

FLEX 93A

SMARTFIL FLEX 93A is an elastomer thermoplastic that has been additivated to obtain a filament that allows printing flexible, elastic objects with a high printing capacity. Its increased hardness makes it compatible with a wide range of printers.



Flexible



Impact resistance

	VALUES	UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES			
Chemical name	Thermoplastic polyurethane		
Density	1,21	g/cm ³	ASTM D792
MECHANICAL PROPERTIES ¹			
	XY PLANE	ZX PLANE	
Tensile strength	12,7	-	MPa
Traction module	-	-	MPa
Flexion strength	33,6	-	MPa
Flexion module	50,4	-	MPa
Elongation at maximum effort	295,5	-	%
Stretch traction at break	301,4	-	%
Elongation by flexion at break	15,4	-	%
Charpy Impact Force (non-notched)	-	-	kJ/m ²
Hardness	93	-	Shore A

⁽¹⁾ Values obtained on printed specimens, nozzle 0,4 mm, rectilinear infill 100%, layer height 0,2 mm. For more information please contact us by email at info@smartmaterials.com or visit our website www.smartmaterials3d.com

THERMAL PROPERTIES			
Glass transition temperature (T _g)	-	°C	ISO 11357
VICAT B (50 N 50°C/h)	56	°C	ISO 306
HDT B (0,45 MPa)	-	°C	ISO 75
PRINTING PROPERTIES			
Printing temperature	220 – 230	°C	
Bed temperature	0 – 60	°C	
Layer fan	60 – 80	%	
Material flow	100	%	
Layer height	≥ 0,1	mm	
Nozzle recommendations	≥ 0,2	mm	
Print speed	20 – 30	mm/s	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETROS	COLOR	PACKAGING
S	330 g	450 g	1,75 mm/2,85 mm	Several	SmartBag, security seal,
M	750 g	975 g	1,75 mm/2,85 mm	Several	desiccant bag.

NOTICE: The information provided in the data sheets is intended for reference only. It should not be used as design or quality control values. Actual values may differ significantly depending on printing conditions. The final performance of printed components not only depends on materials, design and printing conditions are also important.