



Material datasheet

TPU black
(Luvosint X92A-2)

As a strong, wear-resistant and elastic material, LUVOSINT® TPU opens up new application opportunities.

Thanks to its convenient processing window and full recyclability of the powder cake, it is a natural choice for the cost-effective production of large quantities; with tailor-made shoes and clothes, complex tube geometries or orthopedic parts being just some examples of new 3D print applications.



Physical Properties		Test Method	Specimen	Units	Typical Value
Specific Gravity		ISO 1183	Sintered part	g/cm ³	1.2
Water Absorption	23 °C, 24 h			%	< 0.5
Melt Volume Rate	MVR 190 °C/2.16 kg	ISO 1133	Power	cm ³ /10 min	18.0
Glass Transition Temp		ISO 6721-1		°C	-13.6
Shrinkage		Measured on test prints		%	3.0
Mechanical Properties					
at 23 °C/ 50 % rh (according to build orientation)					
Shore Hardness A		ISO 868	Sintered part	-	88
Flexural Modulus 20°C	1 Hz, 2 °C/min	ISO 6721-1	Sintered part	MPa	27
Flexural Modulus 60°C	1 Hz, 2 °C/min	ISO 6721-1	Sintered part	MPa	72
Tensile Strength (x-direction)		DIN 53504	Sintered S1-bar	MPa	20
Tensile Strength (z-direction)		DIN 53504	Sintered S1-bar	MPa	15
Elongation (x-direction)		DIN 53504	Sintered S1-bar	%	520
Elongation (z-direction)		DIN 53504	Sintered S1-bar	%	500
Abrasion Resistance (x-direction)		ISO 4649	Sintered part	mm ³	31
Abrasion Resistance (z-direction)		ISO 4649	Sintered part	mm ³	28
Compression Strength (x-direction)		ISO 604	Type A	MPa	33
Compression Strength (z-direction)		ISO 604	Type A	MPa	40
Compression Modulus (x-direction)		ISO 604	Type B	MPa	15
Compression Modulus (z-direction)		ISO 604	Type B	MPa	20
Poisson ratio (Hencky)	0.2 mm/s				0.45
Thermal Properties					
Vicat-softening Temperature	VST A	ISO 306	MPTS ISO 3167 A	°C	90
Melting Temperature		ISO 11357		°C	160



TPU

Production technology	SLS / 3DSYSTEMS ProX500
Build envelope	330 x 280 x 440 X/Y/Z (ProX500 – 2 pcs)
Layer thickness	0.1mm – 0.15mm
Min. wall thickness	1.0 mm
Tolerances	+/- 0.3mm or above 100 mm: +/- 0,3 % of the nominal dimension
Surfaces	Bead blasted
Powder removal	In cavities 2 holes to access the excess powder

