

Technical Data Sheet **PETG**

General Information

3D-Fuel[™] PETG Filament is produced from high quality PETG specifically for the manufacturing of high-performance 3D printer filament.

Printing Information

Print nozzle temp: 245 - 265C (Our PETG Prints a little hotter than some.) Heated Bed temp: 70 - 90C

Comparative Data

TBA

Heat Deflection Temperature: Measure of a polymer's ability to bear a given load at elevated temperatures; the temperature at which it deforms.

Flexural Modulus: Pressure required to start the bending; stiffness; the tendency of the material to bend.

Flexural Strength: pressure required before a certain degree of deformation; degree of deformation at which the test fails.

Tensile Yield Strength: maximum stress before breaking when being stretched from both ends.

Resin Typical Material Properties		
Property ¹	Test Method ²	Typical Value / Units³
General Properties		
Specific Gravity	D792	1.28
Mold Shrinkage Parallel to Flow, 3.2-mm (0.125-in.) thickness Parallel to Flow, 1.6-mm (0.0625-in.) thickness	D955	0.002 mm/mm (0.002 in./in.) 0.005 mm/mm (0.005 in./in.)
Water Absorption, 24 hr immersion	D570	.13 %
Mechanical Properties		
Tensile Strength @ Break	D638	25 MPa (3600 psi)
Elongation @ Break	D638	30%
Flexural Strength	D790	75 MPa (10900 psi)
Flexural Modulus	D790	2200 MPa (3.2 x 10 ⁵ psi)
Rockwell Hardness, R Scale	D785	106
lzod Impact Strength, Notched @ 23°C (73°F) @ -40°C (-40°F)	D256	69 J/m (1.3 ft-lbf/in.) 28 J/m (.5 ft-lbf/in.)
Impact Strength, Unnotched @ 23°C (73°F) @ -40°C (-40°F)	D4812	NB J/m (NB ft·lbf/in.) 2600 J/m (50 ft·lbf/in.)
Optical Properties		
Haze	D1003	.3%
Total Transmittance	D1003	90%
Thermal Properties		
Deflection Temperature @ 0.455 MPa (66 psi) @ 1.82 MPa (264 psi)	D648	67 °C (152 °F) 62 °C (143 °F)
Typical Processing Conditions		= - ()
Drying Temperature		71 °C (160 °F)
Drying Time		4-6 hrs
Processing Melt Temperature		249-271 °C (480-520 °F)
Mold Temperature		16-38 °C (60-100 °F)
I liness noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity		

¹Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity. ²Unless noted otherwise, the test method is ASTM.

Product Description

3D-Fuel™ PETG is an excellent 3D printing material combining the functionality of ABS (stronger, temperature resistant, more durable) and reliability of PLA (easy to print) in one material. It has excellent layer adhesion and low potential to warp during printing.

3D-Fuel[™] PETG Filament is a glycol modified polyethylene terephthalate (PET). The modification is made by adding a second glycol, cyclohexanedimethanol (CHDM) during the polymerization stages. The second glycol is added in the proper proportion to produce an amorphous polymer. This product has been Greenguard Indoor Air Quality Certified®. The Greenguard Indoor Air Quality Certified® Mark is a registered certification mark used under license through the Greenguard Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the Greenguard Certification Program. The Greenguard Certification Program is an industry independent, third-party testing program for low-emitting products and materials for indoor environments.

Applications

Applications for 3D-Fuel™ PETG Filament include building materials, compounders, electronic packaging, jars-skin care packaging, large appliances non-food contact, non-kitchen appliances, packaging component films, packaging components non-food contact, personal care & cosmetics packaging, personal care bottles, personal care packaging, sporting equipment, strapping, transaction cards, window housings, and windows.



³Units are in SI or US customary units.