BÖHLER

BÖHLER W722
AMPO

ADDITIVE MANUFACTURING POWDER

W722 AMPO / FE-BASED ALLOYS

Available Product Variants

15 - 45 µm	45 - 90 µm

Product Description

Percipitation hardening nickel martensitic (marging) steel, material number 1.20709, which offers a good combination of strength and toughness. Can be printed very easily without additional heating of the building plattform or chamber. The achievable hardness of 55 HRC makes this material a universal solution for tool steel applications in which conformal cooling is required, such as die casting applications.

Process Melting

VIGA

Applications

- 3D Printing - direct metal deposition
- Automotive Racing
- High Pressure Die-Casting
- Other Components
- 3D Printing - selective laser melting
- Civil and mechanical engineering
- Injection Molding
- Powder for additive manufacturing
- Automotive
- Forging Applications
- Mechanical Engineering

Technical data

Material designation	
1.2709	SEL
1.2709 (Marage 300)	Market grade
X3NiCoMoTi18-9-5	EN

Chemical composition (wt. %)

C	Si	Mn	P	S	Mo	Ni	Co	Ti
≤ 0,03	≤ 0,10	≤ 0,15	≤ 0,01	≤ 0,01	4.9	18	9.3	1.1

Powder Properties

Particle Size Distribution *

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

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

Apparent density**	min. 3.5 g/cm^3

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

Mechanical Properties

With according Heat Treatment

Tensile strength (Rm) (MPa | ksi)	1,960 to 2,100 | 285 to 305
Yield strength ($RP_{0,2}$) (MPa | ksi)	1,880 to 2,020 | 273 to 293
Elongation (%)	4 to 8
Hardness (HRc)	51 to 55
Impact Toughness (ISO-V) (J)	16 to 20

Heat treatment

Solution annealing

Temperature	820 to 1508 °C | 1508 to 2746.4 °F	Soaking time: 1h / air, gas

Precipitation hardening

Temperature	490 to 914 °C | 914 to 1677.2 °F	Holding time: 6h / air

Physical Properties

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

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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