Technical Data Sheet | **Ultrafuse PET**

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General information

Components

Amorphous Polyethylene Terephthalate based filament for Fused Filament Fabrication.

Product Description

Ultrafuse PET is made from a premium PET and prints as easy as PLA, but is much stronger. The filament has a large operating window for printing (temperature vs. speed), so it can be used on every 3D-printer. PET will give you outstanding printing results: a good layer adhesion, a high resolution and it is easy to handle. Ultrafuse PET can be 100% recycled, is watertight and has great colors and finish.

Delivery form and warehousing

Ultrafuse PET 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	210 – 230 °C / 410 – 446 °F
Build Chamber Temperature	-
Bed Temperature	60 – 80 °C / 140 – 176 °F
Bed Material	Glass
Nozzle Diameter	≥ 0.4 mm
Print Speed	40 - 80 mm/s

Drying Recommendations

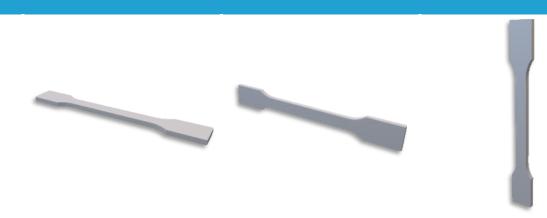|	
Drying recommendations to ensure printability	60 °C in a hot air dryer or vacuum oven for 4 to 16 hours

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

General Properties

		Standard
Printed Part Density	1329 kg/m^3 / 83.0 lb/ft^3	ISO 1183-1

Thermal Properties

		Standard
HDT at 1.8 MPa	61 °C / 142 °F	ISO 75-2
HDT at 0.45 MPa	63 °C / 145 °F	ISO 75-2
Glass Transition Temperature	71 °C / 160 °F	ISO 11357-2
Melt Volume Rate	16.3 cm^3/10 min / 0.99 in^3/10 min (220 °C, 2.16 kg)	ISO 1133

Mechanical Properties

Print direction	Standard	XY	XZ	ZX
		Flat	On its edge	Upright
Tensile strength	ISO 527	33.4 MPa / 4.8 ksi	-	17.2 MPa / 2.5 ksi
Elongation at Break	ISO 527	2.7 %	-	1.1 %
Young's Modulus	ISO 527	1933 MPa / 280 ksi	-	1665 MPa / 241 ksi
Flexural Strength	ISO 178	66.7 MPa / 9.7 ksi	76.1 MPa / 11.0 ksi	54.4 MPa / 7.9 ksi
Flexural Modulus	ISO 178	2063 MPa / 299 ksi	1840 MPa / 267 ksi	1826 MPa / 265 ksi
Flexural Strain at Break	ISO 178	4.6 %	4.6 %	3.0 %
Impact Strength Charpy (notched)	ISO 179-2	1.6 kJ/m²	1.4 kJ/m²	1.2 kJ/m²
Impact Strength Charpy (unnotched)	ISO 179-2	18.4 kJ/m²	9.7 kJ/m²	4.6 kJ/m²
Impact Strength Izod (notched)	ISO 180	2.1 kJ/m²	1.9 kJ/m²	1.8 kJ/m²
Impact Strength Izod (unnotched)	ISO 180	12.3 kJ/m²	7.7 kJ/m²	4.1 kJ/m²