XSTRAND® GF30-PP SETTING STANDARDS

Developed by Owens Corning, a world leader in Composites, XSTRAND® GF30-PP filament for 3D printing is a reinforced material designed to be compatible with any standard Fused Filament Fabrication 3D printer (1.75 and 2.85 mm diameters available).

FOR 3D PRINTING

GLASS FIBER REINFORCED POLYPROPYLENE | GF30-PP

Product Benefits

- Superior durability and strength (up to +250% compared to ABS)
- Large operational temperature range (-20°C to 120°C)
- Chemical and UV resistance
- Low moisture absorption
- Excellent layer adhesion
- Reduced warping effect compared to neat PP

Potential Applications

XSTRAND® GF30-PP is designed for functional prototyping and demanding applications such as industrial tooling, transportation, electronics, small appliances, sports & leisure.

MATERIAL

Physical Properties

	METRIC	IMPERIAL	STANDARD
Density	0.94 g/cm^3	7.85 lbs/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	Black		

Mechanical Properties

	METRIC	IMPERIAL	STANDARD
Tensile Modulus	6,500 MPa	943 ksi	ISO 527 1mm/min (0.04 inch/min)
Tensile Strength (Yield)	60 MPa	8,700 psi	ISO 527 1mm/min (0.04 inch/min)
Tensile Strength (Break)	60 MPa	8,700 psi	ISO 527 1mm/min (0.04 inch/min)
Elongation (Break)	1.6%	1.6%	ISO 527 1mm/min (0.04 inch/min)
Flexural Modulus	4,300 MPa	624 ksi	ISO 178 2 mm/min (0.08 inch/min)
Flexural Strength (Yield)	83 MPa	12,000 psi	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	120°C	248°F	ISO 75 Method A (1.8 MPa)
Melting Point	167°C	333°F	ISO 11357
Glass Transition Temperature	-20°C	-4°F	DSC ISO 11357
Thermal Coefficient	In process		ISO 11395-2

Printer Setting

	METRIC	IMPERIAL
Nozzle Temperature	220°C - 280°C	428° F - 536° 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 - PP adhesive – PP glue (Wolfbite™, Magigoo™, ...)	

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/2200 g	1.1 lbs/4.85 lbs	Net weight
Spool (500 g/1.1lbs)	200/52/55 mm	7.9/2.0/2.2 inch	Øext/Øint/width
Spool (2200 g/4.85lbs)	300/52/102 mm	11.8/2.0/4.0 inch	Øext/Øint/width

GF30-PP

GF30-PP is a reinforced polypropylene filament with 30% glass fiber content. GF30-PP delivers superior strength and resilience to varying temperatures, chemicals and UV light.

Transportation

Quickly create customize parts with XSTRAND® GF30-PP. GF30-PP works well in water and can withstand extreme conditions, making it perfect for leading automotive manufacturers and small scale customized projects.

Sports and Leisure

XSTRAND® GF30-PP allows you to build functional prototypes and custom fixtures. With high performance and durability, that is UV and temperature resistance, XSTRAND® GF30-PP will meet your prototyping and production needs.

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.

IMPORTANT NOTICE: We recommend the use local exhaust ventilation equipped with HEPA filters to remove ultra-fine particles and/or carbon filters to remove VOCs on all 3D printers.

Contact

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

3dprinting@owenscorning.com

Or visit us at:
www.owenscorning.com/xstrand

Safety data sheet available and more information on our website.

Pub. 10022732. XSTRAND® 3D GF30-PP Technical datasheet