



# XSTRAND® GF30-PC SETTING STANDARDS

Developed by Owens Corning, a world leader in Composites, 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).

**FOR 3D PRINTING**

**GLASS FIBER REINFORCED POLYCARBONATE | GF30-PC**

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## Product Benefits

### XSTRAND® GF30-PC is UL94-VO verified

- Flame retardant
- High stiffness and strength
- Good heat deflection temperature (up to 137°C)
- High dimensional stability
- UV resistant
- Electrical insulating
- Very low moisture absorption

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## Potential Applications

XSTRAND® GF30-PC is designed for functional prototyping and demanding applications such as mechanical engineering, electronics, and automotive.

# MATERIAL

## Physical Properties

	METRIC	IMPERIAL	STANDARD
Density (Measured on a 100% infill printed part)	1.17 g/cm <sup>3</sup>	9.7 lb/gal	ISO 1183-A
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	5,400 MPa	787 ksi	ISO 527 1mm/min (0.04 inch/min)
Tensile Strength (Break)	65 MPa	9,600 psi	ISO 527 1mm/min (0.04 inch/min)
Elongation (Break)	2,5%	2,5%	ISO 527 1mm/min (0.04 inch/min)
Flexural Modulus	5,500 MPa	797 ksi	ISO 178 2 mm/min (0.08 inch/min)
Flexural Strength (Yield)	113 MPa	16,400 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	270°C	518°F	ISO 11357
Glass transition temperature	145°C	293°F	DSC ISO 11357
CTE Coefficient of Thermal Expansion	In XY direction	2.62 x 10 <sup>-5</sup> K <sup>-1</sup>	ISO 11359-2
	In Z direction	7.74 x 10 <sup>-5</sup> K <sup>-1</sup>	

\*Average from -40°C to -120°C.

## Printer Setting

	METRIC	IMPERIAL
Nozzle Temperature	280°C - 330°C	536° F - 626° F
Bed Temperature	80°C - 110°C	176°F - 230°F
Printing Speed	30-60 mm/s	-
Nozzle Diameter	>0.4mm	-
Recommended Bed Type	Perforated plate - DimaFix - Magigoo PC glue	

# PACKAGING

## Package Specifications

	METRIC	IMPERIAL	STANDARD
Filament diameter	1,75 mm/2,85 mm	0,069 inch/0,122 inch	+/- 0,05 mm
Material weight	500 g/1000 g	1.1 lbs/2.2 lbs	Net weight
Spool (500 g/1.1lbs)	200/52/67 mm	7.9/2.0/2.7 inch	Øext/Øint/width
Spool (1000 g/2.2lbs)	200/52/67 mm	7.9/2.0/2.7 inch	Øext/Øint/width



## GF30-PC

GF30-PC is a reinforced polycarbonate filament with 30% glass fiber content. GF30-PC delivers superior strength and resilience to varying temperatures, and UV light. GF30-PC is flame retardant, and UL94-V0 verified.

## Storage

XSTRAND® filaments must be stored in a dark, dry and temperate location. It is recommended that the product remain closed in its original packaging until 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.