

ADDITIVE MANUFACTURING POWDER

N700 AMPO / FE-BASED ALLOYS

Available Product Shapes

15 - 45 µm

45 - 90 µm

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 g/cm ³

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 _{0.2})	1050 ± 150 MPa
Elongation (%)	18 ± 3
Hardness	36 to 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 Components
- > Powder for additive manufacturing
- > 3D Printing - selective laser melting
- > Automotive Racing
- > Consumer Goods - General
- > Oil & Gas
- > Other Oil and Gas + CPI comps.
- > Unknown Components Application
- > Aerospace
- > Civil and mechanical engineering
- > General Components for Mechanical Engineering
- > Other Aerospace Comps.
- > Other Power Generation Components
- > Wind Power

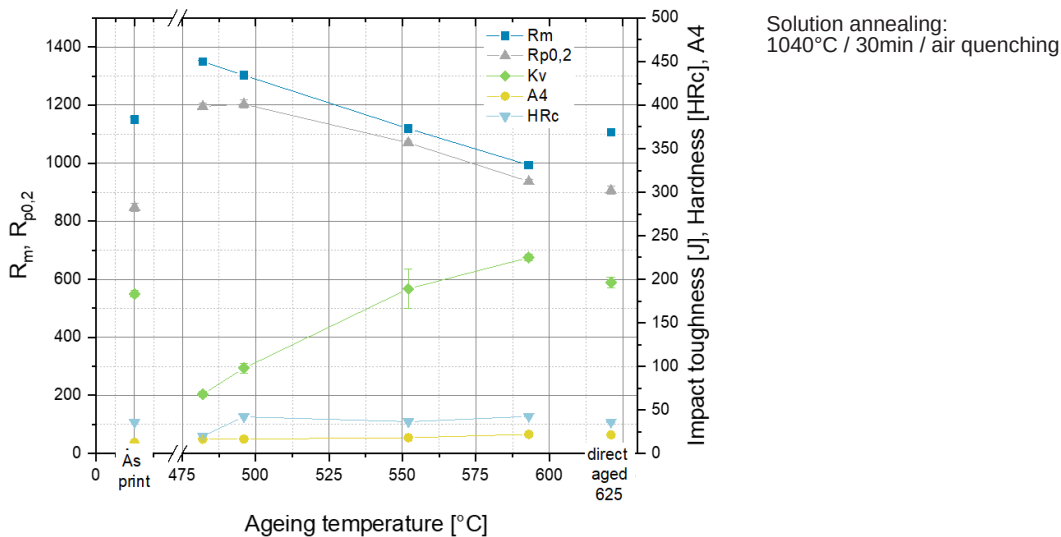
Technical data

Material designation	
1.4542	SEL
17-4 PH	Market grade

Chemical composition (wt. %)

C	Cr	Ni	Cu	Nb
0.04	16.25	4	4	0.34

Analog-Hardening Tempering Curve



For more information see www.voestalpine.com/boehler-edelstahl

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.

voestalpine BÖHLER Edelstahl GmbH & Co KG

Mariazeller Straße 25

8605 Kapfenberg, AT

T. +43/50304/20-0

E. info@boehler-edelstahl.at

www.voestalpine.com/boehler-edelstahl

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ONE STEP AHEAD.