

PA+CARBON FIBER

TECHNICAL DATA SHEET

FILSHAPER PA+CF

Engineer filament in VSHAPER offer. It is sold in natural color. The filament is characterized by high chemical resistance eg. oils, gasoline, alcohols and acetone. It has high resistance to abrasion. Material can be used in range of temperature from -20 to 150 celsius degrees. PA+CF parts are mainly used in automotive industry and is used to produce wide variety of engineer equipment eg. intake manifolds, radiator tunnels, screws, bike stems, car spoilers, drone frames.

DELIVERY OF FILSHAPER PA+CF

PA+CF filament has the nominal diameter of 1,75mm and is fit for FDM/FFF printing. It's supplied in 0,5kg spool. The spools are packed in vacuumed plastic bags to prevent hygroscopicity.

STORAGE

Store the filament in airtight packaging in dry place. The filament is usable up to 6 months after opening.

DRYING RECOMMENDATIONS

It is recommended to dry the filament before every usage to avoid stringing, bubbling or other defects: 4h in 80°C

Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	2758	MPa	ISO 527
Tensile Strenght	66	MPa	ISO 527
Yield stress	-	MPa	-
Yield strain	-	%	-
Stress at break	-	MPa	-
Nominal strain at break	6,7	%	ISO 527
Flexural modulus	3606	MPa	ISO 178
Flexural strength	114	MPa	ISO 178
Charpy impact strength, +23°C	41	kJ/m ²	ISO 179
Charpy impact strength, -30°C	-	kJ/m ²	-
Izod notched impact strength, +23°C	-	kJ/m ²	-
Izod notched impact strength, -30°C	-	kJ/m ²	-
Hardness (D-Scale)	-	-	-

Thermal properties	Value	Unit	Test Standard
Melting temperature	180	°C	-

Glass transition temperature	-	°C	-
Temp. of deflection under load A, 1 .80 MPa (HDT)	-	°C	-
Temp. of deflection under load B, 0 .45 MPa (HDT)	155	°C	ISO 75

Physical properties	Value	Unit	Test Standard
Density	1,00	g/cm ³	ISO 1183
Filament Diameter	1.75	mm	-
Linear Shrinkage	-	%	-

Burning behavior	Value	Unit	Test Standard
Flammability class	HB	class	UL94

Rheological properties	Value	Unit	Test Standard
Melt mass-flow rate, MFR	-	g/10 min	-
Temperature	-	°C	-
Load	-	kg	-

Characteristics	
Key Feature, Industrial Sector	Automotive, engineering
Key Feature, Processing	3D printing
Key Feature, Resistance to	Chemicals, heat, fatigue
Key Feature, Electrical	Insulator
Example applications	Intake manifold, bike stems, climbing hooks, screws, car spoilers
Processing	FFF/FDM
Special Characteristics	-
Color	Natural
Delivery form	Monofilament

Printing settings	VSHAPER 270			VSHAPER 500		
	STD	PRO	MED	STD	PRO	MED
Print temperature	-	250 °C	250 °C	270 °C	270 °C	270 °C
Bed temperature	-	90 °C	90 °C	90 °C	90 °C	90 °C
Chamber temperature	-	60 °C	60 °C	60 °C	60 °C	60 °C
Adhesive plate material	-	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT
Adhesive glue	-	Tesa	Tesa	Tesa	Tesa	Tesa
Model shrinkage	-	~0,7%	~0,7%	~0,7%	~0,7%	~0,7%

The information set forth herein has been gathered from standard reference materials and/or supplier test data. To the best knowledge and belief of VSHAPER Sp. z o.o. they are accurate and reliable. Information is offered only for your consideration, investigation and verification. VSHAPER Sp. z o.o. makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein combination with any other material or process, and assumes no responsibility therefore.