

# Technical data sheet – 3D Filament

## PEI – ULTEM 9085

Polyether Imide (PEI) Ultem **9085 is a flame-retardant high-performance thermoplastic** with a glass transition temperature (Tg) of **186 °C**. This inherently flame retardant plastic has UL94 VO and 5VA ratings. The Innovative Marketing '3DAMSS' PEI Filament has unique properties because it does not come into contact with water during the production process and is directly packaged in a vacuum packaging. These properties make the PEI Filament particularly suitable for usage in FDM and FFF 3D printers. The material has an excellent adhesion between layers which results in great improvement of the impact resistance, strength, durability and the printing process.

### FILAMENT PROPERTIES

			Typical Values
PROPERTIES	TEST METHODS	UNITS	PEI 9085
Diameter	INS-6712	mm	1.75 ± 0.05
Specific gravity	ISO 1183	g/cm3	1.34
Moisture rate	INS-6711	%	< 1
MFI(@295°C – 5 kg)	ISO 1133	g/10min	9 to 12
Glass transition Tg	ISO 11357	°C	186
Melting temp Tm	ISO 11357	°C	330- 350
	TEST METHOD	UNITS	PEI 9085
Tensile Strength	ISO 527	Mpa	60 -70
Tensile Elongation	ISO 527	%	5
Tensile Modulus	ISO 527	GPa	2.1 – 2.5
Flexural Strength	ISO 178	MPa	90
Flexural Modulus	ISO 178	GPa	2.15
Heat Distortion Temp. 0.45 Mpa	ISO 75	°C	158
Continuous Service Temp.	UL 746B	°C	150
Flammability Behaviour	UL	Rating	(V-0) @1.5mm

PRINT RECOMMENDATION	PEI 9085
Nozzle Temp	365-385 °C
Print Speed	20-35 mm/sec
Bed Temp	130 - 140 °C
Nozzle	0.4 mm/
Infill	100 % +/- 45
Bed Adhesion	PEI

Disclaimer: The testing has been done in house so we extend no warranties what so ever, expressed or implied, including but not limited to, any implied fitness for any particular purpose. From the moment the product is shipped it is beyond our control. The information in this document is believed to be correct at the time of writing. However, handling, processing, settings, the type of 3D printer, slicing and other variables are completely up to the user. The method through which the product is used can be varied. It is up for the customer to determine how it is 3D printed and whether it is fit for purpose or suited to a particular application.



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