

OLA Product Name: Titanium Alloy TC4 (Ti6Al4V)

Color: Natural (Silver-Grey)

Process: SLM

MATERIAL SUMMARY

Tolerance: $\pm 200\mu\text{m}$ or $\pm 0.2\%$

Lead Time: 4 days

Maximum Printing Size: 350mm x 400mm x 360mm

Notes:



EVALUATION

- **Advantages**
 - ① High strength with tensile strength up to $1230 \pm 50\text{MPa}$.
 - ② Low density (4.5g/cm^3), enabling lightweight components.
 - ③ Excellent heat resistance up to 400°C .
 - ④ Superior corrosion resistance, ideal for harsh environments.
- **Disadvantages**
 - ① Minor surface pits and layer lines may be present.
 - ② Surface roughness typically around Ra10; may require post-processing for smoother finish.

KEY FEATURES

Titanium alloy TC4, also known as Ti6Al4V, is a medium-strength α - β phase titanium alloy with excellent mechanical properties, biocompatibility, and corrosion resistance. It is widely used in the aerospace, medical, and chemical industries.

MATERIAL PROPERTIES

- **Surface Roughness (Sandblasted):** $\geq 7\mu\text{m}$
- **Hardness (As-Printed):** HRC 38 ± 3
- **Hardness (Heat-Treated):** HRC 35 ± 3
- **Yield Strength (As-Printed):** $1050 \pm 50\text{MPa}$
- **Yield Strength (Heat-Treated):** $950 \pm 50\text{MPa}$
- **Elongation (As-Printed):** $7\% \pm 3$
- **Elongation (Heat-Treated):** $13\% \pm 3$
- **Tensile Strength (As-Printed):** $1230 \pm 50\text{MPa}$
- **Tensile Strength (Heat-Treated):** $1015 \pm 50\text{MPa}$

APPLICATION SCENARIOS

- It is widely used in the aerospace, medical, and chemical industries.

POST-PROCESSING OPTIONS

- Thread tapping
- Sand-blasting