

## Data Sheet: LPBF-Stainless Steel 316L (1.4404)

### CHEMICAL COMPOSITION

Element	Fe	Cr	Ni	Mo	Mn	Si	P	C	S
Percentage	Balance	16.5-18.5	10.0-13.0	2.0-2.5	0-2.0	0-1.0	0-0.045	0-0.30	0-0.03

### TOLERANCES FOR 1 – 4

Property	Unit	Value As Built
Achievable Part Accuracy <sup>i</sup>	mm %	+/- 0.3 mm for parts up to 100 mm +/- 0.3 % for parts beyond 100 mm
Min. Wall thickness	mm	0.8

### AVAILABLE FINISHES WITH SPECIFIC MECHANICAL PROPERTIES

#### 1 | STANDARD

As built with support structure removal and media blasting.

Property	Yield Strength Rp 0.2% [MPa] <sup>i</sup>	Ultimate Tensile Strength Rm [MPa] <sup>i</sup>	Elongation at Break [%] <sup>i</sup>	Young's Modulus [GPa] <sup>i</sup>	Relative Density [%]
Value	470-640	500-650	40-55	160-200	>99.5%

### AVAILABLE FINISHES FOR SURFACE REQUIREMENTS

#### 2 | POLISHED

As built with support structure removal and media blasting with additional manual polishing to achieve a homogeneous, smooth surface roughness. Surfaces that require polishing should be specified on the technical drawing or in the comment field on the MakerVerse platform.

#### 3 | TUMBLED

As built with support structure removal and media blasting with additional mechanical tumbling to achieve a smoother surface roughness across all exposed surfaces of the part.

## AVAILABLE FINISHES FOR COLOR REQUIREMENTS

### 4 | PAINTED

As built with support structure removal and media blasting with a color of choice applied to the part. Surfaces that require painting and the RAL color code should be specified on the technical drawing or in the comment field on the MakerVerse platform.

## AVAILABLE FINISHES FOR ADDITIONAL REQUIREMENTS

### 5 | CNC MACHINED

As built with support structure removal and media blasting with additional CNC Machining to the required tolerances. The required tolerances should be specified on the technical drawing.

## AVAILABLE COMBINATIONS OF FINISHES

Many finishes can be combined or tuned to specific requirements. Please select "custom" in the "finish" dropdown on the MakerVerse platform and specify your requirements to request a quote for alternative finishing options.

## MAXIMUM BUILD CHAMBER SIZE

400 MM X 400 MM X 400 MM

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**Warranty/Disclaimer:** The data from finished parts can deviate from above values depending on the manufacturing process and the component geometry. The data represents our present empirical values. It is incumbent on the person placing the order to examine whether it is suitable for its intended purpose, before using the product.

- <sup>i</sup> As a result of the part's geometry, strong tensions may cause distortion in the part which may lead to greater deviation.
- <sup>ii</sup> Depending on build direction.