

METAL POWDER

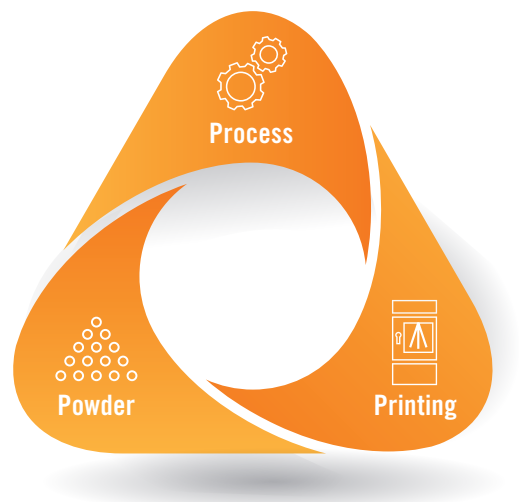
## STAINLESS STEEL 1.4404 / 316L

### ENABLING YOUR ADDITIVE REVOLUTION.

When it comes to additive manufacturing with metals, Heraeus is your trusted partner throughout the process. Combining decades of experience in metal handling and recycling with our thorough expertise in additive manufacturing, we are able to provide you with real peace of mind. Our expertise in processes, powders and printing gives you with the highest degree of design freedom for your components.

With high-quality powders, batch consistency and traceability, and variable particle size distribution, we can meet even very exacting additive manufacturing demands.

In addition to supplying powders, we are also your partner for printing components and can offer you the complete manufacturing service.



## Material Description

Stainless steel powder 1.4404/316L is atomized from austenitic low-carbon chromium-nickel steel. General resistance to corrosion is enhanced with the addition of molybdenum. Thus, the material is suited for components in harsh chemical environments. Applications are also found in the oil and gas industry, the medical industry, tooling and general engineering. It is also used for consumer/lifestyle products such as watches and glasses frames.

The low carbon content reduces the formation of carbides at elevated temperatures over 420°C.

- High hardness and toughness
- High corrosion resistance
- Good machinability

## Typical Applications

- Heat exchangers
- Components for the chemical industry
- Marine applications
- Turbine parts
- Jewelry and watches

## Available Particle Distributions

- 10-45µm
- 20-53µm

Customized distributions on request

## Powder Quality

- Gas atomized particles
- Spherical shape
- High purity
- Excellent flowability

## Chemical Composition

Element	Concentration [wt%] acc. ASTM A276
Fe	balance
Ni	10-14
Cr	16-18
Mo	2-3
C	max. 0.03
Mn	max. 2
Si	max. 1
N	max. 0.1
P	max. 0.045
S	max. 0.015

## Physical Properties

Properties	Value
Density [g/cm <sup>3</sup> ]	7.9
Tensile strength UTS [MPa]	>485
Yield strength [MPa]	>380
Young's modulus [GPa]	>180
Elongation [%]	<52

Properties as printed and annealed. Values may vary based on machines and build conditions and are therefore only for reference.

## CONTACT

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- Stable powder quality
- Customized alloys
- Spherical powders
- High purity



- Own LBM & EBM equipment
- Printing of prototypes



- Simulation of printing processes
- Design optimization
- Process development