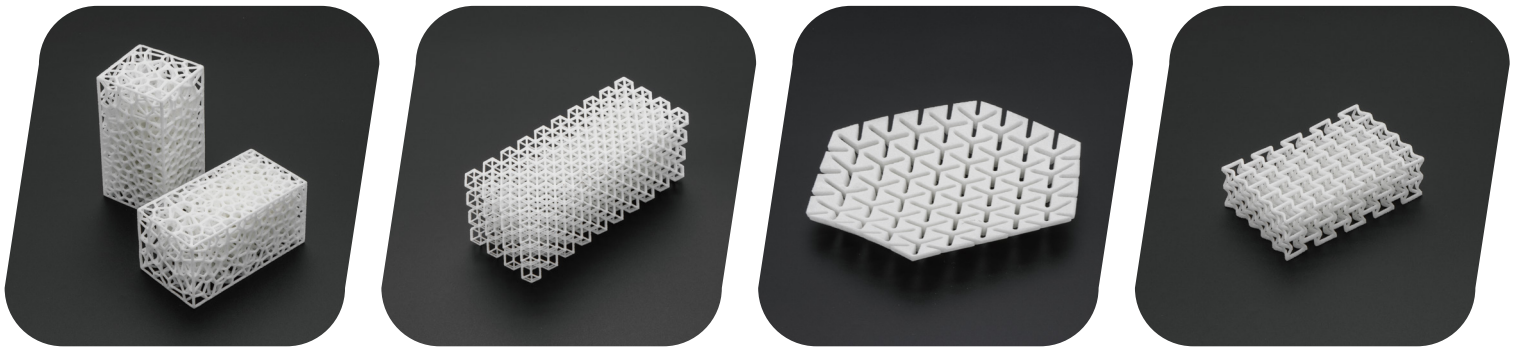
TECHNICAL DATA

KSTPU23

Product Demonstration



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Material Overview

Thermoplastic polyurethane (TPU), a member of the thermoplastic elastomer (TPE) family, combines the elasticity of rubber with the strength of plastic. Chemically, TPU is a block copolymer consisting of alternating hard segments (isocyanates) and soft segments (reacted polyol), and the manufacturer determines their ratio. More soft segments enhance flexibility, leading to a shore hardness ranging from 60A (similar to mild silicones) to 80D (comparable to nylons or rigid PVC). TPU is versatile, available in various forms tailored to different manufacturing technologies, including filament for FDM and powder for SLS in 3D printing.

Advantage

- Elasticity
- High elongation and tensile strength
- Low-temperature performance
- Abrasion resistance
- Chemical resistance

Ideal Application

- Shock-absorbing shoe soles
- Insoles
- Medical organ models
- Flexible robots
- Smart wearable devices
- Biological scaffolds
- Lining for apparel prosthetic

Technical Datasheet

Performance	Testing methods	Units	Typical values
Bulk density	GB/T 16913	g/m^3	0.5
Powder color	Visual inspection	\	White
Part color	Visual inspection	\	Natural Color
Shore hardness A	ISO 868	℃	88-90
Tensile strength	DIN 53504	MPa	20
Elongation at break	DIN 53504	%	400
Melting point	ISO 11357	℃	160

Note:
1. The above parameters are limited to the calibrated testing method, and the test reading results of samples produced with different heat parameters may vary.
2. Due to measurement errors in different testing equipment, a deviation of up to 15% from the above values in both directions can be considered as consistent results.

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