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Technical Data Sheet

Ultrafuse® Pellets PC GF30

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General information

Product Description

Ultrafuse® Pellets PC GF30 are engineered micro pellets of polycarbonate reinforced with 30% glass fibers, designed specifically for 3D printing applications. These micro pellets are ideal for both industrial and desktop printers, offering ease of extrusion, exceptional consistency, and high temperature stability. The 30% glass fiber composition ensures remarkable rigidity and excellent mechanical properties, making it well-suited for demanding applications. With superior strength, good temperature resistance, and UL 94 V0 flame retardancy certification, Ultrafuse® Pellets PC GF30 excel in various industrial settings. Additionally, they exhibit resilience to UV light exposure and boast high stiffness, heat deflection temperature, and dimensional stability, alongside very low moisture absorption.

Components

Ultrafuse Pellets PC GF30 consist of polycarbonate reinforced with 30% glass fibers, specially formulated for Fused Granulate Fabrication in 3D printing. This material offers extreme stiffness, making it ideal for rigorous applications. Ultrafuse PC GF30 provides excellent temperature resistance, resilience to UV light exposure, and is certified with UL 94 V0 for flame retardancy, ensuring suitability across diverse industrial applications.

Delivery form and warehousing

Ultrafuse Pellets PC GF30 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.

Disclaimer

Pellet Properties	
Pellet diameter	< 2 mm
Pellet length	< 2 mm
Pellet size	1 ± 0.25 g
Pellet shape	Cylindrical, cold cut
Available colors	Dark Grey

Packaging
Available in 20 kg boxes with 2 * 10 kg bags

Drying Recommendations	
Temperature	100 °C
Time	8 - 10 h
Condition	<300 ppm

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

Recommended Extrusion Parameters	
Zone 1 Temperature	250 ± 20 °C
Zone 2 Temperature	265 ± 20 °C
Zone 3 Temperature	285 ± 20 °C
Nozzle Temperature	300 ± 20 °C
Bed Temperature	90 ± 10 °C

General Properties		Standard
Bulk density	1176 kg/m³ / 73.4 lb/ft³	ISO 1183-1

Thermal Properties		Standard
HDT at 1.8 MPa	124 °C / 255.2 °F	ISO 75-2
HDT at 0.45 MPa	134 °C / 273.2 °F	ISO 75-2
Glass Transition Temperature	142 °C / 287.6 °F	ISO 11357-2
Melting Temperature	259 °C / 498.2 °F	ISO 11357-3
Melt Volume Rate	26 cm^3/10 min / 1.6 in^3/10 min (300 °C, 2.16 kg)	ISO 1133

Mechanical Properties*

Print direction	Standard	XY	XZ	ZX
		Flat	On its edge	Upright
Tensile strength	ISO 527	36.1 MPa / 5.3 ksi	-	11.2 MPa / 1.6 ksi
Elongation at Break	ISO 527	2.4 %	-	1.1 %
Young's Modulus	ISO 527	2665 MPa / 386.5 ksi	-	1231 MPa / 178.5 ksi
Flexural Strength	ISO 178	63.4 MPa / 92 ksi	78.8 MPa / 11.4 ksi	19 MPa / 2.8 ksi
Flexural Modulus	ISO 178	2690 MPa / 390.2 ksi	3450 MPa / 500.4 ksi	934 MPa / 135.5 ksi
Flexural Strain at Break	ISO 178	3.2 %	2.9 %	2.5 %
Impact Strength Charpy (notched)	ISO 179-2	6.1 kJ/m^2	6.5 kJ/m^2	1.8 kJ/m^2
Impact Strength Charpy (unnotched)	ISO 179-2	17.1 kJ/m^2	18.9 kJ/m^2	3.7 kJ/m^2
Impact Strength Izod (notched)	ISO 180	5.6 kJ/m^2	5.4 kJ/m^2	2.1 kJ/m^2
Impact Strength Izod (unnotched)	ISO 180	13.9 kJ/m^2	17.8 kJ/m^2	3.4 kJ/m^2

*measured on filament