



Technical Data Sheet

FILAMENT-Eco Fiber

FILAMENT-Eco Fiber is an easily printable filament with a high content of recycled carbon fibers. The carbon fibers provide superior mechanical properties to the printed samples

Filament features

| | |
|-------------------------------|-------------------------|
| Particle | Carbon fibers |
| Polymeric matrix | PLA |
| Particle loading (wt.%/vol.%) | 21 wt.%/ 15 vol.% |
| Diameter | 1.75 ± 0.15 mm |
| Density | 1.31 g/cm ³ |
| Electrical conductivity | 4.28E ⁻⁶ S/m |
| Linear Density | 0.032 g/cm |
| Format | Spool vacuum packed |

Thermal Properties

| | |
|------------------------|--------|
| Glass Transition Temp. | 62°C |
| Melting Temp. | 152 °C |
| Degradation Temp. | 350 °C |

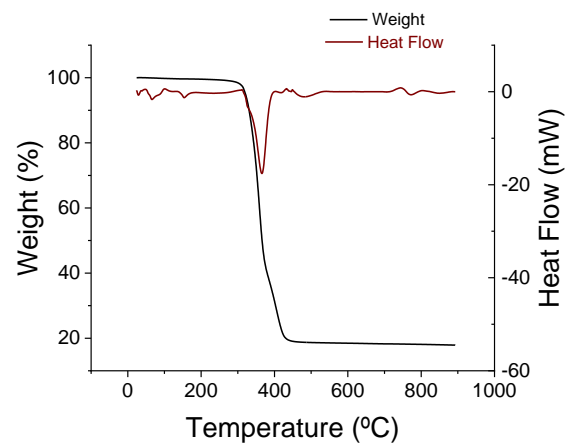
Printing Recommendations

| | |
|-------------------|-------------|
| Printing Temp. | 155 - 185°C |
| Hot Pad | 30 - 60°C |
| Printing Speed | 20-40 mm/s |
| Layer Height | ≥ 0.2 mm |
| Nozzle Diameter | ≥ 0.4 mm |
| Head travel speed | <200 mm/s |
| Stand-by Temp. | 30 °C |

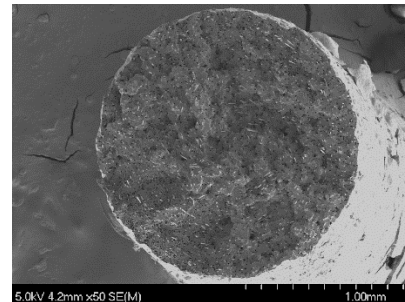
Storage Conditions

| |
|------------------------------|
| Keep in dry place |
| Protect from direct sunlight |
| Storage between 5°C- 30°C |

Thermal behavior



Filament cross-section



Samples printed and tested under compression with FILAMENT-Eco Fiber



Powder Specifications

Carbon Fibers

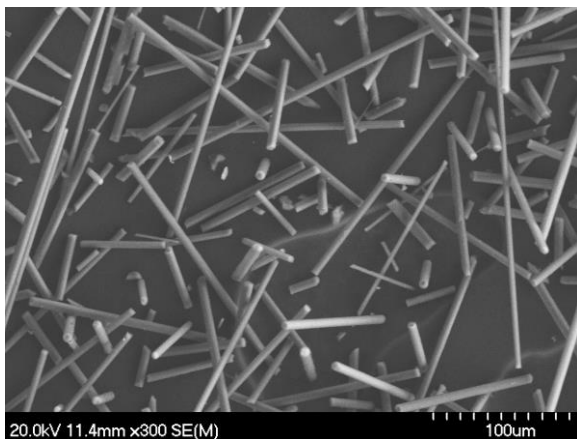
Identification Product

| | |
|---|------------------------|
| Commercial name | Recycled carbon fibers |
| Chemical formula | C |
| Supplier | Recycled |
| Characteristics/ Description | Carbon Fibers |

Chemical composition

| | | |
|-----------------------------|-------------------------|--|
| Purity | > 99.8 % | X-ray Fluorescence |
| Density | 1.86 g/cm ³ | Helium picnometry |
| Spec. Surf. area | 17.08 m ² /g | N ₂ adsorption- desorption |

Particle morphology



Scanning electron microscope image

Particle size distribution

Carbon fibers with a high form factor: Length < 500 μm and Diameter < 10 μm

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