

METAL POWDER

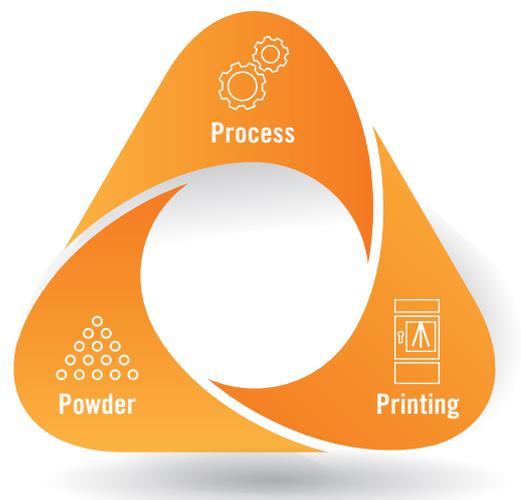
TOOL STEEL
1.2709 / M300

ENABLING YOUR ADDITIVE REVOLUTION.

When it comes to additive manufacturing with metals, Heraeus is your trusted partner throughout the process. Combining decades of experience in metal handling and recycling with our thorough expertise in additive manufacturing, we are able to provide you with real peace of mind. Our expertise in processes, powders and printing gives you with the highest degree of design freedom for your components.

With high-quality powders, batch consistency and traceability, and variable particle size distribution, we can meet even very exacting additive manufacturing demands.

In addition to supplying powders, we are also your partner for printing components and can offer you the complete manufacturing service.



Material Description

Tool steels are characterized by a high wear resistance due to high hardness and enhanced ductility. Components made of tool steel are used in high-strain applications, as tooling and molds. Wear rate is additionally reduced by comparatively high operating temperatures. Final milling can also be performed in annealed condition. Additive manufacturing can be used to add additional features to tooling components, such as cooling channels, to reduce cycle times and improve molding processes.

- High hardness and toughness
- High corrosion resistance
- Good machinability

Typical Applications

- Inserts for injection molding
- Inserts for die casting
- Tooling

Available Particle Distributions

- 15-45µm

Customized distributions on request

Powder Quality

- Gas atomized particles
- Spherical shape
- High purity
- Excellent flowability

Chemical Composition

Element	Concentration [wt%] acc. ASTM A646
Fe	balance
Ni	17-19
Co	8.5-10.0
Mo	4.5-5.2
Ti	0.8-1.2
Cr	max. 0.25
Mn	max. 0.15
P	max. 0.01
Si	max. 0.01
C	max. 0.03

Physical Properties

Properties	Value
Density [g/cm ³]	8.0
Tensile strength UTS [MPa]	>1000
Yield strength [MPa]	>900
Young's modulus [GPa]	>130
Elongation [%]	<13

Properties as printed and annealed. Values may vary based on machines and build conditions and are therefore only for reference.

CONTACT

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Powder

- Stable powder quality
- Customized alloys
- Spherical powders
- High purity



Printing

- Own LBM & EBM equipment
- Printing of prototypes



Process

- Simulation of printing processes
- Design optimization
- Process development