

# Aluminum(AlSi10Mg)

INDUSTRIAL GRADE MATERIALS FOR SLM 3D PRINTING



## MATERIAL NAME

Aluminum(AlSi10Mg)

## COLOR

Silvery-gray

## PROCESS

SLM

## PRODUCT DESCRIPTION

Aluminum(AlSi10Mg) is a soft but versatile material utilized primarily on alloys. Due to its relatively low costs and ease of machining and forming, it is widely used in many industries and remains one of the most widespread metals. One required field for aluminium is construction, closely followed by engineering. It presents excellent heat and electricity conductivity comparable to copper: about one-half of heat and two-thirds the same electrical conductivity.

## TYPICAL APPLICATIONS

- Aeronautics (wings and armaments)
- Automotive industry (bumpers and engine blocks)
- Marine (hull and accessories)

## PRODUCT SAFETY

If there are sharp edges on the surface of the parts, be careful not to scratch them. If there are metal powders on the parts, be careful not to inhale them into the lungs and avoid contact with strong acids and alkalis.

## PRODUCT DELIVERY & WAREHOUSING

- **STORAGE**

Store in a dry, ventilated environment, avoiding moisture and exposure to corrosive chemicals. Apply protective coatings to prevent oxidation or corrosion of metal surfaces.

- **USAGE AND HANDLING**

Remove burrs and residual materials from the product. Use protective equipment like gloves when handling.

Avoid using the product in extreme environments or high-load scenarios; regularly inspect for mechanical performance.

- **CHEMICAL COMPATIBILITY**

Avoid contact with strong acids, alkalis, or corrosive solvents. Use appropriate cleaning and maintenance solutions.

Assess risks of oxidation, corrosion, or magnetic effects based on specific application environments.

## MATERIAL PROPERTIES

Heat-Treated Properties	Value
Hardness	120 HBW
Yield Strength (Mpa)	180 Mpa
Tensile strength (Mpa)	300 Mpa
Elongation at break	≥8%
Elastic Modulus (Gpa)	70 GPa

  

Other Properties	Value
Poisson's Ratio	/
Coefficient of thermal expansion(/°C)	/
Thermal Conductivity	147 W·m <sup>-1</sup> ·K <sup>-1</sup>
Electrical Resistivity	0.0468 Ω·m
Electrical Conductivity	/
Surface Roughness of Formed Parts	/

**Tips:** Want to explore a wider range of materials? Check out <https://www.unionfab.com/materials>