



EOS TPU 1301 Material Data Sheet

EOS TPU 1301

Flexible Polymer Material

The part properties such as flexibility and level of damping of this TPU can be adjusted via structural design with lattice structure, or by adapting the process parameters



Main Characteristics

- Great resilience
- Good hydrolysis resistance
- High UV-stability
- Very good shock absorption
- Shore hardness 86 A
- Low refresh rate

Typical Applications

- Footwear & lifestyle parts that demand elastomeric properties, e. g. handles, shoe soles
- Automotive & industry parts, e.g. tubes, bellows, seals, gaskets
- Protective sports gear, e.g. helmet cushioning
- Applications usually made from foam can be replaced by lattice structures in EOS TPU 1301

Headquarters

EOS GmbH
Electro Optical Systems
Robert-Stirling-Ring 1
D-82152 Krailling/Munich
Germany
Phone +49 89 893 36-0
info@eos.info

www.eos.info

in EOS

EOSGmbH

EOS.global

EOSGmbH

#ShapingFuture

Further Offices

EOS France
Phone +33 437 497 676

EOS Greater China
Phone +86 21 602 307 00

EOS India
Phone +91 443 964 8000

EOS Italy
Phone +39 023 340 1659

EOS Japan
Phone +81 45 670 0250

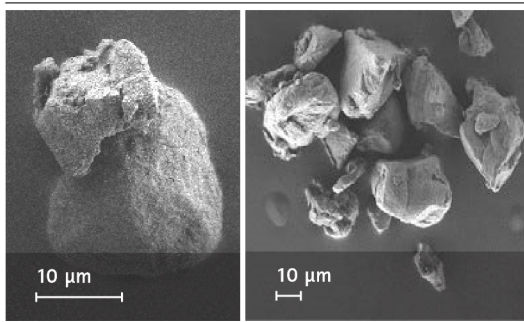
EOS Korea
Phone +82 2 6330 5800

EOS Nordic & Baltic
Phone +46 31 760 4640

EOS of North America
Phone +1 877 388 7916

EOS Singapore
Phone +65 6430 0463

EOS UK
Phone +44 1926 675 110



Particle size		Powder	
d10 [1]	~ 22 µm	Bulk density [2]	0,49 g/cm³
d50 [1]	~ 72 µm	Flowability [3]	~ 17 s
d90 [1]	~ 138 µm	Melting point [4]	~138 °C
Part density [5, 8]		~ 1,11 g/cm³ Shore	

Typical mechanical properties at room temperature [6, 7, 8]

	EOS P 396 [120 µm]		EOS P 770 [120 µm]	
	x/y	z	x/y	z
Tensile strength [MPa]	7	5	7	5
Tensile modulus [MPa]	60	60	60	50
Elongation at break [%]	250	90	250	60
Impact strength Charpy notched 23 °C [kJ/m²]	n.b. (no break)	n.b.	n.b.	n.b.
Impact strength Charpy notched -30 °C [kJ/m²]	n.b.	n.b.	n.b.	n.b.

[1] Laser diffraction (wet), as per ISO 13320-1 [2] as per DIN EN ISO 60 [3] as per DIN EN ISO 6186 [4] as per DIN 53736

[5] as per DIN EN ISO 1183-1 [6] as per DIN EN ISO 527 [7] as per DIN EN ISO 868

[8] Part properties stated above are provided for information purposes only and EOS makes no representation or warranty whatsoever, and disclaims any liability, with respect to actual part properties achieved with this material. Part properties are subject to variation and dependent on factors such as system parameters, process and test geometries. Therefore actual part properties may deviate and users of this material are exclusively responsible to determine its suitability for the intended use. The part properties stated above have been determined by testing this material with above specified type of EOS laser sintering system, EOSYSTEM and EOSPRINT software version, parameter set and operation in compliance with parameter sheet and operating instructions. Part properties are measured with specified measurement methods using defined test geometries and procedures. Further details of the test procedures used by EOS are available on request.

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