



HP 3D Filament PEEK

HP Industrial Filament (IF) 3D Printer 600 High Temperature (HT) Solution



Material overview

HP 3D Filament PEEK is a semi-crystalline thermoplastic with good mechanical and chemical resistance properties retained at high temperatures. It is suited for demanding applications in aerospace, automotive, oil and gas, and medical industries.

The filament is produced without contact with water during manufacturing and is packaged directly in vacuum sealing. This contributes to good interlayer adhesion during printing, which improves impact resistance and part integrity.

PEEK requires a printer capable of extruding at up to 420°C with adequate thermal control in the build chamber. Adequate chamber temperature is critical for proper polymer crystallization and part quality.

Typical use cases

- Suited for:
- Structural and functional parts in aerospace and defense.
 - Automotive components in high-temperature or chemically aggressive environments
 - Oil and gas fittings, seals, and wear-resistant components
 - Medical device components (non-implant, sterilizable)
 - Functional prototypes requiring dimensional stability at elevated temperatures.

Regulatory¹

Certification / Approval	Scope
UL94-V0	Inherent flame retardancy of the raw material

Approvals referenced apply to the raw material. Customers are responsible for verifying finished printed parts against applicable requirements.

General properties¹

	Conditions	Testing method	Typical value
Density	Crystalline	ISO 1183	1.30 G cm ³
Shore D hardness	23 °C	ISO 868	85
Water absorption by immersion	Saturation, 23 °C	ISO 62-1	0.45%

Thermal properties¹

	Conditions	Testing method	Typical value
Melting point	-	ISO 11357	343 °C
Glass transition	Onset	ISO 11357	143 °C
Coefficient of thermal expansion	Along flow below	ISO 11359	50 ppm K-1
Heat deflection temperature	As moulded, 1,8 MPa	ISO 75A-f	156 °C
Thermal conductivity	Along flow, 23 °C	ISO 22007-4	0.32 W m-1 K-1
Relative thermal	Electrical	UL 746B	260 °C



Mechanical properties¹

	Conditions	Testing method	Typical value
Density	Crystalline	ISO 1183	1.30 G cm ³
Shore D hardness	23 °C	ISO 868	85
Water absorption by immersion	Saturation, 23 °C	ISO 62-1	0.45%

Flow properties¹

	Conditions	Testing method	Typical value
Melt viscosity	400 °C	ISO 11443	130 Pa.s

Print recommendations¹

	Conditions
Nozzle temperature	360-400 °C
Bed temperature	120 °C
Print speed	15-30 mm/s
Bed adhesion	PEI Sheet

Material specifications¹

Product name	Weight supply	Diameter filament
HP 3D Filament PEEK Natural color	1 kg	1.75 mm

Process compatibility¹

Support material compatibility	HP 3D Filament SM30 White
Compatible printer modules	HP IF 3D Printer 500 Module

Safety Data Sheet (SDS)*

A general Safety Data Sheet covering HP 3D printing materials is available here: hp3dfilaments.com/safetydatasheets

This document provides guidance on safe handling, storage, and disposal. For material-specific questions, please contact your HP AM representative.

1. Typical values provided by Filament Provider. These results have not been validated on the HP Industrial Filament (IF) 3D Printer 600 HT Solution. Values are indicative; actual results may vary depending on print profile and process conditions. Contact HP to develop customized print profiles optimized for your application.

