TPU CARBON FIBER

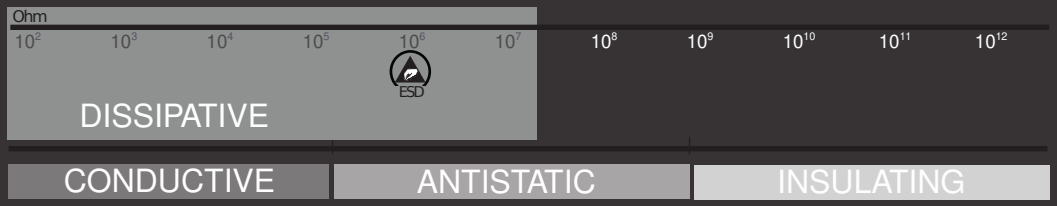
TECHNICAL DATA SHEET VERSION 1.0

INNOVATEFIL® by smart materials 3D

Carbon fiber reinforced elastomer thermoplastic. With this filament you can print flexible objects, with a high printing 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, the carbon fiber gives it electrical conductivity, making it ideal for applications that require protection against electrostatic discharge (ESD).

ELECTRICAL CLASSIFICATION OF MATERIALS



	TIPICAL VALUE	UNITS	TEST METHOD
PHYSICAL PROPERTIES			
Chemical name	Polyurethane with Carbon Fiber		
Material density	1.24	g/cm^3	ISO 1183
MECANICAL PROPERTIES *			
Tensile Strength	65	MPa	ISO 527-1
Modulus of Elasticity	1450	MPa	ISO 527-1
Tensile Elongation	25	%	ISO 527-1
Charpy Impact (notched at 23º)	55	KJ/m^2	ISO 179 1eA
ELECTRICAL PROPERTIES *			
Surface Resistivity	10E6	Ω	ASTM D 257
PRINTING PROPERTIES			
Print temperature	215-245	°C	
Bed temperature	45-60	°C	
Fan layer	80-100	%	
Print speed	20-35	mm/s	

* Values measured on molded test specimen