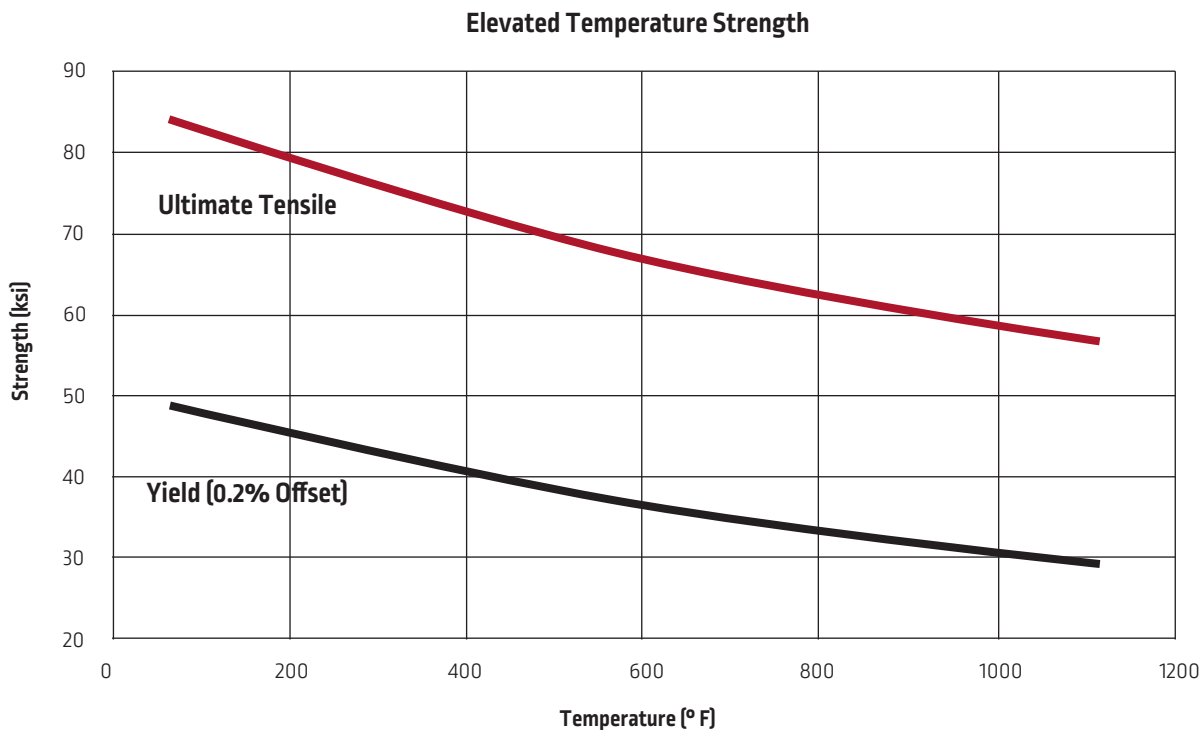
GMAAM <sup>[2]</sup>	Room Temperature Strength			Toughness		
	Wire Feedstock	YS @ 0.2% Off (ksi)	UTS (ksi)	Elong (%)	ft-lbs @ 70 °F	ft-lbs @ -40 °F
316LS <sup>[3]</sup>		48	85	40	> 50	> 50

[1] As-Printed indicates deposits were not subject to post-weld heat treatment

[2] Gas Metal Arc Additive Manufacturing (GMAAM)

[3] Weld deposit composition meets the requirements of an A-No. 8 designation per QW-442 of the ASME Boiler and Pressure Vessel Code, Section IX

The procedures Lincoln Electric uses to manufacture additive products comply with ASME BPVC Supplement 1 Code Case 3020: Qualification of Gas Metal Arc Additive Manufacturing (GMAAM) Procedures (Section IX).



### Test Results

Test results for mechanical properties were obtained from GMAAM deposits produced and tested according to prescribed standards. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any GMAAM component before use in the intended application. This data is for illustrative purposes only. Actual results may vary.

### 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.