# M4P 316l

## Stainless steel powder for laser-based powder bed fusion

## **Description and properties**

**m4p<sup>™</sup> 316l** is a corrosion-resistant austenitic alloy. The common abbreviation 316l comes from the AISI standard. In the European standardization the material 1.4404 has the highest possible conformity to the AISI standard of the 316l. Carbon contents <0.03% limit the tendency for intergranular corrosion effectively. The alloying element molybdenum contributes to further improvement of pitting corrosion resistance. As austenitic material, it has good deformation properties even at low temperatures.

#### **Powder characteristics**



| Chemical analysis [wt%] |       |      |
|-------------------------|-------|------|
| Element                 | Min   | Max  |
| С                       | <0,03 |      |
| Si                      | <1,0  |      |
| Mn                      | <2,0  |      |
| Cr                      | 16,0  | 18,0 |
| Ni                      | 10,5  | 14,0 |
| Мо                      | 2,0   | 3,0  |
| Fe                      | Base  |      |

Particle size Laser PBF

## Additive manufacturing and strength properties



#### Typical characteristics of the tensile test

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|---|------------------|-----------|
| Tensile strength                        | R <sub>m</sub> = | 574 N/mm² |
| Yield strength                          | R <sub>e</sub> = | 428 N/mm² |
| Elongation at break                     | A =              | 52%       |

#### Test cube: 10x10x10mm,

metallographically determined density: **99,95%** 

#### INTERNATIONAL

#### GERMANY

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