

# Biotex Flax/PLA

## **Biotex Flax/PLA 400g/m<sup>2</sup> 2x2 Twill**

100% bio-derived commingled fabric for consumer goods, sporting goods and decorative applications



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Biotex Flax provides high levels of performance, coupled with the ease of processing normally associated with glass-reinforced materials. The materials use twistless technology to provide a combination of sustainability, performance and processability. Compared to glass fibre composites, Biotex Flax offers reduced weight, improved environmental impact, vibration damping, similar specific stiffness and safer handling.

Biotex Flax/PLA fabrics are commingled textiles made from natural flax fibre and polylactic acid (PLA) biopolymer and are suitable for producing fibre-reinforced thermoplastic composite parts. The fabrics are moulded into rigid components by simply applying heat and pressure to melt the thermoplastic, wet-out the flax and consolidate.

Biotex Flax/PLA 400g/m<sup>2</sup> 2x2 Twill fabric is typically used for semi-structural and decorative components in applications such as sporting goods and consumer products.



## Specifications

Weave Style	2x2 Twill	
Fabric Weight	400 g/m <sup>2</sup>	
Width	1250 mm	Others on request
Typical Ply Thickness	0.25-0.3 mm	

## Processing

Typical processes for Biotex Flax/PLA fabrics include press moulding, vacuum bagging and autoclave.

## Mechanical Properties

Typical mechanical properties of moulded laminates

Fibre Volume Fraction	40%	
Density	1.33 g/cm <sup>3</sup>	
Tensile Modulus	14 GPa	ISO 527-4
Tensile Strength	110 MPa	ISO 527-4
Elongation	1.6%	ISO 527-4
Flexural Modulus	7.1 GPa	ISO 14125
Flexural Strength	123 MPa	ISO 14125

Data from laminates made by press moulding, tested at ambient temperature.

## Safety

Biotex Flax reinforcements are based on renewable biomass and have fewer health and safety concerns than many conventional alternative materials. However, typical precautions should be taken when handling the material including using appropriate PPE and adequate ventilation.

**Composites Evolution** is a supplier of innovative, sustainable materials to the composites industry. Our products include fibres, resins and intermediates based on natural, bio-derived, recycled and recyclable materials, which enable customers to meet cost, weight and environmental targets.

- **Biotex Jute:** Low cost, lightweight alternative to glass fibre reinforcement
- **Biotex Flax:** High performance, lightweight alternative to glass and carbon fibres
- **Biotex Flax/PP:** Commingled reinforcement for rapid processing and reduced weight
- **Biotex Flax/PLA:** 100% bio-derived commingled reinforcement
- **Ecopreg PFA:** Fire-retardant prepreg with low environmental impact

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