



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:

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Or visit us at:

www.owenscorning.com/xstrand

Safety data sheet available and more information on our website.

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