# 3D

# DURABIO™ Filament

- DURABIO is a transparent bio-based engineering material which combines the properties of Polycarbonate (PC) and Polymethacrylate (PMMA)
- Excellent optical and mechanical properties
- High heat, scratch and abrasion resistance
- UV resistant
- BPA free, based on a renewable source
- Main applications: Concept modelling for the building, electrical and automotive industry.

## Filament Specifications

| Size | Ø tolerance | Roundness |
|---|---|---|
| 1.75mm | ± 0.05mm | ≥95% |
| 2.85mm | ± 0.10mm | ≥95% |

## Material properties

| Description | Test method | Typical value |
|---|---|---|
| Density | ISO 1183 | 1.31 g/cm$^3$ |
| MVR 230°C/2.16 kg | ISO 1133 | 10 cm$^3$/10min |
| MFR 230°C/2.16 kg | ISO 1133 | 13 gr/10 min |
| Elongation at break | ISO 527 | 130 % |
| Tensile strength | ISO 527 | 64 Mpa |
| Tensile modulus | ISO 527 | 2300 MPa |
| Flexural modulus | ISO 178 | 2100 Mpa |
| Flexural strength | ISO 178 | 94 MPa |
| Impact strength - Charpy method 23°C | ISO 179 | 9 kJ/m2 |
| Moisture absorption | MCC Method | 0.2 % |
| Coefficient of linear thermal expansion (-20~80°C) | ISO 11359-2 | 7.3E-05 |
| Heat deflection temperature 1.80 MPa | ISO 75-1 | 82°C |
| Transparency | ISO 13468 | 2 % |

Values calculated on injection moulded material tests

**Verbatim**
Technology you can trust

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## Recommended printer set up

| | |
|---|---|
| Extrusion temperature | 225 - 245°C |
| Melting temperature | 235°C |
| Bed temperature | 85°C |
| Printing speed | 50 mm/s |
| Fan speed (can be changed to 0% is the model is warping) | 10% |

## Filaments Available

| Colour | Part Number | | RAL ref. | Diameter | Weight |
|---|---|---|---|---|---|
| White | 55150 | ⬜ | 9003 | 1.75 mm | 500 g |
| Clear | 55151 | ⬜ | N/A | 1.75 mm | 500 g |
| Black | 55152 | ⬛ | 9005 | 1.75 mm | 500 g |
| White | 55153 | ⬜ | 9003 | 2.85 mm | 500 g |
| Clear | 55154 | ⬜ | N/A | 2.85 mm | 500 g |
| Black | 55155 | ⬛ | 9005 | 2.85 mm | 500 g |

Verbatim filament is manufactured from high quality materials to extremely rigid standards. The filaments are manufactured from the highest quality materials and produced to extremely tight tolerances to ensure consistent feed and stable printing. The filaments are distributed in vacuum-sealed bags with desiccant, and wound onto a custom spool that has been designed for strength, uniform dynamic performance and trouble-free dispensing.

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