

TPU FC

Thermoplastic elastomer reinforced with carbon fiber, this filament that allows printing flexible objects, and with a high print quality, the incorporation of carbon fibers offers improved properties, high tensile strength, high heat tolerance and greater chemical resistance compared to unreinforced TPUs.

In addition, carbon fiber gives it electrical conductivity making it ideal for applications that require protection against electrostatic discharges (ESD).



Thermal resistance



Impact resistance



Flexible

	VALUES	UNIT OF MEASUREMENT	STANDARD		
PHYSICAL PROPERTIES					
Chemical name	Polyurethane with carbon fiber				
Density	1,28	g/cm ³	ISO 1183		
MECHANICAL PROPERTIES¹					
	XY PLANE	XZ PLANE			
Tensile strength		-	MPa		
Traction module		-	MPa		
Flexion strength	6,3	-	MPa		
Flexion module	181,2	-	MPa		
Elongation at maximum effort		-	%		
Stretch traction at break		-	%		
Elongation of flexion at break	15,2	-	%		
Charpy Impact Force (non-notched)	69	-	kJ/m ²		
Hardness	67		Shore D		
THERMAL PROPERTIES					
Glass transition temperature (Tg)		°C	ISO 11357		
VICAT B (50 N 50°C/h)		°C	ISO 306		
HDT B (0,45 MPa)	-	°C	ISO 75		
PRINTING PROPERTIES					
Printing temperature	215 - 245	°C			
Bed temperature	45 - 70	°C			
Print speed	20 - 35	mm/s			
Layer fan	80 - 100	%			
Material flow	90 - 100	%			
Layer height	≥ 0,2	mm			
Nozzle recommendations	≥ 0,6 (Steel)	mm			
SIZE					
NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR		
M	750 g	975 g	1,75 mm/2,85 mm	Natural (black)	PACKAGING
					Innovatefil Box

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.