

# 316LSI – Stainless Steel

## G19123LSi



### Wire

#### ❖ Key Features

- Superior corrosion resistance
- Heat resistance
- High strength
- Fabrication ease

#### ❖ Applications

- Marine
- Medical Implants
- Architectural applications
- Food Industry
- Heat exchanger

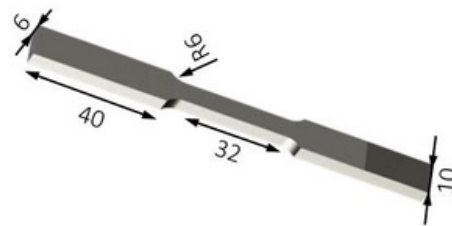


### Chemical Composition

Element	C	Si	Mn	P	S	Cr	Ni	N	Mo	Fe
Weight Percent (Wt.%)	0.02	0.7	1.9	0.045	0.015	18.5	11.5	0.09	2.5	2.5



### Mechanical Properties [1]

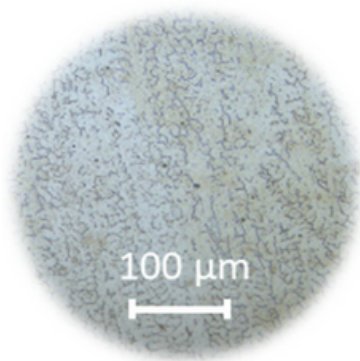


\*Test Standard used ASTM E8

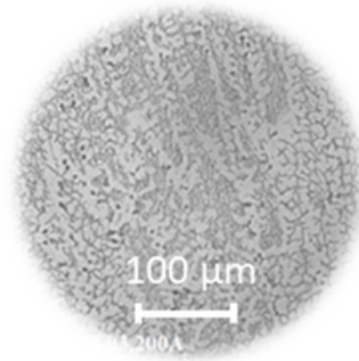
Material	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (HV)	Hardness (HB)
MetalWorm WAAM 316L Stainless Steel	588 @ LD [2] 625 @ ND [3]	410 @ LD 412 @ ND	33 @ LD 33 @ ND	184	174
AISI 316L Stainless Steel [4]	485	220	45	N/A	N/A



### Microstructure



WAAM 316L Stainless Steel @ MetalWorm



Reference AISI 316L Stainless Steel [5]

The microstructure of WAAM fabricated 316L stainless steel consists of austenitic matrix and delta ferrite in the interdendritic spaces.

[1] Tensile tests were carried out at room temperature, according to ASTM E8 standard with thickness of 6 mm and loading speed of 0.25 mm/s.  
 [2] LD corresponds to longitudinal or deposition direction.  
 [3] ND corresponds to normal or building direction.  
 [4] The data are taken from: <https://doi.org/10.1016/j.jmrt.2022.08.074>  
 [5] The image is taken from: <https://doi.org/10.1016/j.jmrt.2019.11.004>