

ADDITIVE MANUFACTURING POWDER

BÖHLER L718 API AMPO / NI-BASED ALLOYS

Application Segments

Additive Manufacturing Application

Available Product Variants

15 - 45 µm

45 - 90 µm

Product Description

The BÖHLER L718 API 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
- > Components for Industrial Gas Compressors
- > Other Oil and Gas + CPI components
- > EBM Electron Beam Melting
- > BJT - Binder Jetting
- > 3D Printing - selective laser melting
- > CPI (incl. LNG, Urea)
- > Other Power Generation Components
- > Other Automotive Components (Sealing Rings, Sensors, Steering Systems)
- > MIM - Metal Injection Moulding
- > Civil and mechanical engineering
- > Other Components
- > Powder for additive manufacturing
- > Turbo Chargers

Technical data

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

Chemical composition (wt. %)

C	Cr	Mo	Ni	Ti	Al	Nb	B	Fe
0.02	18	3	Rest	0.95	0.5	5	0.003	18.5

Powder Properties

Particle Size Distribution 15-45µm*

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

* Measurement of particle size distribution is based on ISO 13322-2 (Dynamic image analysis methods);

Apparent density**	min. 3.5 g/cm ³
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** Flowability and apparent density are based on DIN EN ISO 4490 resp. DIN EN ISO 3923-1.

Mechanical Properties

With according Heat Treatment

Tensile strength (Rm) (MPa)	1,290 to 1,390
Yield strength (RP _{0.2}) (MPa)	1,050 to 1,110
Elongation (%)	26 to 32
Hardness (HRc)	43 to 49
Impact Toughness (ISO-V)* (J)	58 to 68

* a -60 °C

Mechanical strength according to heat treatment API6acra - 150ksi

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.

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