Last Updated: 2024-08-22

Technical Data Sheet

Filalab Fiber PLA (Fibrolon® 3D Wood)

Product Information

Product Name	Filalab Fiber PLA (Fibrolon® 3D Wood)
Chemical Name	Polylactic acid with wood fibers
Diameter	1.75 ± 0.05 mm
Manufacturer	Filalab, Vilnius, Lithuania

General Description:

Filalab Fiber PLA (Fibrolon® 3D Wood) Filament is a composite material that blends PLA with natural wood fibers to create a unique, wood-like finish. This filament is designed for 3D printing applications where aesthetics and a natural wood appearance are desired. It offers a balance of strength and ease of use, with the added benefit of a real wood feel and texture. Ideal for decorative items, architectural models, and other projects that benefit from a wood-like finish.

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Product Properties

Property	Test Method	Result
Density	ISO 1183	n/a
Melting temperature	ISO 3146-C	> 155°C
Melt flow rate (190 °C/2.16 kg)	ISO 1133	2.5-4.5 g/10 min
Modulus of elasticity	ISO 527	2,900 MPa
Tensile strength	ISO 527	47 MPa
Tensile strain at tensile strength	ISO 527	5%
Tensile stress at break	ISO 527	38 MPa
Tensile strain at break	ISO 527	6,5%
Flexural Modulus	ISO 178	2,950 MPa
Flexural strain at break	ISO 180	no break
Flexural stress at 3.5 % strain	ISO 178	64 MPa
Notched impact strength (Charpy), RT	ISO 179-1/1 eA	4.4 kJ/m²
Impact Strength (Charpy), RT	ISO 179-1/1 eU	21 kJ/m²

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Recommended Printing Settings

Nozzle Temperature	190-220˚C (190-195˚C for Bambu Lab printers)
Bed Temperature	50-65˚C
Fan Speed	80-100%
Printing Speed	40-250 mm/s
Bed Type	Textured PEI Sheet, Smooth PEI Sheet
Optional Adhesives for Build Plate	Bambu Lab Glue Stick, Magigoo
Filament Drying Recommendations	Temperature: 55˚C, Drying Time 6-12 hours, If filament is brittle, try drying it for 6-12 hours

Safety Information:

Filalab Fiber PLA (Fibrolon® 3D Wood) Filament is generally safe for 3D printing, but it is recommended to print in a well-ventilated area to avoid inhaling any fumes generated during printing. The wood fibers may also produce fine dust during sanding or post-processing, so wearing a dust mask is advised. Always handle the filament and printed parts with care, and consult the Safety Data Sheet (SDS) for more detailed safety guidelines.

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Storage, Handling, and Drying Process:

Fiber PLA (Fibrolon® 3D Wood) filament is hygroscopic and should be stored properly to maintain its properties and print quality.

Storage:

- **Environment:** Store in a cool, dry place, away from direct sunlight.
- **Sealing:** Keep the filament in an airtight container with desiccants to prevent moisture absorption.
- **Desiccant Use:** Use silica gel packets or other desiccants inside the storage container to maintain low humidity levels.

Drying Process:

- **Drying Temperature:** 50-60°C (122-140°F)
- **Drying Duration:** 2-4 hours
- **Drying Equipment:** Use a filament dryer, convection oven, or food dehydrator.

After drying, immediately store the filament in an airtight container to prevent moisture reabsorption.

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Features:

- **Wood-like Appearance:** Produces prints with a natural wood look and feel.
- **Easy to Print:** Prints similarly to standard PLA, with reduced warping.
- **Eco-Friendly:** Made from biodegradable PLA and natural wood fibers.
- **Post-Processing:** Can be sanded, stained, or painted for a more customized finish.

Pros and Cons:

Pros:

- **Aesthetic Appeal:** Provides a realistic wood texture and appearance.
- **Eco-Friendly:** Biodegradable and made from renewable resources.
- **Easy to Use:** Prints like PLA, with low warping and good adhesion.

Cons:

- **Lower Strength:** Less durable compared to pure PLA or engineering filaments.
- **Moisture-sensitive:** Requires proper storage and drying.
- **Higher Abrasion:** Wood fibers can cause nozzle wear; a hardened nozzle is recommended.

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