

ER316LSi

The low carbon content of ER316LSi provides corrosion resistance in acidic and chlorinated environments, providing the wire feedstock with good general corrosion resistance. The higher silicon levels of this austenitic stainless steel improve deposition properties, allowing for minimal machining and waste production.

ER316LSi can be used to fabricate parts for Maritime, Defence, Oil & Gas, and Heavy Industries.

Wire Classification

AWS 5.9 ER-316LSi

Wire Diameter

1.2 mm

Shielding Gas

Argon

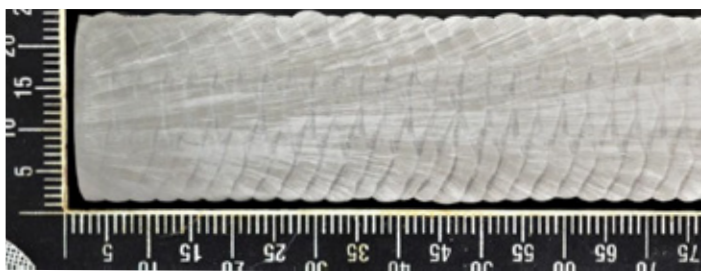
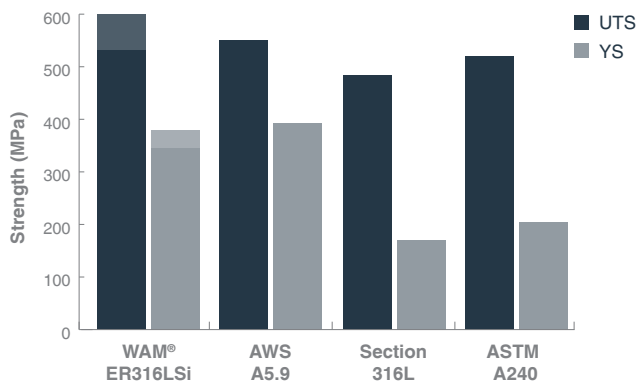
Process

WAM® – DED-Arc

Equivalent Designations

ASTMA420/A420M, UNS S31600, 316S31, EN 58H, 1.4401/316.

WAM® ER316LSi Tensile Strength Comparison



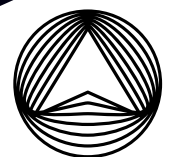
ER316 macro examination photo.

WAM® Test Number 200023AM-32. Mechanical property values for the 'as-deposited' WAM® values are based on the median value and repeatability testing. Deposited density can be lower than wire density. AWS data source: D20.1/D20.1M:2019 Specification for Fabrication of Metal Components Using Additive Manufacturing.

Properties

Composition	Amount %
Carbon	≤ 0.03
Manganese	2.0 - 3.0
Nickel	11.0 - 14.0
Chromium	18.0 - 20.0
Molybdenum	2.0 - 3.0
Silicon	0.65 - 1.00
Copper	≤ 0.75
Phosphorus	≤ 0.03
Sulfur	≤ 0.03

Mechanical	WAM® X & Z Typical	AWS Typical
Ultimate Tensile Strength (MPa)	530 - 600	≥ 490
0.2% Proof stress (MPa)	360 - 380	393
Reduction in area (%)	-	-
Elongation (%)	30 - 50	≥ 30
Condition	as built	
Classification	AWS A5.90	
Density (kg/m³)	7890	
Charpy Impact Test (J)	35 @ -196°C	



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