



Flexa Grey

Product specification



Material from Thermoplastic Polyurethane Elastomer (TPU) group with really high elasticity.

General information

Status	Available
Category	Powder for SLS printing
Material type	Thermoplastic Polyurethane Elastomer (TPU)

Packaging

Type	Plastic container
Weight	2 [kg] (4,4 [lb])
Dimensions	135 x 135 x 280 [mm] (5.3 x 5.3 x 11 [in])

Material

Granulation	20-105 [μ m] (0,79 - 4,13 [mill])
Colour	Grey
Material refreshing ratio ¹	0 [%]

Parameters

Elongation at Break XY (%)	210 [%]
Tensile Strength (Sturdy under stress)	3,6 [MPa] (0.52 [ksi])
Softening point (Vicat method - A50)	82,3 [°C] (180.1 [°F])
Hardness (A Shore scale)	70 / 90 (depending on print setting)
Abrasion resistance	63 [%]
Elastic / Young's modulus (E)	7,8 [MPa] (1.1 [ksi])

Applications

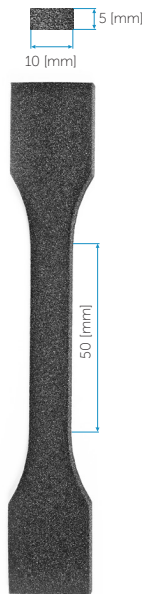
Flexible parts or objects, medical devices, fantoms, footwear prototypes, cable jacketing, hose and tube, automotive instrument panels.

¹ Material refreshing ratio - percent of Fresh powder which has to be mixed with Used (unsintered) powder - to be reused to the next print. FLEXA GREY has 100 [%] of usability.

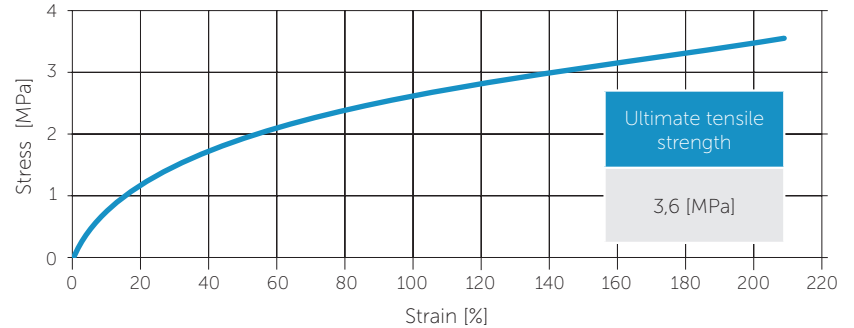


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Mechanical properties



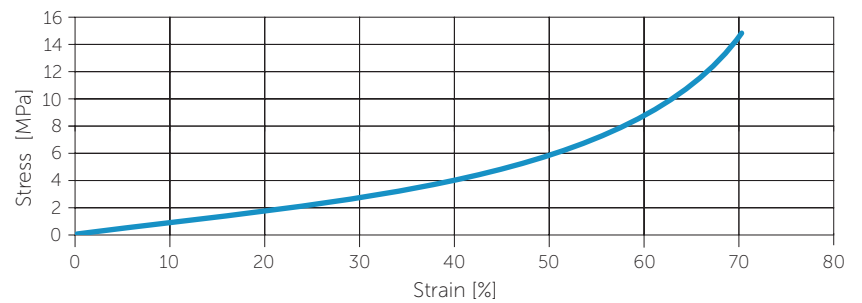
Tensile testing



While the tensile stress does not exceed 1,8 [MPa], after load release, the test specimens retain their shape, with no external damage observed (e.g. fractures).
The test specimens fracture when max tensile stress of 3,6 [MPa] is applied.



Compression testing



While the compressive stress does not exceed 3,5 [MPa], after load release, the test specimens retain their shape, with no external damage observed (e.g. fractures).

After applying max compressive stress of 14,65 [MPa] and releasing the compressive load, the test specimens irreversibly change their volume from: 14,50 [mm] x 14,50 [mm] x 15,30 [mm] to: 14,85 [mm] x 14,85 [mm] x 14,85 [mm].



Information provided within this document are typical values for reference and comparison only. Parameters presented in this data sheet are subject to change. Final part properties may vary based on printed part design and print orientation. Material during tests - parameters are subject to change.