

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

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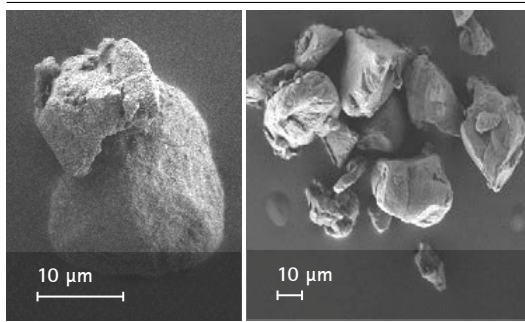
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Particle size		Powder	
d10 ^[1]	~ 22 µm	Bulk density ^[2]	0,49 g/cm ³
d50 ^[1]	~ 72 µm	Flowability ^[3]	~ 17 s
d90 ^[1]	~ 138 µm	Melting point ^[4]	~138 °C
Part density [5, 8]		~ 1,11 g/cm ³ Shore	

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/m ²]	n.b. (no break)	n.b.	n.b.	n.b.
Impact strength Charpy notched -30 °C [kJ/m ²]	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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