# PEEK (Polyether Ether Ketone) Filament

# Technical information

# Printer settings

# Storage information

# Safety information

**Polyether Ether Ketone (PEEK)** PEEK polymers are obtained by step-growth polymerization. PEEK is a semicrystalline thermoplastic with excellent mechanical and chemical resistance properties that are retained to high temperatures. PEEK is regarded as one of the highest performing engineering thermoplastics in the world. PEEK is used to fabricate items used in demanding applications in aerospace, automotive, oil and gas and medical industries.

The **3D4MAKERS** PEEK 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.

The PEEK Filament produced by **3D4MAKERS** meets the European regulations EC No. 1935/2004, EC No. 2023/2006 and EC No. 10/2011 concerning plastic materials and articles coming into contact with food and is also compliant with the FDA (Food and Drug Administration) for food contact. The colorants used by **3D4MAKERS** to colour the Filament also meet these European regulations.

**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 | 1,26 g/cm³ | ISO 1183 |

**Mechanical attributes**

| Tensile Modulus | 3700 Mpa | ISO-527-2 |
|---|---|---|
| Flexural Modulus | 4300 Mpa | ISO 178 |
| Impact strenght Notched Izod | 5,0 KJ/m² | ISO 180 |
| Shore D | 85 | ISO 868 |

# Printer settings

**Printer settings**

| Description | Value |
|---|---|
| Printer nose temperature | 355 - 390°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 PEEK 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

EC Classification No. 1272/2008

| Hazardous ingredient(s) | %W/W | EC No. | REACH Registration No. | Hazard Statement(s) |
|---|---|---|---|---|
| None | - | - | - | - |

EC Classification No. 67/548/EEC

| Hazardous ingredient(s) | %W/W | EC No. | REACH Registration No. | EC Classification and Risk Phrases |
|---|---|---|---|---|
| None | - | - | - | - |

# 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 PEEK 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!**