TPU 95A Datasheet

Overview

Designed for flexible, impact-absorbing parts, TPU filament is perfect for makers, engineers, and designers creating wear-resistant seals, protective covers, and functional prototypes that demand elasticity, durability, and resistance to abrasion and chemicals.

As-printed Part's Tolerance: ±300μm or 0.3%

Maximum Printing Size: 256*256*256mm

Infill Options: 15%, 30%, 50%, 65%, 85%, 100%

Color Options: 6

Material Properties

Density Properties	Metric	Test Standard
Density	1.22g/cm³	ISO 1183
Rheological Properties	**Metric**	**Test Standard**
Melt Flow Rate (MFR)	34-39g/10min	210 °C, 2.16 kg
Thermal Properties	**Metric**	**Test Standard**
Melting Temperature	183 °C	DSC, 10 °C/min
Other	**Metric**	**Test Standard**
Saturated Water Absorption Rate	1.08%	25 °C, 55% RH

Mechanical Properties

Tensile Test:

Tensile Strength Metric	Infill	Coordinate Axes	Test Standard
26-28Mpa	100%	X-Y axes	ISO 527, GB/T 1040
Elongation at Break Metric	**Infill**	**Coordinate Axes**	**Test Standard**
>650%	100%	X-Y axes	ISO 527, GB/T 1040
Young's Modulus Metric	**Infill**	**Coordinate Axes**	**Test Standard**
9-11Mpa	100%	X-Y axes	ISO 527, GB/T 1040

Impact Test:

Impact Strength Metric	Infill	Coordinate Axes	Test Standard
123.2 kJ/m²	100%	X-Y axes	ISO 179, GB/T 1043

Pros

With exceptional flexibility and abrasion resistance, FDM printed TPU delivers elastic, impact-absorbing parts that maintain their shape under repeated stress. Its strong layer adhesion, chemical resistance, and ability to perform in a wide temperature range make it ideal for seals, gaskets, protective covers, and functional components requiring both durability and stretch.

Cons

TPU's high flexibility can make it challenging to print, often requiring slower speeds and fine-tuned settings to avoid stringing or under-extrusion. Its softness can also limit dimensional precision for very small or intricate features. While

resistant to many chemicals, prolonged exposure to oils or certain solvents may cause swelling, and its elasticity can make post-processing or machining more difficult compared to rigid materials.

Applications

Seals and Gaskets Protective Covers and Cases Wearable Accessories

Custom Footwear Elements Industrial Belts and Rollers Vibration Dampeners

Sporting Goods Components Medical Device Parts Automotive Parts