

CLEAR PETG

Technical Data Sheet (Ver. 2.1,
last updated: February, 2022)

CLEAR PETG is polyether based material developed by REC for use with Anisoprint Composer A4/A3.

Little shrinkage of PETG makes it possible to obtain high-quality thin-walled products and a good toughness is achieved due to high interlayer adhesion of Clear PETG.

Physical Properties	Test method	Value
Density (g/sm ³)	ASTM D792	1.30
Operating temperature (°C)	—	-40 to +70
Melt flow index (g/10 min)	240 °C, 2.16 kg	18
Mechanical Properties*	Test method	Value
Tensile Strength (X-Y) (MPa)	ASTM D638	36.5
Young's Modulus (X-Y) (GPa)	ASTM D638	1.12
Elongation at Break (%)	ASTM D638	2,41
Tensile Strength (Z-X) (Mpa)	ASTM D638	33.6

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Young's Modulus (Z-X) (GPa)	ASTM D638	1.73
Bending Strength (X-Y) (MPa)	ASTM D790	76.1
Bending Modulus (X-Y) (GPa)	ASTM D790	2.06
Compressive Strength (Z-X) (MPa)	ASTM D695	51.7
Compressive Modulus (Z-X) (GPa)	ASTM D695	1.81
Young's Modulus (X-Y) (GPa)	ASTM D638	1.12
Shore hardness (D scale)	—	76
Tensile Strength (Z-X) (Mpa)	ASTM D638	33.6
Notched Charpy Impact (KJ/m2)	ISO 179-1:2010	4.17

*Printing conditions and orientation of specimens are shown in NOTE

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Physical Properties	Test method	Value
HDT (°C)	ASTM E2092 0,45 MPa	71
Vicat softening temperature (°C)	ISO 306 (B120)	80

Recommended Printing Parameters	Setting
Nozzle temperature (°C)	235-240
Build plate temperature (°C)	45-60
Model cooling fan	MODERATE
Printing speed (mm/s)	20-60
Drying	55-65°C for 2-4 hours

NOTE!

The specimens for the tests were printed concentrically in XY and ZX planes (Figures 1, 2) with 0.2mm layer thickness at 100% fill with perimeters, 235°C nozzle temperature and 60°C build plate temperature.

Specimen orientation on the build plate:

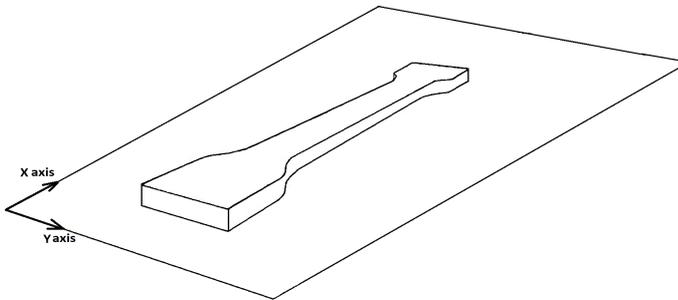


Figure 1. XY oriented specimen

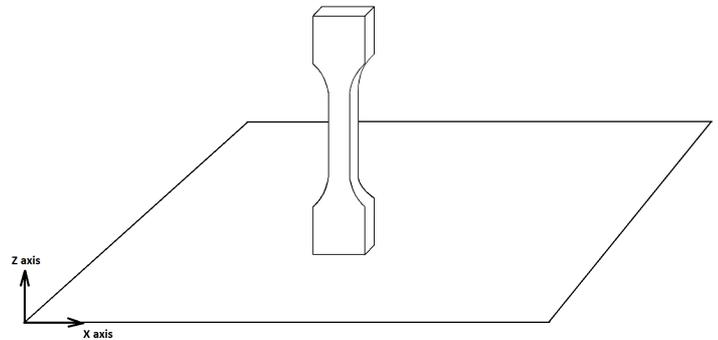


Figure 2. ZX oriented specimen

DRYING

Clear PETG can be printed from open-air for weeks (time depends on the indoor air humidity), without decrease in part quality due to its low absorption grade. However, after a decent period of time wetting of filament can occur, so it is recommended to either print from drybox at all times or just re-dry the plastic after if it gets wet, for 4 hours at 60 °C.

Disclaimer

Tests specimens are designed to maximize test performance. 3D printed specimens have 100% infill with unidirectional fiber. To learn more about specific testing conditions contact an Anisoprint representative. All customer parts should be tested according to customer specifications.

The values presented in this datasheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions.

End-use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.