



ONE CLICK METAL

**STAINLESS STEEL 1.4404/316L**

**MATERIAL**  
**DATA SHEET**

[www.impacsystems.com](http://www.impacsystems.com)

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## Stainless Steel 1.4404/316L

The material 1.4404/316L is one of the most frequently used corrosion-resistant stainless steels. Due to the addition of molybdenum, this material offers significantly improved corrosion resistance than other stainless steels. Thanks to its lower carbon content, 1.4404 is also characterized by good processing properties. Because of its properties, 1.4404 has a wide range of applications in numerous industries such as automotive, construction, aerospace, mechanical engineering and pharmaceuticals.

### Properties

- Good corrosion resistance
- High tensile strength
- Mechanical post processing possible

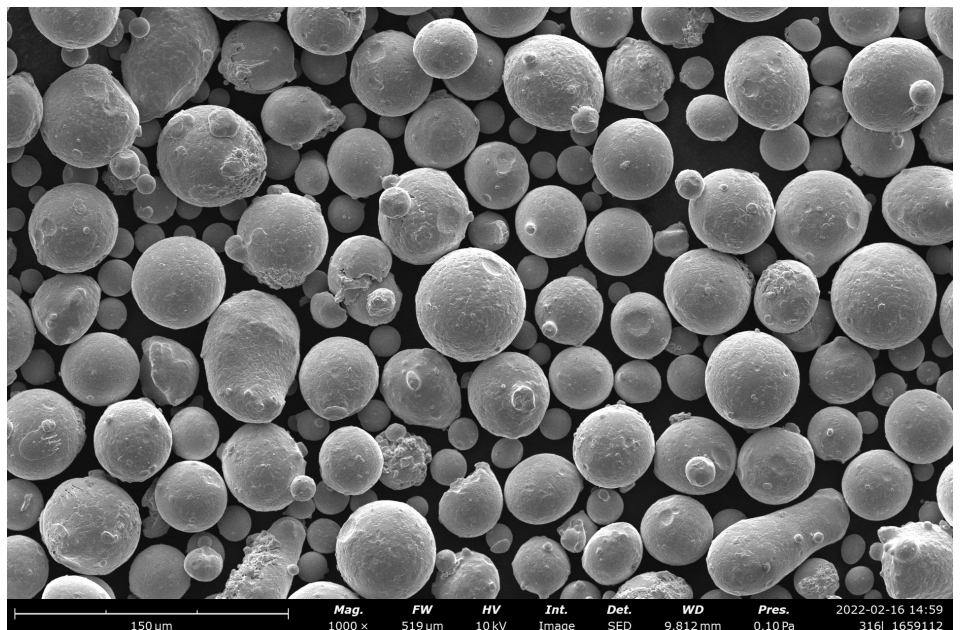
### Application example

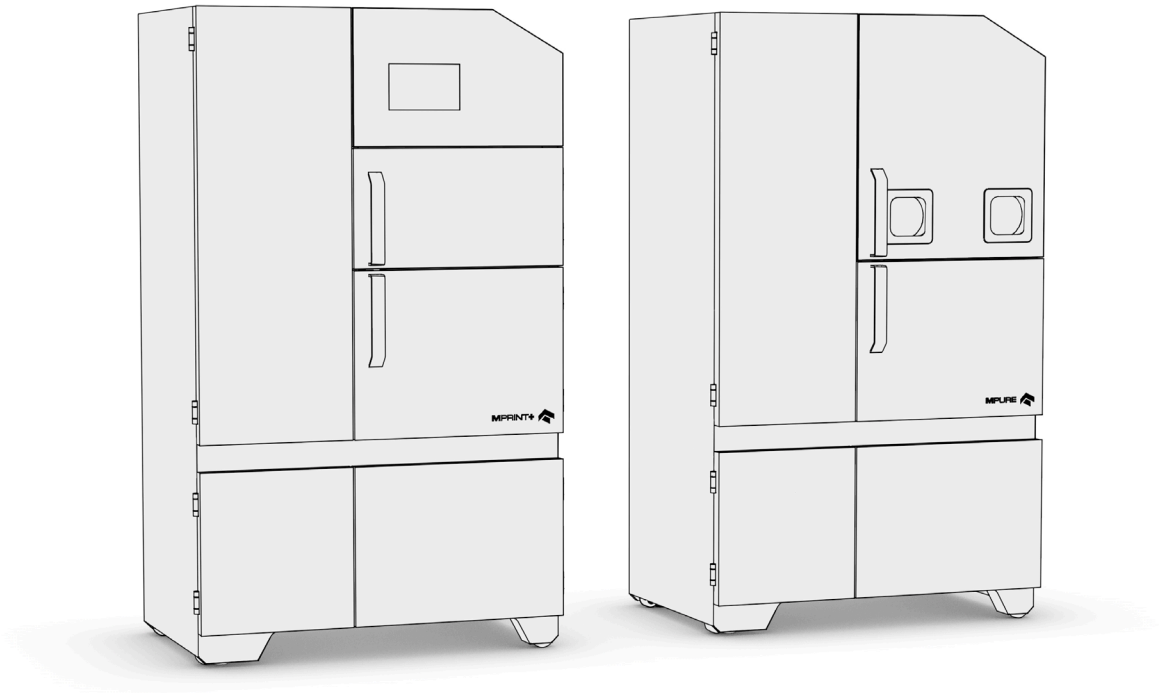
- Watches, jewellery, functional components for electronic housings and accessories
- Food and chemical facilities
- Automotive industry for non-corrosive components

## Powder Properties

### Powder chemical composition (wt.-%)

Element	Min.	Max.
Fe	Balance	
Cr	16.0	18.0
Ni	11.0	14.0
Mo	2.0	3.0
C	<0.03	
Si	<1.0	
Mn	<2.0	





## Process Information

The stainless steel 1.4404 powder provided by One Click Metal is optimized for the production of robust components with MPRINT and MPUREpro of the BOLDseries.

System set-up	MPRINT
Parameter	1.4404/316L 20µm
Software	Netfabb, MPREP
Powder part-no.	MSUPPLY 1.4404
Layer thickness	20µm
Coater	X-lip
Inert gas	Nitrogen
Sieve	63µm



## Physical & mechanical properties

The mechanical properties of 1.4404 are in the medium range. In the annealed condition, it has a tensile strength of 500-700N/mm<sup>2</sup> according to the standard. The application range of 1.4404 extends from low temperatures to +550°C. In continuous operation, however, a temperature of 300°C should not be exceeded.

### Physical properties

Defects	Result
Average defect [%]	<0.5

### Surface quality (measured along the z-axis)

As built	Ra [µm]	4
	Rz [µm]	22
Blasted	Ra [µm]	3
	Rz [µm]	20

### Mechanical properties ISO6892-1

Vertical	Tensile strength R <sub>m</sub> [MPa]	Elongation at break A [%]	Reduction of area Z [%]
Average	620	40	62
Standard deviation absolute	9	4	11
Standard deviation percentage	1	10	17