PEI (Polyether Imide) Ultem Filament

Technical information

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Polyether Imide (PEI) Ultem is an amorphous, amber to transparent thermoplastics with a glass transition temperature (Tg) of 217 °C and performs in continuous use up to 170 °C. This inherently flame retardant plastic has UL94 VO and 5VA ratings. 3D4MAKERS has selected Ultem 1010 for their filament.

The **3D4MAKERS** 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 **3D4MAKERS** PEEK 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.

Measurements & Tolerance

Size	Diameter tolerance	roundness
1,75 mm Filament	+/- 0,05mm	99%
2,85 mm Filament	+/- 0,06mm	99%

Moisture percentage	< 0,005%	

Physical attributes

Description	Value	Test method
Density	1,27 g/cm³	ISO 1183

Mechanical attributes

Tensile Modulus	3200 Mpa	ISO-527-2
Flexural Modulus	3300 Mpa	ISO 178
Impact strenght Notched Izod	5,0 KJ/m²	ISO 180

Printer settings

Printer settings

Description	Value
Printer nose temperature	340 - 360°C
Heated platform temperature	120°C

To get the best results while printing we advise you to keep the 3D printer in a room where there is hardly any draft and/or temperature fluctuations. Keep the 3D printer out of the sun. This cannot be a room where people sleep.

When the 3D printer is not being used it is important to keep the 3D4MAKERS PEI Filament in a bag and stored in a cool, dry and dark place until it is used again.

Safety information

REGULATION (EC) No. 1272/2008. According to EC regulations this product is not classified as dangerous for supply/use.
Classification according to EU-directive 67/548/EEC or 1999/45/EC. According to EC criteria this product is not classified as dangerous for supply/use.

COMPOSITION AND INFORMATION ON THE COMPONENTS

CAS-Nr./EG-Nr./Index	REACH Nummer	Bestanddeel	Classificatie Verordening (EG) Nr. 1272/2008 (EG) Nr. 67/548/EEC
CAS-Nr. 61128-46-9 **EG-Nr.** Polymeer	----------	Polyetherimide	Not classified

Exposure controls / Personal protection

Local Exhaust Ventilation at the workplace or on the 3D printer is required.

Legally Obliged Information

1 Specific safety, health and environmental regulations and legislation for the substance or mixture.

Classification of the substance or mixture
The substance is not classified as dangerous according to Regulation (EC) no 1272/2008 (CLP/GHS) and Directive 67/548/EEC.

2 Chemical safety assessment: Does not apply

RoHS (Restriction of Hazardous Substances) and **REACH** (Registration, Evaluation, Authorization and Restriction of Chemicals).

Recommended restrictions
Do not use in medical applications involving permanent implantation in the human body.

The PEI Filament produced by 3D4MAKERS meets the European RoHS and REACH guidelines.

Environmental information

Plastic waste can damage the environment. 3D misprints must be separated with plastic waste together with the Filament reel. 3D4MAKERS is developing a return system for 3D misprints and the Filament reel.

Together we can protect the environment!