



# Flexa Black

## Product specification

A material from the group of Thermoplastic Polyurethane Elastomer (TPU). For prints with very good surface quality and feature detail.



### 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 [ $\mu$ m] (0,79 - 4,13 [mil])
Colour	Black
Material refreshing ratio <sup>1</sup>	0 [%]

### Parameters

Elongation at Break XY (%)	55 [%]
Tensile Strength	4,5 [MPa] (0.65 [ksi])
Softening point (Vicat method - A50)	82,3 [°C] (180.1 [°F])
Hit's suppressing	100 [%]
Hardness (A Shore scale)	80 / 90 (depending on print setting)
Abrasion resistance	63 [%]
Elastic / Young's modulus (E)	47,2 [MPa] (6.8 [ksi])

### Applications

Flexible prototypes, membrane, medical devices, fantoms, cable jacketing, hose and tube, fashion elements.

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

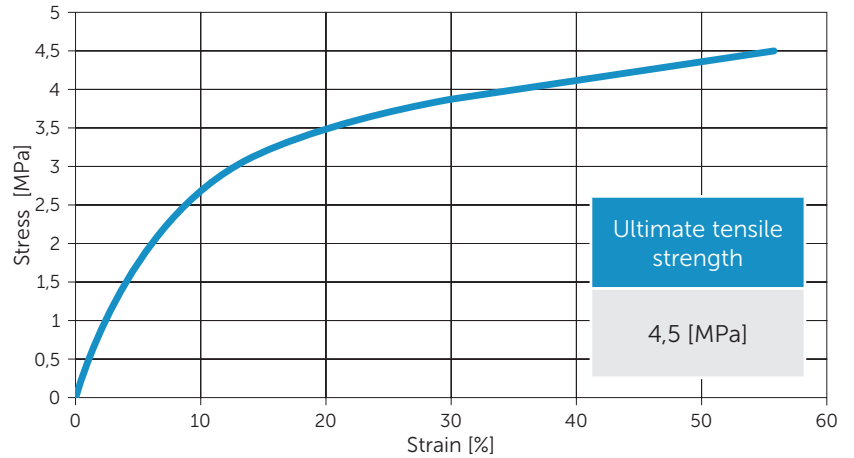


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Mechanical properties

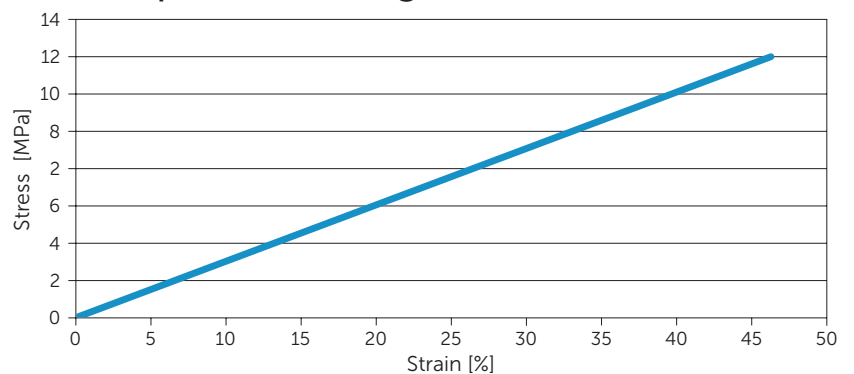


## Tensile testing



While the tensile stress does not exceed 1,4 [MPa], after load release, the test specimens retain their shape, with no external damage observed (e.g. fractures). The test specimens fracture when a max tensile stress of 4,5 [MPa] is applied.

## Compression testing



While the compressive stress does not exceed 12 [MPa], after load release, the test specimens retain their shape, with no external damage observed (e.g. fractures).



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.



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