

# ADDITIVE MANUFACTURING POWDER

## L718 API AMPO / NI-BASED ALLOYS

### Available Product Shapes

15 - 45 µm	45 - 90 µm
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### 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.

### Properties

#### Particle size distribution 15 - 45 µm:

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

Apparent density\*  $\geq 3.5 \text{ g/cm}^3$

\* Measurement of particle size distribution is based on ISO 13322-2 (Dynamic image analysis methods);  
Flowability and apparent density are based on DIN EN ISO 4490 resp. DIN EN ISO 3923-1.

#### Achievable mechanical properties of printed part after heat treatment\*:

Tensile strength (Rm)	1340 ± 50 MPa
Yield strength (RP <sub>0.2</sub> )	1080 ± 30 MPa
Elongation (%)	29 ± 3
Hardness	44 ± 3 HRC
Impact toughness (ISO-V)	63 ± 5 J (α -60 °C)

\*Mechanical strength according to heat treatment API6acra - 150ksi

#### Particle size distribution 45 - 90 µm:

Details on request

### Applications

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|--|---|--|
| <ul style="list-style-type: none"> <li>&gt; 3D Printing - direct metal deposition</li> <li>&gt; Automotive Racing</li> <li>&gt; CPI (inc. LNG, Urea)</li> <li>&gt; Other Components</li> <li>&gt; Powder for additive manufacturing</li> </ul> | <ul style="list-style-type: none"> <li>&gt; 3D Printing - selective laser melting</li> <li>&gt; Civil and mechanical engineering</li> <li>&gt; Oil &amp; Gas</li> <li>&gt; Other Oil and Gas + CPI comps.</li> <li>&gt; Unknown Components Application</li> </ul> | <ul style="list-style-type: none"> <li>&gt; Automotive</li> <li>&gt; Comp. for Industrial Gas Compressors</li> <li>&gt; Oth. Automotive components (Turbochargers, Piston Rings, Sensors, etc.)</li> <li>&gt; Other Power Generation Components</li> </ul> |
|--|---|--|

### 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

For more information see [www.voestalpine.com/boehler-edelstahl](http://www.voestalpine.com/boehler-edelstahl)

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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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