

AVEO PETG ENHANCED

FDM filament for 3D printing

Engineered for consistency and performance, our PETG material is comparable to leading PETG filaments used in professional applications. PETG Enhanced offers a balanced combination of strength, durability, and superior surface finish. Designed for reliable performance, it delivers consistent results with excellent layer adhesion, no warping, no stringing and strong mechanical properties.

1.75 mm filament / 1 kg spools

Key Properties

Print quality	Superior surface finish compared to commercial benchmark; excellent layer adhesion with no stringing for reliable, functional parts.
Tensile strength	13% higher ultimate tensile strength than the commercial benchmark.
Stiffness	69% higher than the commercial benchmark; reduced vibration due to higher stiffness.
Dimensional stability	No warping or shrinkage for consistent print quality.
Processing	High-speed printing with stable extrusion; easier to process than many engineering-grade materials.
Resistance	Good moisture and chemical resistance for long-term use.

Applications

Functional prototypes balancing strength, durability and ease of printing; mechanical parts subject to moderate loads and requiring impact resistance; lightweight, stiff drone components; jigs, fixtures and manufacturing aids for workshop or production use; parts exposed to moisture or humidity due to low water absorption; outdoor applications with limited UV exposure for short- to mid-term use; components requiring good chemical resistance.



Application examples

Technical Process

Specifications

Name	PETG Enhanced
Usage	FDM/FFF 3D printing
Diameter	1.75 ± 0.02 mm
Net filament Weight	1 kg

Process Parameters

Recommended Print Settings	Value	Unit
Printing temperature	250-255	°C
Bed temperature	70	°C
Max volumetric flow	12	mm ³ /s
Maximum cooling	90	%
Minimum cooling	40	%
Drying temperature (4-6 h)	60	°C

Evaluated with a 0.4 mm nozzle and 0.2 mm layer height on a Prusa Core One printer and Creality K2 Plus.

Typical Material Properties of Printed Parts

Mechanical property	Value	Unit	Standard*
Tensile modulus	2540 ± 203	MPa	ISO 525
Tensile strength	56.9 ± 0.70	MPa	ISO 525
Elongation at break	3.41 ± 1.08	%	ISO 525

* Standard designations reproduced from the supplied technical sheet.

Disclaimer

Data sheet values are for quality control only. Actual values may vary due to processing, and end-use performance depends on factors such as materials, design and environment. Users are responsible for determining safety, suitability, and disposal practices. Aveo Carbon5D materials are not intended for medical, pharmaceutical, or food applications, and no warranty is given for fitness or liability for any damages.

Parameter Definitions

Printing parameters

Nozzle temperature	Recommended temperature range of the printer nozzle during extrusion and deposition of the filament.
Build-plate temperature	Recommended build-plate temperature during printing to promote first-layer adhesion and reduce warping.
Maximum volumetric flow rate	Maximum volume of material that can be extruded through the nozzle per second while maintaining stable extrusion and acceptable print quality, expressed in mm ³ /s.
Part-cooling fan	Recommended part-cooling fan setting during printing, expressed as a percentage of the printer's maximum fan speed.

Material handling and preparations

Drying temperature	Recommended temperature for drying the filament before printing to remove absorbed moisture without damaging or deforming the filament or spool.
Drying time	Recommended duration for which the filament should be dried at the specified drying temperature.