

ADDITIVE MANUFACTURING POWDER

L718 AMPO / NI-BASED ALLOYS

Application Segments

Additive Manufacturing Application

Available Product Variants

15 - 45 µm

45 - 90 µm

Product Description

The BÖHLER L718 AMPO is a hardenable nickel-base super alloy. This high heat-resistant material shows good strength properties at elevated temperatures up to 750 °C, as well as excellent creep resistance up to 700 °C. In addition, it shows excellent corrosion resistance and good printability. Essentially, the same properties can be achieved with printed components made from this powder as with bar material.

Process Melting

VIGA

Applications

- > 3D Printing - direct metal deposition
- > Automotive
- > Components for Industrial Gas Compressors
- > Other Automotive Components (Turbochargers, Piston Rings, Sensors, etc.)
- > Other Oil and Gas + CPI components
- > 3D Printing - selective laser melting
- > Motorsport industry
- > CPI (incl. LNG, Urea)
- > Other Aerospace Components
- > Other Power Generation Components
- > Aerospace
- > Civil and mechanical engineering
- > Oil & Gas / CPI
- > Other Components
- > Powder for additive manufacturing

Technical data

Material designation	
Alloy 718	Market grade
2.4668	SEL
NiCr19NbMo/ NiCr19Fe19Nb5Mo3	EN
N07718	UNS

Chemical composition (wt. %)

C	Cr	Mo	Ni	Ti	Al	Nb	B	Fe
0.04	19	3.05	52.5	0.9	0.5	5.13	0.004	Rest

Powder Properties

Particle Size Distribution 15-45µm*

Typical Values	D10	D50	D90
[µm]	18-24	29-35	42-50

* Measurement of particle size distribution according to ISO 13322-2 (Dynamic image analysis methods);

Apparent density** | min. 3.5 g/cm³

** Measurement of apparent density is based on ASTM B964 resp. DIN EN ISO 3923-1 and relates to our typical measured values

Mechanical Properties

With according Heat Treatment

Tensile strength (Rm) (MPa)	1,350 to 1,450
Yield strength (R _{p0.2}) (MPa)	1,130 to 1,230
Elongation (%)	15 to 21
Hardness (HRC)	43 to 49

Mechanical strength according to heat treatment AMS5663 RT

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.