

EON TPU 90A

Combining flexibility with outstanding tear resistance, EON TPU 90A Powder allows for the creation of soft, skin-friendly prototypes and final parts that can endure daily wear and tear. This material is versatile enough to be used in a wide range of applications, including soles, prosthetics, cushions, shock absorbers, grippers, seals, masks, belts, and tubing.

Mechanical Properties (1)	Typical Value (2)	Method
Ultimate Tensile Strength (X/Y)	8,7 MPa	ASTM D412-16, Method A
Ultimate Tensile Strength (Z)	7,2 MPa	
Elongation at Break (X/Y)	310 %	
Elongation at Break (Z)	110%	
Stress 50 % Elongation (X/Y)	6,1 MPa	
Stress 50 % Elongation (Z)	5,9 MPa	
Stress 100 % Elongation (X/Y)	7,2 MPa	
Stress 100 % Elongation (Z)	7,0 MPa	
Tear Resistance (X/Y)	66 kN/m	ASTM D624-00 (2020)
Tear Resistance (Z)	39 kN/m	
Compression Set (23° C)	20,5 %	ASTM D395-18, Method B
Compression Set (70° C)	59,9 %	
Shore Hardness	90A	ASTM D2240-15 (2021)
Taber Abrasion	122 mm ³	ISO 4649 (40rpm, 10N load)

Thermal Properties (1)	Typical Value (2)	Method
Vicat Softening Temperature	94,3° C	ASTM D1525

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Other Properties (1)	Typical Value (2)	Method
Water Absorption (printed part)	0,89 %	ASTM D570
Bulk Density (Sintered)	1,14 g/cm ³	In-house Method

Samples printed with EON TPU 90A powder have been evaluated in accordance with ISO 10993-1:2018, and has passed the requirements for the following biocompatibility risks:

ISO Standard	Result
ISO 10993-5:2009	Non-Cytotoxic
ISO 10993-23:2021	Non-Irritant
ISO 10993-10:2021	Non-Sensitizer

Notes:

- 1) Material properties may vary with part geometry, print orientation and temperature.
- 2) Results on a SLS printer are equivalent within the bounds of experimental uncertainty.