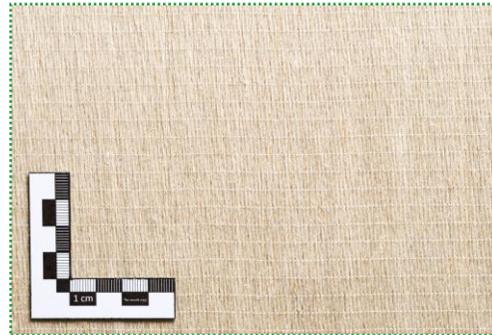


ampliTex[®]

Art. No. 5009

UD fabric

300 gsm



Product description

Non-crimp unidirectional flax fabric with fibres oriented at 0°, suitable for manufacturing fibre reinforced composite products with a high performance and a low environmental impact.

Fabric construction

Fibre type: Flax (EU)

Construction: 0°

Fibre tex: 105 TEX

Fabric weight: 300 gsm +/- 5%

Weft thread: textured polyester.
1/cm

Measurements

Standard width: 350 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 UD 300 gsm can replace a 500 gsm glass fibre UD fabric to have the same stiffness in tension.

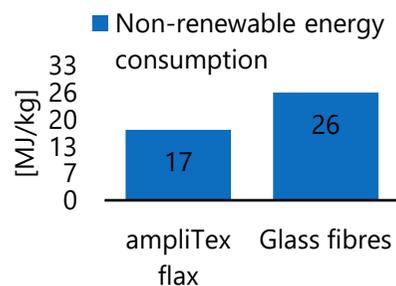
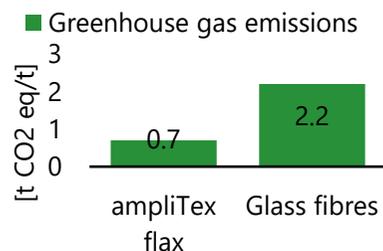
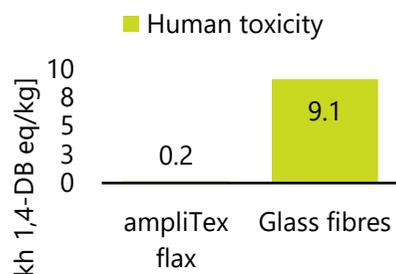
In compression, the performance of flax is a bit lower, thus the flax ampliTex UD 300 gsm can replace a 440 gsm glass fiber UD fabric to have the same stiffness.

	Technical specifications	Dry fibres	Composite *
	Modulus // to fibres	61 GPa	34.6 GPa
	Modulus ⊥ to fibres	6.4 GPa	4.7 GPa
	Strength // to fibres	580 MPa	329 MPa
	Strength ⊥ to fibres	-	26 MPa
	Strain to failure // to fibres	1 %	1 %
	Strain to failure ⊥ to fibres	-	0.5 %
Flexural	Modulus // to fibres	57 GPa	32.6 GPa
	Modulus ⊥ to fibres	6.3 GPa	4.6 GPa
	Strength // to fibres	663 MPa	377 MPa
	Strength ⊥ to fibres	-	39 MPa
	Yield strength // to fibres	348 MPa	198 MPa
	Density	1350 kg/m ³	
* Composite properties measured on samples (54% fiber volume), with Epoxy resin Araldite LY 8615/ XB 5173			

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 amount of adhesive used for laminating and to impregnate with 50 to 60% resin in weight. Excess resin comes out while pressing the fabric.

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