

# m4p Ni-625

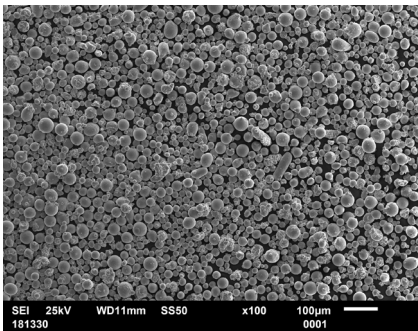
## Ni-base for laser-based powder bed fusion

### Description, properties and application

**m4p™ Ni-625** is a metal powder with the main alloying elements nickel-chromium-molybdenum-niobium, which give the material an excellent resistance under a variety of oxidizing and reducing conditions. Because of its high content of molybdenum, components made of m4p™ Ni-625 have high pitting -, cracking and stress cracking resistance. The performance characteristics of parts made of m4p™ Ni-625 can be influenced to some degree by a heat treatment. Depending on the application, the properties can vary towards optimum creep rupture strengths under elevated temperatures (> 600 ° C) or optimal corrosion properties.

Due to positive mechanical and corrosive properties of the material, versatile applications can be identified. Above all, heavily loaded components in engine and power plant technology, but also process engineering parts of the chemical industry are to be mentioned.

### Powder characteristics



#### Chemical analysis [wt%]

Element	Min	Max
C		0,10
Si		<0,50
Mn		<0,50
Cr	20,00	23,00
Fe		<5,00
Mo	8,00	10,00
Al		<0,40
Ti		<0,40
Nb	3,15	4,15
Ni		Balance

furthermore limited: B, Co, Cu, S, P, O, N

### Additive manufacturing and strength properties



#### Typical characteristics of tensile test

(99.9%, rel. Density, as-built)

Tensile strength <sup>1</sup>	R <sub>m</sub> =	900 N/mm <sup>2</sup>
Yield strength <sup>1</sup>	R <sub>e</sub> =	620 N/mm <sup>2</sup>
Elongation at break <sup>1</sup>	A <sub>5</sub> =	32%

#### INTERNATIONAL

**m4p material solutions GmbH · Austria**  
 Gewerbestraße 4, 9181 Feistritz i. R.  
 T +43 4228 93053-0  
 E sales@metals4printing.com

#### GERMANY

**m4p material solutions GmbH · Deutschland**  
 Mittelweg 13, 39130 Magdeburg  
 T +49 391 72149-40  
 E sales@metals4printing.com

[www.metals4printing.com](http://www.metals4printing.com)