

# ADDITIVE MANUFACTURING POWDER

## L175 AMPO / CO-BASED ALLOYS

### Application Segments

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Additive Manufacturing Application

### Available Product Variants

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15 - 45  $\mu\text{m}$

45 - 90  $\mu\text{m}$

### Product Description

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L175PA is characterized by a high tensile strength combined with very good ductility. Due to its biocompatibility and corrosion resistance, it is often used in orthopedic surgery as a joint replacement or as part of various implants, as well as in dental technology.

### Properties

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- › Corrosion resistance
- › high Elasticity
- › high Hardness

### Process Melting

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VIGA

### Applications

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- › 3D Printing - selective laser melting
- › 3D Printing - direct metal deposition
- › MIM - Metal Injection Moulding
- › Powder for additive manufacturing
- › EBM Electron Beam Melting
- › Other Components
- › BJT - Binder Jetting

### Technical data

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Material designation	
F75	Market grade
2.4979	SEL
Co28Cr6Mo	EN
R30075	UNS

### Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni	Co	Fe
≤ 0.35	≤ 1.00	≤ 1.00	28.5	6	≤ 0.50	64	≤ 0.75

### 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);

### Mechanical Properties

#### As Printed

Tensile strength (Rm) (MPa)	1,150 to 1,250
Yield strength (RP <sub>0,2</sub> ) (MPa)	730 to 830
Elongation (%)	19 to 21
Hardness (HRc)	34 to 36
Impact Toughness (ISO-V) (J)	25 to 27

We expressly point out that the values given are only guide values. The mechanical properties highly depends on the pressure parameters or heat treatment.

#### With according Heat Treatment

Tensile strength (Rm) (MPa)	1,150 to 1,250
Yield strength (RP <sub>0,2</sub> ) (MPa)	600 to 700
Elongation (%)	32 to 38
Impact Toughness (ISO-V) (J)	82 to 90

### Heat treatment

Temperature	1,150 °C	for 6h
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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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