BÖHLER

BÖHLER M789
AMPO

ADDITIVE MANUFACTURING POWDER

M789 AMPO / FE-BASED ALLOYS

Available Product Shapes

15 - 45 µm	45 - 90 µm

Product Description

BÖHLER M789 AMPO is a newly developed maraging steel, which combines the mechanical properties of 1.2709 with the corrosion resistance of 17-4PH. This patent bending grade can easily printed without any preheating and achieves a hardness of about 52 HRC with a very easy heat treatment. Furthermore, this material shows an excellent polishability, which makes it the ideal choice for inserts with conformal cooling in plastic injection molding and in any other application where a high hardness and corrosion resistance is of need.

Properties

Particle size distribution 15 - 45 µm:

D10[µm]	18 - 24
D50[µm]	29 - 35
D90[µm]	42 - 50
Apparent density*	≥ 3.5 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)	1850 ± 50 MPa
Yield strength ($RP_{0,2}$)	1720 ± 50 MPa
Elongation (%)	6 ± 2
Hardness	52 ± 1 HRc
Ductility (ISO V)	10 ± 4 J

Particle size distribution 45 - 90 µm:
Details on request

Applications

- 3D Printing - direct metal deposition
- Automotive Racing
- Components for Displays
- Lamps/Lenses for Automotive
- Plastic Extrusion
- Tool Holders (milling, drilling, turning & chucks)
- 3D Printing - selective laser melting
- Camera lenses
- Consumer Goods - General
- Mechanical Engineering / Machine Building General
- Powder for additive manufacturing
- Wind Power
- Automotive
- Civil and mechanical engineering
- Injection Molding
- Other Components
- Unknown Components Application
- Hotrunner systems

Material designation	
BÖHLER patent (pending)	Market grade

voestalpine BÖHLER Edelstahl GmbH & Co KG
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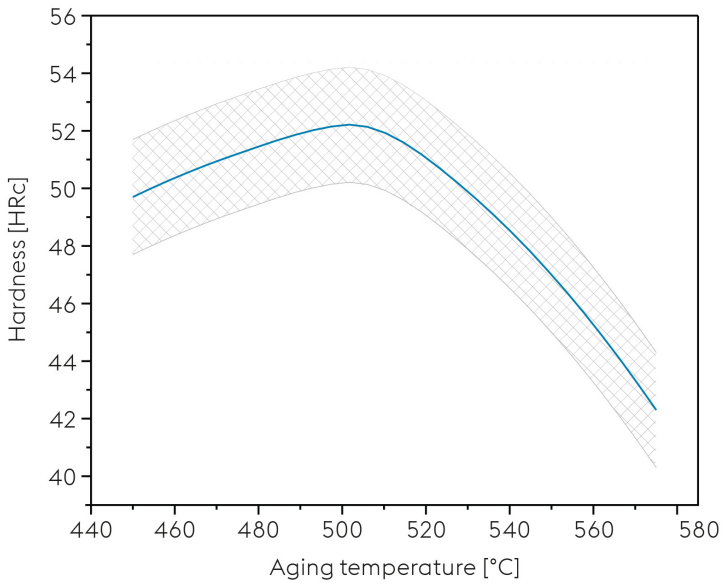
Chemical composition

C	Cr	Mo	Ni	Ti	Al
< 0,02	12.20	1.00	10.00	1.00	0.60

Tempering chart



Heat Treatment for optimum properties:
Solution Annealing: 1000°C / 1h soaking time / air cooling to room temperature Ageing: 500°C / 3h soaking time / air cooling

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

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