

## TPU

### INDUSTRIAL GRADE MATERIALS FOR SLS 3D PRINTING



#### MATERIAL NAME

TPU

#### COLOR

White

#### PROCESS

SLS

### PRODUCT DESCRIPTION

As a strong, wear-resistant and elastic substance, SLS TPU offers new application opportunities. Thanks to its convenient processing window and full recyclability of the powder cake, it is a natural choice for series production. Elastic parts with high strength and high abrasive resistance for shoe and sports industry, pipes, sealings, prosthetics and many more applications.

### TYPICAL APPLICATIONS

- Elastic parts with high strength and abrasion resistance
- Shoe and sports industry components
- Pipes and sealings
- Prosthetics

### PRODUCT SAFETY

Most nylon products are biocompatible materials. There is no problem with normal skin contact. Only a small number of people will experience slight skin irritation.

## PRODUCT DELIVERY & WAREHOUSING

- **MOISTURE CONTROL**

Nylon is highly hygroscopic. Store in a dry environment with humidity below 50% to prevent dimensional swelling and performance degradation.

Use sealed packaging with desiccants or vacuum storage.

- **TEMPERATURE CONTROL**

Keep storage temperature between 5°C and 35°C. Avoid high temperatures (>60°C) that may cause deformation and low temperatures (<0°C) that may induce brittleness.

- **UV PROTECTION**

Avoid exposure to UV light to prevent material aging, such as yellowing, brittleness, or loss of mechanical properties.

- **PHYSICAL PROTECTION**

Prevent heavy stacking or impacts to avoid deformation or cracking.

## PROPERTIES OF PRINTED MATERIAL

Properties	Test Method	Value
Hardness	ISO 868	Shore A 88
Flexural modulus (Mpa)	ISO 6721-1	20°C: 27 MPa 60°C: 72MPa
Flexural strength (Mpa)	/	/
Tensile modulus (Mpa)	/	/
Tensile strength (Mpa)	DIN 53504	X-direction: 20MPa Z-direction: 15MPa
Elongation at break	/	/
Poisson's Ratio	/	0.45
Impact strength notched Izod (J/m)	/	/
Heat deflection temperature (°C)	/	/
Glass transition, Tg (°C)	/	/
Coefficient of thermal expansion(/°C)	/	/
Density (g/cm <sup>3</sup> )	ISO 1183	Sintered Part Density: 1.2 g/cm <sup>3</sup>

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



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