Technical Data Sheet

Ultrafuse PEI 9085

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General information

Components

Polyetherimide based filament for Fused Filament Fabrication.

Product Description

The Ultrafuse PEI 9085 filament is made from ULTEM 9085 resin.* This amorphous thermoplastic is a Polyetherimide (PEI) blend developed for its higher flow properties, offering outstanding printing behavior, high thermal resistance, strength and stiffness and broad chemical resistance. Due to the unique properties, this material is a great addition to our high-performance portfolio. Utrafuse PEI 9085 is developed for demanding applications and high-temperature environments like aerospace or automotive. Because of its inherent flame retardancy and low smoke emission, it is well suited for electronics and electrical appliances.

*ULTEM is a trademark of SABIC or its affiliates.

Delivery form and warehousing

Ultrafuse PEI 9085 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	340 – 360 °C / 644 – 680 °F
Build Chamber Temperature	160 – 180 °C / 320 – 356 °F
Bed Temperature	160 – 190 °C / 320 – 374 °F
Bed Material	Glass
Nozzle Diameter	≥ 0.4 mm
Print Speed	25 – 50 mm/s

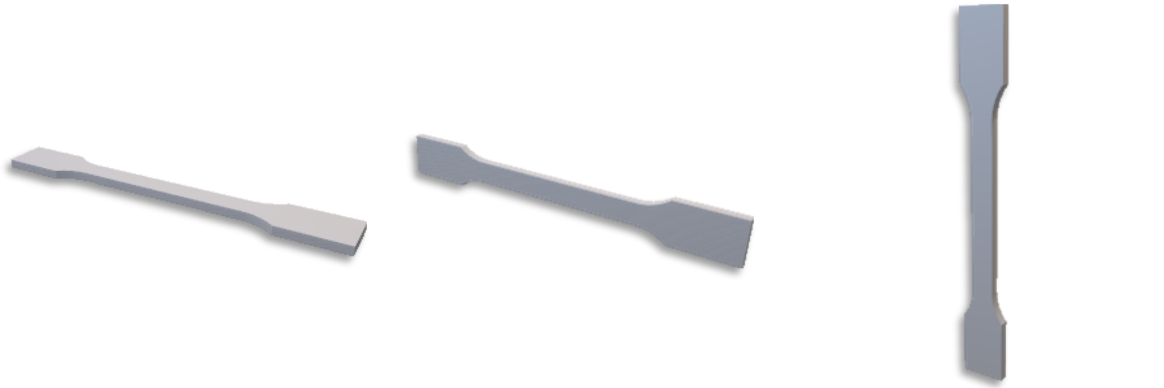
Drying Recommendations	
Drying recommendations to ensure printability	125 °C in a vacuum oven for 4 to 16 hours

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

General Properties		Standard
Printed Part Density	1275 kg/m^3 / 79.6 lb/ft^3	ASTM D 792

Thermal Properties		Standard
HDT at 1.8 MPa	175 °C / 347 °F	ASTM D 648
Glass Transition Temperature	180 °C / 356 °F	ISO 11357-2

Mechanical Properties



Print direction	Standard	XY	XZ	ZX
		Flat	On its edge	Upright
Tensile strength	ASTM D638	62 MPa / 9 ksi	-	45 MPa / 6.5 ksi
Elongation at Break	ASTM D638	5.1 %	-	2.3 %
Young's Modulus	ASTM D638	2176 MPa / 315.6 ksi	-	2439 MPa / 353.7 ksi
Flexural Modulus	ASTM D 790	2126 MPa / 308.4 ksi	2550 MPa / 369.8 ksi	2070 MPa / 300.2 ksi
Impact Strength Izod (notched)	ASTM D 256	104 J/m	100 J/m	33 J/m
Impact Strength Izod (unnotched)	ASTM D 256	763 J/m	1003 J/m	131 J/m

Electrical Properties

Volume resistivity	ASTM D 257	1.07E+15 Ωcm	1.1E+15 Ωcm	-