Technical Data Sheet

Ultrafuse PP GF30

Date / Revised: 14.11.2019

Version No.: 2.3

General information

Components

Polypropylene based filament filled with 30% glass fibers for Fused Filament Fabrication.

Product Description

Ultrafuse PP GF30 is polypropylene, reinforced with 30% glass fiber content. The fibers in this compound are specially designed for 3D-printing filaments and are compatible with a wide range of standard FFF 3D-printers. The extreme stiffness makes this material highly suitable for demanding applications. Other key properties of PP GF30 are high heat resistance and improved UV-resistance. All these excellent properties make this filament highly suitable in an industrial environment.

Delivery form and warehousing

Ultrafuse PP GF30 filament should be stored at 15 - 25°C in its originally sealed package in a clean and dry environment. If the recommended storage conditions are observed the products will have a minimum shelf life of 12 months.

Product safety

Recommended: Process materials in a well ventilated room, or use professional extraction systems. For further and more detailed information please consult the corresponding material safety data sheets.

Notice

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

Recommended 3D-Print processing parameters		
Nozzle Temperature	240 – 260 °C / 464 – 600 °F	
Build Chamber Temperature	-	
Bed Temperature	20 – 40 °C / 68 – 104 °F	70 – 90 °C / 158 – 194 °F
Bed Material	PP strapping tape	PPGF adhesive
Nozzle Diameter	≥ 0.6 mm	
Print Speed	30 – 80 mm/s	

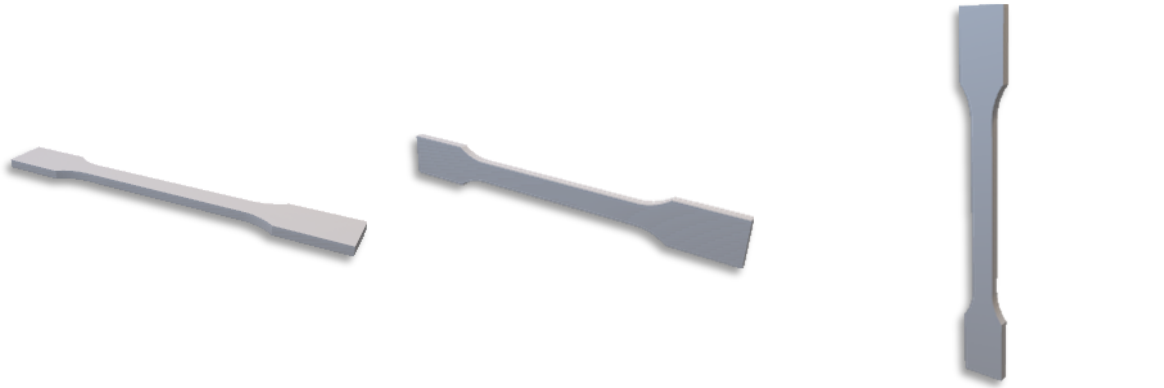
Drying Recommendations	
Drying recommendations to ensure printability	60 °C in a hot air dryer or vacuum oven for 4 to 16 hours

Please note: To ensure constant material properties the material should always be kept dry.

General Properties		Standard
Printed Part Density	1066 kg/m^3 / 66.5 lb/ft^3	ISO 1183-1

Thermal Properties		Standard
HDT at 1.8 MPa	73 °C / 163 °F	ISO 75-2
HDT at 0.45 MPa	127 °C / 261 °F	ISO 75-2
Glass Transition Temperature	-5 °C / 23 °F	ISO 11357-2
Crystallization Temperature	125 °C / 257 °F	ISO 11357-3
Melting Temperature	158 °C / 316 °F	ISO 11357-3
Melt Volume Rate	11.7 cm^3/10 min / 0.7 in^3/10 min (260 °C, 2.16 kg)	ISO 1133

Mechanical Properties



Print direction	Standard	XY	XZ	ZX
		Flat	On its edge	Upright
Tensile strength	ISO 527	41.7 MPa / 6.0 ksi	-	15.9 MPa / 2.3 ksi
Elongation at Break	ISO 527	4.4 %	-	0.8 %
Young's Modulus	ISO 527	2628 MPa / 38.2 ksi	-	2242 MPa / 325 ksi
Flexural Strength	ISO 178	76.8 MPa / 11.1 ksi	95.3 MPa / 13.8 ksi	19.3 MPa / 2.8 ksi
Flexural Modulus	ISO 178	3507 MPa / 509 ksi	4026 MPa / 584 ksi	1671 MPa / 242 ksi
Flexural Strain at Break	ISO 178	4.6 %	3.3 %	1.3 %
Impact Strength Charpy (notched)	ISO 179-2	5.3 kJ/m^2	5.2 kJ/m^2	1.2 kJ/m^2
Impact Strength Charpy (unnotched)	ISO 179-2	23.1 kJ/m^2	25.8 kJ/m^2	2.5 kJ/m^2
Impact Strength Izod (notched)	ISO 180	5.6 kJ/m^2	6.2 kJ/m^2	1.4 kJ/m^2
Impact Strength Izod (unnotched)	ISO 180	20.5 kJ/m^2	2.4 kJ/m^2	2.6 kJ/m^2