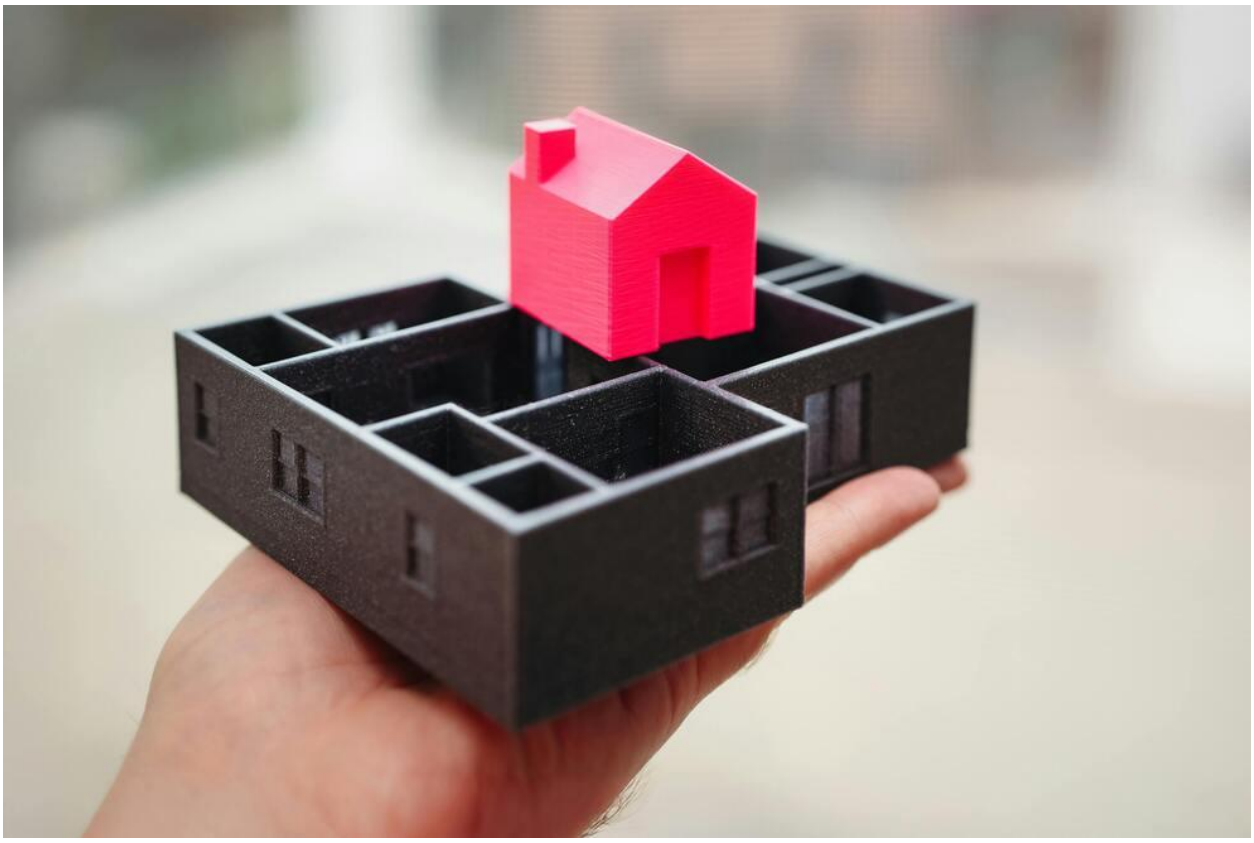
PETG Datasheet



Overview

Designed for durable, impact-resistant prototypes and end-use parts, PETG filament is an ideal choice for makers, engineers, and manufacturers producing mechanical components, protective housings, and outdoor fixtures that demand strength, flexibility, and chemical resistance.

As-printed Part's Tolerance: ±300μm or 0.3%

Maximum Printing Size: 256*256*256mm

Infill Options: 15%, 30%, 50%, 65%, 85%, 100%

Color Options: 40+

Material Properties

Density Properties	Metric	Test Standard
Density	1.27-1.29g/cm³	ISO 1183
Rheological Properties	**Metric**	**Test Standard**
Melt Flow Rate (MFR)	10-15g/10min	ISO 1133
Thermal Properties	**Metric**	**Test Standard**
Heat Deflection Temperature (HDT)	76℃	ISO 75
Vicat Softening Temperature (VST)	82℃	ISO 306

Mechanical Properties

Tensile Test:

Tensile Strength Metric	Infill	Coordinate Axes	Test Standard
38-40Mpa	100%	X-Y axes	ISO527
51-53Mpa	100%	X-Z axes	ISO527
20-24Mpa	100%	Z-X axes	ISO527
Tensile Modulus Metric	**Infill**	**Coordinate Axes**	**Test Standard**
1600-1700Mpa	100%	X-Y axes	ISO527
1800-1900Mpa	100%	X-Z axes	ISO527
1500-1600Mpa	100%	Z-X axes	ISO527
Elongation at Break Metric	**Infill**	**Coordinate Axes**	**Test Standard**
9-12%	100%	X-Y axes	ISO527
8-11%	100%	X-Z axes	ISO527
2-4%	100%	Z-X axes	ISO527

Flexural Test:

Flexural Strength Metric	Infill	Coordinate Axes	Test Standard
64-70Mpa	100%	X-Y axes	ISO178
82-85Mpa	100%	X-Z axes	ISO178
35-44Mpa	100%	Z-X axes	ISO178
Flexural Modulus Metric	**Infill**	**Coordinate Axes**	**Test Standard**
1700-2000Mpa	100%	X-Y axes	ISO178
2100-2200Mpa	100%	X-Z axes	ISO178
1400-1600Mpa	100%	Z-X axes	ISO178

Impact Test:

Un-notched Impact Strength Metric	Infill	Coordinate Axes	Test Standard
31-34KJ/m²	100%	X-Y Axes	ISO179

80-109KJ/m²	100%	X-Z Axes	ISO179
6-9KJ/m²	100%	Z-X Axes	ISO179
Notched Impact Strength Metric	**Infill**	**Coordinate Axes**	**Test Standard**
3-5KJ/m²	100%	X-Y Axes	ISO179
2-4KJ/m²	100%	X-Z Axes	ISO179
1-2KJ/m²	100%	Z-X Axes	ISO179

Pros

With excellent layer bonding and balanced flexibility, FDM printed PETG produces strong, impact-resistant parts that maintain dimensional accuracy and smooth surfaces. Its low moisture absorption, chemical resistance, and minimal warp make it a reliable choice for functional prototypes, outdoor applications, and components requiring durability under stress.

Cons

PETG prints can scratch more easily than harder materials and may string or ooze during printing if settings are not well-tuned. While offering good heat resistance, prolonged exposure above 80 °C can still cause softening or deformation. Its moderate hygroscopic nature means the filament can absorb moisture over time, potentially affecting print quality if not stored properly.

Applications

Protective Housings and Enclosures Outdoor Fixtures Retail Displays

Architectural Models Food-Contact Containers Automotive Parts

Medical Device Components Mechanical Prototypes Sporting Goods