

Features and Benefits:

- Materials designed for functional prototyping and industrial applications
- Engineered reinforced plastics
- Very stiff and strong
- Large operational temperature range: -20 °C to 120 °C
- Good chemical and UV resistance
- Excellent layer adhesion and reduced warping effect compare to neat materials

Printing Recommendations:

- XSTRAND™ filaments are designed to be compatible with most of open fused filament fabrication 3D printers available on the market.
- **Hardened steel nozzle** is highly recommended to print XSTRAND™. When melted, XSTRAND™ filament can be abrasive due to its glass reinforcement. Using hardened steel nozzles and extruder driving wheels is advised. Hardened steel nozzles can be found at
- <https://www.p3-d.com/collections/duraplat-3d-extruder-nozzles>
or
<https://www.3dxtech.com/e3dv6-hercules-a2-hardened-steel-nozzle/>
- **Bed components** are recommended as follows:
 - If printing on a glass bed use one of the following:
 - a. Use reinforced strapping packaging tape on the bed (e.g. Scotch Extreme Tape), with bed temperature around 30-50°C
 - or Use Wolfbite Ultra for polypropylene from Airwolf
 - A high-density polyethylene (HDPE) plate as printing surface, instead of glass plate for example, is highly recommended. Bed temperature at 30-50°C. It's better if the HDPE bed is thicker (thickness of 1/4" to 3/8"). First layer width of 130% and height of 75% are recommended too.
 - Or use a perforated bed (such as the one on Zortrax machines). For Zortrax machines, use default ABS setting.
 - For large flat surface, a raft is required to reduce warping. 5-8mm raft offset and airgap 0.16 – 0.18 are recommended.
- **Nozzle temperature:** 220 – 280 °C
- **Bed temperature:** 80-110 °C
- **Nozzle diameter:** >0.4mm

Case studies:

- Rossignol <https://www.youtube.com/watch?v=3FsfPW07Ngw>
- Seair: <https://youtu.be/Pg-7HgO7ZfQ>

About Owens Corning:

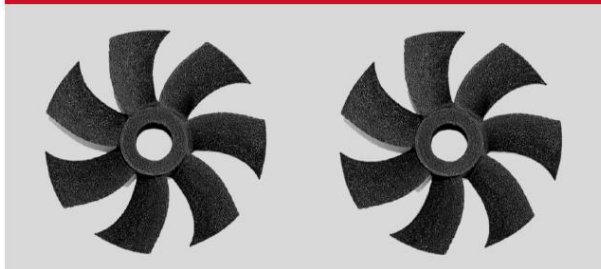
- A world leader in glass fiber composite
- More than 500 researchers in five R&D centers
- \$5.7 billion sales (2016)
- 17,000 employees in 33 countries
- 3D Printing labs in Ohio, USA and France



INDUSTRY & TOOLING



SMALL APPLIANCES & ELECTRONICS

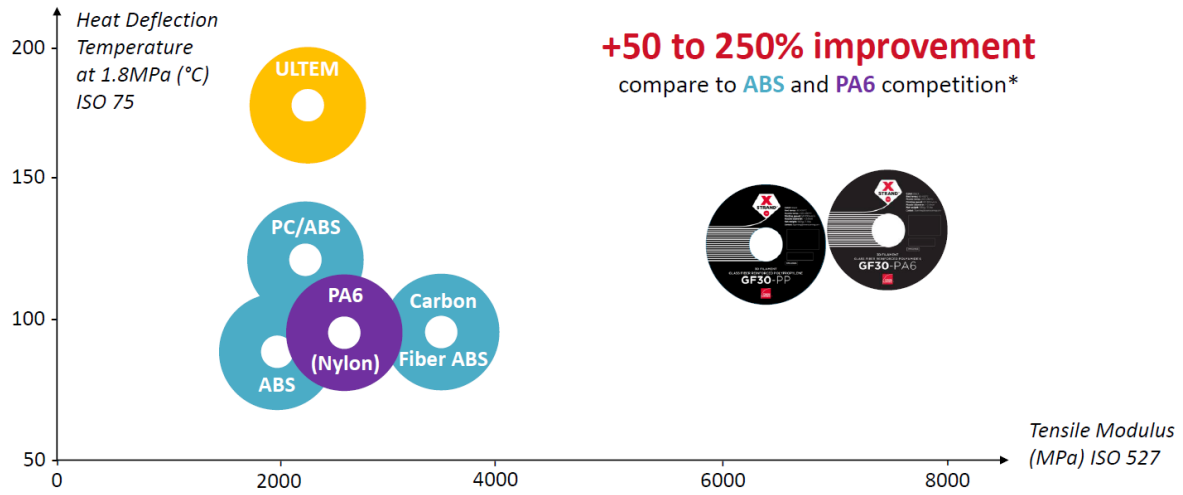


TRANSPORTATION



SPORT & LEISURE





*Values based on Owens Corning's internal tests