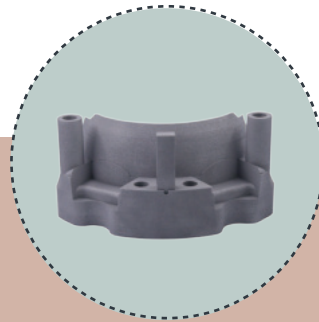
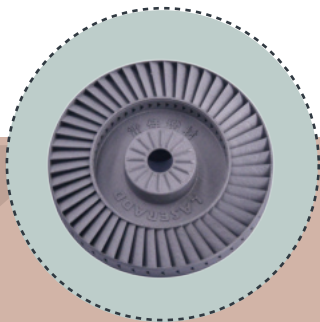


Metal 3D Printing Leader



Nickel-based alloy In 718

Nickel-based alloy ideal for high-temperature applications in aerospace & energy sectors.



Advantage

- > Easy to process
- > High tensile strength, fatigue strength, creep strength and rupture strength at 700°C
- > Excellent corrosion resistance
- > High oxidation resistance at 1000°C
- > Stable chemical properties at low temperature
- > Good welding performance

Ideal Applications

- > Aerospace and Defense
- > Steam turbine
- > Liquid fuel rocket
- > Cryogenic engineering
- > Acid environment
- > Nuclear engineering

Powder composition / percent by mass

Ni	Co	Fe	C	Mn	Si	Mo	Co	Al	Ti	Nb
50-55	17-21	Balance	≤0.08	≤0.35	≤0.35	2.8-3.3	≤1.0	0.2-0.8	0.65-1.15	4.75-5.5

Technical Datasheet

General Properties	Density ISO3369	≥8.18 g/cm ³
Mechanical Properties (As built)	Tensile Strength ISO6892-1	≥1060 MPa
	Yield Strength ISO6892-1	≥720 MPa
	Elongation after Fracture ISO6892-1	≥21 %
	Vickers hardness ISO6507-1	≥280 HV5/15
	Hardness (HRC) ASTM E92-17	280-320
	Thermal conductivity at 20 °C	9.3W/mK-11.5W/mK
	Surface roughness Ra X, Y	5 μm-10 μm
	Surface roughness Ra Z	10 μm-15 μm
Mechanical Properties (Heat treated)	Tensile Strength ISO6892-1	≥1400 MPa
	Yield Strength ISO6892-1	≥1120 MPa
	Elongation after Fracture ISO6892-1	≥12 %
	Vickers hardness ISO6507-1	≥410 HV5/15
	Hardness (HRC) ASTM E92-17	400-460
	Surface roughness Ra X, Y	<2 μm
	Surface roughness Ra Z	<2μm

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