Storage

XSTRAND™ filaments must be stored in a dry and temperate location. The product should remain in its original packaging, preferably closed, until beginning of use.

Warning

When melted, XSTRAND™ filament can be abrasive due to its glass reinforcement. Printing with XSTRAND™ may reduce brass nozzles and extruder driving wheels' lifetime. For a better experience, using hardened steel nozzles and extruder driving wheels is advised.

Ensure sufficient ventilation in your 3D printing space and avoid inhaling extrusion fumes.

CONTACT

Technical Datasheet and Material Safety Datasheet are available on:

www.owenscorning.com/xstrand

For any questions related to XSTRANDTM 3D products, contact us at:

3dprinting@owenscorning.com

DISCLAIMER

The information provided in this document is intended to serve as basic guidelines on how the particular product can be used, publications are based on actual laboratory data and field test experience, therefor users can adjust the printing conditions based on their needs and actual situations. It is normal for the product to be used outside of the recommended ranges of conditions. Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Owens Corning XSTRAND™'s materials for the intended application. The user agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. Owens Corning makes no warranty of any kind, unless announced separately, to the fitness for any particular use or application. Owens Corning shall not be made liable for any damage, injury or loss induced from the use of XSTRAND™ materials in any particular application. Statements in this publication shall not be construed as representations or warranties or as inducements to infringe any patent or violate any law, safety code or insurance regulation. Owens Corning reserves the right to modify this document without prior notice.

DRAFT VERSION

3D FILAMENT

GLASS FIBER REINFORCED POLYCARBONATE

GF30-PC

Material datasheet

Physical Properties	Metric	Imperial	Standard
Density	In progress	In progress	ISO 1183-A
	1,4 g/cm3	-	Estimated value (based on lineic mass)
Moisture Absorption	Very low (<0.1%)	Very low (<0.1%)	ISO 62 23 °C / 50% RH
Water Absorption	Very low (<0.1%)	Very low (<0.1%)	ISO 62 23 °C / Sat
Color	Dark Grey		Non-transparent

Mechanical Properties	Metric	Imperial	Standard
Tensile Modulus	4 700 MPa	682 ksi	ISO 527 1 mm/min (0.04 inch/min)
Tensile Strength (Break)	60 MPa	8,700 psi	ISO 527 1 mm/min (0.04 inch/min)
Elongation (Break)	2,5 %	2,5 %	ISO 527 1 mm/min (0.04 inch/min)
Flexural Modulus	5 400 MPa	783 ksi	ISO 178 2 mm/min (0.08 inch/min)
Flexural Strength (Break)	78 MPa	11,300 psi	ISO 178 2 mm/min (0.08 inch/min)

Thermal Properties	Metric	Imperial	Standard
Heat Deflection Temperature	137 °C	279 °F	ISO 75 Method A (1.8 MPa)
Melting Point	167 °C	333 °F	ISO 11357
Glass transition temperature	145 °C	293 °F	ISO 11357-2
Thermal expansion coefficient	In progress	In progress	ISO 11359-2

Printer Settings	Nozzle	Bed
Temperature	280 °C - 330 °C	80 °C - 110 °C
Printing speed	30-60 mm/s	-
Nozzle diameter	> 0.4 mm	-

Recommended Bed Type
· Perforated plate · Glass bed with glue (Dimafix, Magigoo PC,…)

PACKAGING

Thermal Properties	Metric	Imperial	Standard
Filament diameter	1,75 mm / 2,85 mm	0,069 inch / 0,112 inch	+/- 0,05 mm
Material weight	500 g / 1000 g	1.1 lbs / 2.2 lbs	Net weight
Spool (500g / 1.1lbs)	200 / 52 / 67 mm	7.9 / 2.0 / 2.6 inch	Øext / Øint / width
Spool (1000g / 2.2 lbs)	200 / 52 / 67 mm	7.9 / 2.0 / 2.6 inch	Øext / Øint / width

DESCRIPTION

Developed by Owens Corning, a world leader in composite solutions, XSTRAND™ GF30-PC filament for 3D printing is a reinforced material designed to be compatible with most of standard Fused Filament Fabrication 3D printer (1.75 and 2.85 mm diameters available).

BENEFITS & PERFORMANCES

- Flame resistance UL94-**VO** (passed test, certification in progress)
- High **stiffness** and **strength**
- Good **H**eat **D**eflection **T**emperature (up to **137°C**)
- High **dimensional stability**
- **UV** resistance
- Electrical insulating
- Very low moisture absorption

POTENTIAL APPLICATIONS

XSTRAND™ GF30-PC is designed for functional prototyping and demanding applications such as mechanical engineering, electronics, automotive industry …