



HIGHEST RATED FILAMENT ON AMAZON  
60-DAY MONEY BACK GUARANTEE

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## Description:

A high-impact resistant neutral-coloured light-transparent thermally-stable thermoplastic glass replacement.

## Applications:

Light-permeable covers (up to 89% transmittance), windows, toys, school weather-station projects, etc.

Suitable for use in higher temperature environments where other thermoplastics such as ABS or nylon would readily deform under pressure.

Other uses include - CDs and DVDs, bullet proof glass, riot gear, sunglass lenses, scuba masks, electronic display screens, phone and computer cases and much more.

## Recommended Print Settings:

Printing Temps 1.75mm	300°C +
Printing Temps 2.85mm	N/A
Heated Bed Temp	100°C +
Cooling Fans	None
Ideal Build Volume	Fully enclosed. Heated preferred (90°C).
Extrusion Multiplier	x1.0 (100%).
Retraction (direct drive)	Try 1.2mm as a starting point at 20-30mm/s.
Retraction (bowden feed)	Varies more per printer, but try 3mm as a starting point.
Print Speed Advisory	Print layers at less than 0.18mm as PC is prone to warping.
Print Surface Advisory	Ensure that your build surface can take PC being printed onto it. BuildTak and similar materials may be destroyed by PC being printed onto it directly.
Print Layer Advisory	Extra perimeters/shells may be needed (compared to other filaments) and the use of concentric infill may overcome where inter-layer delamination occurs due to non-optimal printing conditions.

## General Advice:

300°C or higher is better, but if your printer struggles to get there, then get it as high as you can and reduce the print speed to suit.

Printing thinner layers reduces warping stresses.

Consider using large brims on objects as an aid to improving bed adhesion.

Extremely hygroscopic – consider the use of a moisture-controlled container during printing to keep moisture contamination during the printing process to a minimum.

## Material Properties:

Physical Properties <sup>(1)</sup>	Value
Density	1.2g/cm <sup>3</sup>
Glass Transition Temperature	160°C
Melting Temperature	300°C
Heat Deflection Temperature <sup>(2)</sup>	130°C
Vicat Softening Temperature	150°C
Tensile Strength, Yield	60 MPa / 8702 psi

(1) NOT to be construed as specifications

(2) @1.80MPa

## Other Info:

Strong, impact resistant thermoplastic.

Machine bendable at room temperature.

Extremely durable.

Translucent with excellent light transmittance.

May be 'polished' using the same vapour-polishing method as ABS/ASA, but use dichloromethane instead of acetone. (Please be aware that dichloromethane is considerably more toxic than acetone, so take the appropriate precautions if this process is used). Dichloromethane soluble (see warning above).

Although polycarbonate is a hydrophobic material, if it does become contaminated with moisture, the resulting prints are going to have a considerable negative effect on the print finish.

A full reel of damp filament can be dried at 100-120°C for up to 8 hours in a temperature-controlled circulating air dryer.

Note: Filament that has been allowed to become badly contaminated with moisture may not give 100% perfect results post-drying.

## Print Surface Materials:

As with all filaments, only print in an area with good ventilation, away from pets, and avoid breathing in any fumes or particles that will be released during the printing process.

Always wear eye protection around 3D printers and their materials, especially while in use.

It is always good practice to wear facemasks as a precautionary measure when 3D printing.

Keep away from food, and wash hands after use.

Do not touch the molten plastic - It will cause severe burns if it comes into contact with bare skin.

If bodily contact does occur, irrigate the affected area with copious amounts of cold water.

Do not attempt to remove the hardened plastic.

Seek medical attention.

Please note that the information given in this Technical Data Sheet, including, but not limited to, data, statements and typical values, are given in good faith. They are provided as an aid for material selection purposes only. The values and information presented on this sheet are typical values and should not be interpreted as being absolute or precise specifications. Colour pigments may induce variance in printing settings between filament colours. All properties except Melt Flow Rate are measured on injection-moulded specimens.