

ampliTex[®] Art. No. 5008 biaxial fabric 350 gsm



Product description

Non-crimp biaxial flax fabric with fibres oriented at +45° and -45°, suitable for manufacturing fibre reinforced composite products with a high performance and a low environmental impact.

Fabric construction

Fibre type: Flax (EU)
 Construction: +45/-45°
 Fabric weight : 350 gsm +/- 5%

Ply construction

+45/-45 ply
 Fibre type: Flax
 Fibre tex: 105 TEX
 Ply weight: 171 gsm

Stitching fibre

Thread: textured polyester
 Weight: 6 gsm

Measurements

Standard width: 1270 mm
 Standard roll length: 50 m

Performance advantage

Considering that glass fibres have a density of 2600 kg/m³ and a tensile modulus of 70 GPa, the flax ampliTex biax 350 gsm can replace a 580 gsm glass fibre biax fabric to have the same stiffness in tension.

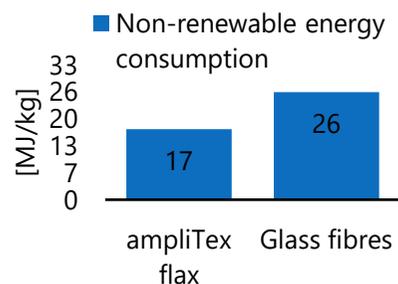
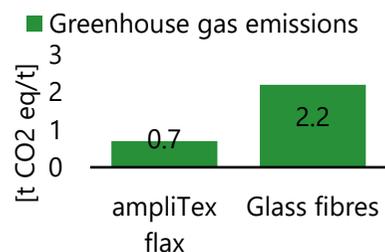
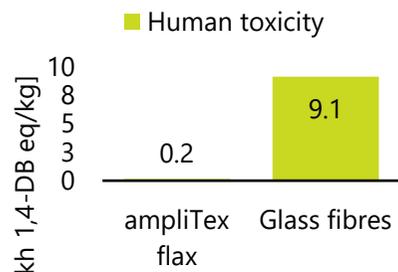
In compression, the performance of flax is a bit lower. Since a biaxial fabric often works in traction in one direction and compression in the other direction, the flax ampliTex biax 350 gsm can replace a 550 gsm glass fibre biax fabric to have the same stiffness.

| | Technical specifications | Dry fibres* |
|--|--------------------------------|------------------------|
| Tension | Modulus // to fibres | 61 GPa |
| | Modulus ⊥ to fibres | 6.4 GPa |
| | Strength // to fibres | 580 MPa |
| | Strength ⊥ to fibres | - |
| Flexural | Strain to failure // to fibres | 1 % |
| | Modulus // to fibres | 57 GPa |
| | Modulus ⊥ to fibres | 6.3 GPa |
| | Strength // to fibres | 663 MPa |
| | Strength ⊥ to fibres | - |
| | Density | 1350 kg/m ³ |
| * Fiber properties measured on a UD flax composite | | |

Ecological aspects

Grown in France and Belgium, the flax used at Bcomp is a regional resource.

Production of flax has a negative global warming indicator because of the CO₂ sequestration by photosynthesis.



Processing guidelines

- Good compatibility with epoxy and polyester
- Near- zero CTE, hence good processing compatibility with carbon fibres
- Compatible with infusion- based processes (vacuum infusion, RTM), wet layup, bladder inflation moulding (BIM) and compression moulding
- Flax fibers always contain some humidity at ambient conditions. Some resins (especially polyesters) are sensitive to moisture and may badly polymerize or create bubbles. In that case, dry the fabrics before use (110°C for 15 minutes)
- Fibre weight fraction of 60% can be reached with process pressure > 5 bars. However, the fibres absorb a lot of resin when hand-laminating the fabric and it tends to look “dry” (unless too much resin is used) before pressure is applied. We recommend controlling the amount of resin used for laminating and impregnating with 50 to 60% resin in weight. Excess resin comes out while pressing the fabric.

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