WINDFORM® GF 2.0

Polyamide

CRP Technology s.r.l.

Message:

Technology: Selective Laser Sintering
Windform® GF 2.0 is the evolutionary substitute for Windform GF, our first generation material. Windform® GF 2.0 is a composite material made of polyamide filled with glass and aluminium, which presents an improvement in both the thermal and mechanical properties, and the aesthetics of the product. In terms of performance, Windform® GF 2.0 shows a significant improvement in the HDT (almost +8%), that is, the heat deflection temperature as well as an increase in the values of tensile strength and elongation strength, therefore offering greater ductility than the previous version, appreciable in various racing applications and functions subject to greater vibrations. Excellent mechanical properties per unit of density, thanks to its lighter weight. Windform® GF 2.0, furthermore, shows less moisture absorption than the other Windform products. On an aesthetic level, Windform® GF 2.0 maintains and enhances the light grey colour and glossy metallic appearance, appreciated in many design and wind tunnel applications, offering an even brighter look. Moreover, of great importance, is the improvement in detail reproduction, which makes Windform® GF 2.0 particularly suitable for applications which require accurate and superior surface definition and excellent reproduction of even the finest details. Excellent value for money.
Applications:
Objects of design and functional aesthetic reproduction, intake manifolds (intake and cooling ducts, air inlet systems), hydraulic ducts (fluid temperature further elevated up to 134°C), fuel systems and household appliances.
Surface Finish:
After SLS Process 6.0 Ra µm
After finishing 1.8 Ra µm

General Information	
Filler / Reinforcement	Aluminum
	Glass Fiber
Features	Filled
	Good Flexibility
	Low to No Water Absorption
	Moisture Resistant
	Outstanding Surface Finish
	Vibration Damping
Uses	Appliance Components
	Appliances
	Automotive Applications
Appearance	Aluminum
Forms	Powder
Processing Method	3D Printing, Laser Sintering/Melting

Physical	Nominal Value	Unit
Density (20°C)	1.41	g/cm³

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4300	MPa	ISO 527-2
Tensile Stress	50.6	MPa	ISO 527-2
Tensile Strain (Break)	4.6	%	ISO 527-2

Flexural Modulus	3430	MPa	ISO 14125
Flexural Stress	80.2	MPa	ISO 14125
Flexural Modulus - per density unit	2430	MPa/g/cm³	
Flexural Strength - per density unit	56.9	MPa/g/cm³	
Tensile Modulus - per density unit	3050	MPa/g/cm³	
Ultimate Tensile Strength - per density unit	35.9	MPa/g/cm³	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	4.7	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	22	kJ/m²	ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	134	°C	ASTM D648B
Vicat Softening Temperature	169	°C	ASTM D1525 [1]
Melting Temperature	180	°C	ISO 11357
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	9.1E+13	ohms	ASTM D257
Volume Resistivity	1.0E+13	ohms·cm	ASTM D257
NOTE			
1.	Loading 1 (10 N)		

Recommended distributors for this material

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