



TPU 85A

**Flexible thermoplastic polyurethane
for elastic, impact-resistant parts**

Extremely flexible material with Shore hardness 85A, ideal for producing soft, shock-absorbing and resilient components. Easy to print, with excellent elasticity and recovery.

3D FDM PRINTING



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Main Features

- ✓ Excellent flexibility and resilience
- ✓ Impact and abrasion resistance
- ✓ Strong elastic recovery after compression
- ✓ Durable and stable under everyday use
- ✓ Ideal for shock-absorbing and deformable parts

Applications

- ✓ Protective housings and bumpers
- ✓ Soft toys and functional accessories
- ✓ Flexible parts for robotics and prototyping
- ✓ Flexible joints, vibration dampers, elastic elements
- ✓ 3D-printed shock absorbers and cushioning pads

Based on currently available data, the information in this document is considered accurate. Fasipol makes no explicit or implicit warranties regarding the results obtained from its use or the accuracy of such results.

Certified Company
UNI EN ISO
9001:2023



Technical Data

PHYSICAL PROPERTIES	METHOD	VALUE
Density	ISO 1183	1.18 g/cm ³
Melt Index (210 °C, 2.16 kg)	-	8.76 ± 2.6 g/10 min
Melting Temperature	DSC (10 °C/min)	177 °C
Glass Transition Temperature	DSC, 10 °C/min	N/D
Crystallization Temperature	DSC, 10 °C/min	N/D
Vicat Softening Temperature	ISO 306	N/D
Heat Deflection Temp. (1.8 / 0.45 MPa)	-	N/D
Saturated Water Absorption	25 °C, 55% RH	0.67 %

MECHANICAL PROPERTIES	METHOD	VALUE
Young's Modulus (X-Y)	ISO 527	6.8 ± 0,7 MPa
Young's Modulus (Z)	ISO 527	5.2 ± 0.6 MPa
Tensile Strength (X-Y)	ISO 527	12.0 ± 0.8 MPa
Tensile Strength (Z)	ISO 527	10.5 ± 0.6 MPa
Elongation at Break (X-Y)	ISO 527	> 700 %
Elongation at Break (Z)	ISO 527	> 350 %
Flexural Modulus (X-Y)	ISO 178	N/D
Flexural Modulus (Z)	ISO 178	N/D
Flexural Strength (X-Y)	ISO 178	N/D
Flexural Strength (Z)	ISO 178	N/D
Impact Strength (X-Y)	ISO 179	124.3 kJ/m ²
Impact Strength (Z)	ISO 179	88.5 kJ/m ²

PROPRIETÀ FISICO-CHIMICHE	VALUE
Odor	Odorless
Composition	Thermoplastic polyurethane (TPU)
Skin Hazards	None
Chemical Stability	Stable under normal conditions
Solubility in Water	Insoluble
Acid Resistance	Not resistant
Alkali Resistance	Not resistant
Organic Solvent Resistance	Limited resistance to some organic solvents
Oil and Grease Resistance	Resistant to most oils and greases
Flammability	Flammable
Combustion Products	Water, carbon oxides and nitrogen
Odor of Combustion Products	Pungent