TECHNICAL DATA SHEET

VERSION 1.2
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INNOVATEFIL®

TPU FP

TPU FP (Flame-Retardant Thermoplastic Polyurethane) is an advanced 3D printing material recognized for its flexibility, durability, and ability to delay fire propagation, meeting fire safety standards.

These properties make it ideal for applications requiring durability and protection, such as electrical components, protective coatings, and industrial safety equipment.

Thermal resistance | Impact resistance | Flexible

	VALUES		UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES				
Chemical name	Flame-retardant thermoplastic polyurethane			
Density	1,21		g/cm^3	ISO 1183
Abrasion loss	36		mm^3	ISO 4649-A
Notched tear resistance	53		kN/m	ISO 34-1B
UL flammability rating	V0-0,8		mm	UL-94
Limiting oxygen index	25		%	Astm D-2863
MECHANICAL PROPERTIES	**XY PLANE**	**ZX PLANE**		
Tensile strength	27	-	MPa	ISO 527
Tensile module	-	-	MPa	ISO 527
Flexural strength	6,3	-	MPa	ISO 178
Flexural module	-	-	MPa	ISO 178
Ultimate elongation	524	-	%	ISO 527
Tensile strength (100% Elongation)	7	-	MPa	ISO 527
Tensile strength (300% Elongation)	10	-	MPa	ISO 527
Charpy impact strength (unnotched)	-	-	KJ/m^2	ISO 179
Hardness	87		Shore A	ISO 7619-1
THERMAL PROPERTIES				
Glass transition temperature	-		˚C	ISO 11357
VICAT B (50N 50˚C/h)	-		˚C	ISO 306
HDT B (0,45 MPa)	-		˚C	ISO 75
PRINTING PARAMETERS				
Printing temperature	220 – 240		˚C	
Bed temperature	50 – 60		˚C	
Prints peed	20 – 30		mm/s	
Fan layer	60 – 80		%	
Material flow	110 – 120		%	
Layer height	≥ 0,2		mm	
Nozzle recommendations	≥ 0,4 (Brass)		mm	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOUR	PACKAGING
M	750 g	975 g	1,75 mm	Natural	Innovatefil box