

# PETG

## *Glycol modified Polyethylene terephthalate*

PETGs (or copolyester) are glycol modified PETs; the modification is done by adding a second glycol during polymerization. The resulting molecular structure is irregular and the resin is clear and amorphous with a higher glass transition temperature of 80°C. PETGs can be processed over a wider processing range than conventional PETs and offer good combination of properties such as toughness, clarity, and stiffness.

Mechanical Properties	Standard	Value	Unit
<b>Ultimate Tensile Strength</b>	ISO 527	45	MPa
<b>Tensile Modulus</b>	ISO 527	1650	MPa
<b>Elongation at Break</b>	ISO 527	24	%
<b>Flexural Strength</b>	ISO 178	72	MPa
<b>Flexural Modulus</b>	ISO 178	1600	MPa
Hardness Shore	Standard	Value	Unit
<b>Hardness</b>			

Thermal Properties	Standard	Value	Unit
<b>HDT @ 0.45 MPa</b>	ISO 75	70	°C
<b>Glass Transition Temp</b>	DSC	80	°C
Physical Properties	Standard	Value	Unit
<b>Density</b>	ISO 1183	1.24	g/cm <sup>3</sup>
Certifications and Tests	Standard	Value	Unit
<b>Flammability (UL 94)</b>			

### Characteristics

- Superior Chemical Resistance
- BPA Free
- Amorphous: Low and near isotropic shrinkage
- Low moisture absorption
- Very low odor emitted during printing
- More flexible than PLA or ABS
- Can be printed with lower bed temperatures than ABS
- Does not need an enclosure
- Superior chemical resistance to ABS
- Very low odor while printing
- Amorphous structure giving it a low, near isotropic shrinkage
- Low moisture absorption, 3x lower than ABS
- Wide range of processing from 230-260°C
- Superior ductility vs. ABS

### Applications

- Low shrinkage (minimal warping) is ideal for printing larger prototypes
- Prototypes which are shatterproof or translucent
- Mounts, jigs and fixtures
- Headlight covers
- Food and liquid storage

### Considerations

- Stringing may occur when printing due to moisture absorption. Drying is necessary prior to printing.
- Poor bridging performance.

### Printing Skill & Experience:

Beginner     Intermediate     Advanced     Expert

- PETG can jam the print head if printed too hot.
- If the printer is closed, it is recommended to keep the enclosure door / top open, if possible, to prevent filament from swelling and to maximize the print quality.

### Printer Compatibility

<input type="checkbox"/> 3ntr A2v4	<input type="checkbox"/> 3ntr A4v4	<input checked="" type="checkbox"/> EVO-T	<input checked="" type="checkbox"/> EVO22-T
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**Available colors from [Airwolf 3D](#):** Black, Red, Yellow, Blue, White, Alpine Green, Sparkle Pink, Natural, Ruby Red (Transparent), Purple (Amethyst Transparent), Grey (Moonstone Transparent), Dark Red (Garnet Transparent), Lime (Xenomorph Transparent), Orange (Amber Transparent), Green (Emerald Transparent), Blue (Sapphire Transparent), Glow in the Dark.