

# ADDITIVE MANUFACTURING POWDER

## N700 AMPO / FE-BASED ALLOYS

### Available Product Shapes

15 - 45 µm	45 - 90 µm
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### Product Description

BÖHLER N700 AMPO (17-4 PH) is a precipitation hardening nickel martensitic steel. Thanks to its alloying system, this material has excellent corrosion resistance. Can be printed very easily without additional heating of the platform or chamber and, after solution annealing and aging, hardens up to approx. 40 HRC.

### Properties

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

D10[µm]	18 - 24
D50[µm]	29 - 35
D90[µm]	42 - 50
Apparent density*	≥ 3.4

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

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

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

Tensile strength (Rm)	1150 ± 150 MPa
Yield strength (RP <sub>0.2</sub> )	1050 ± 150 MPa
Elongation (%)	18 ± 3
Hardness	36 ± 43 HRC
Impact toughness (ISO V)	75 - 230 J

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

Details on request

### Applications

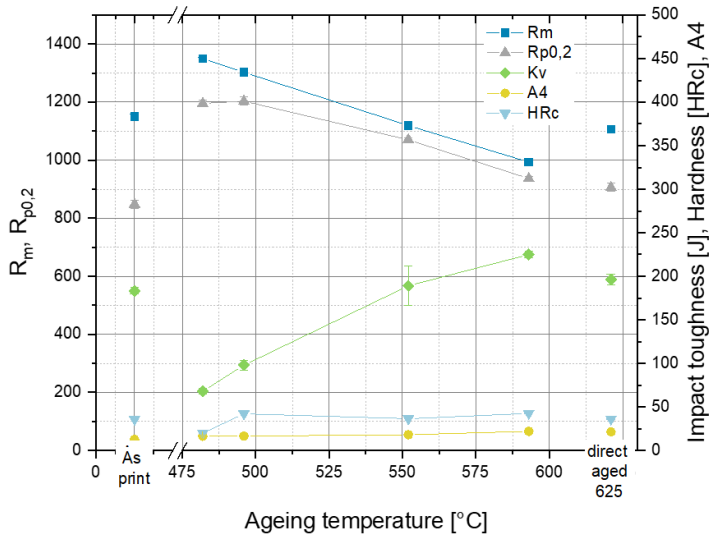
- > 3D Printing - direct metal deposition
- > Automotive
- > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Mechanical Engineering / Machine Building General
- > Other Power Generation Components
- > Wind Power
- > 3D Printing - selective laser melting
- > Automotive Racing
- > Consumer Goods - General
- > Oil & Gas
- > Other Components
- > Powder for additive manufacturing
- > Aerospace
- > Civil and mechanical engineering
- > General Components for Mechanical Engineering
- > Other Aerospace Comps.
- > Other Oil and Gas + CPI comps.
- > Unknown Components Application

Material designation	
1.4542	SEL
17-4 PH	Market grade

### Chemical composition

C	Cr	Ni	Cu	Nb
0.04	16.25	4.00	4.00	0.34

### Analog-Hardening Tempering Curve



Solution annealing: 1040°C / 30min / air quenching

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

**voestalpine BÖHLER Edelstahl GmbH & Co KG**

Mariazeller Straße 25

8605 Kapfenberg, AT

T. +43/3862/20-6066

E. [info@boehler-edelstahl.at](mailto:info@boehler-edelstahl.at)

[www.voestalpine.com/boehler-edelstahl](http://www.voestalpine.com/boehler-edelstahl)

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ONE STEP AHEAD.