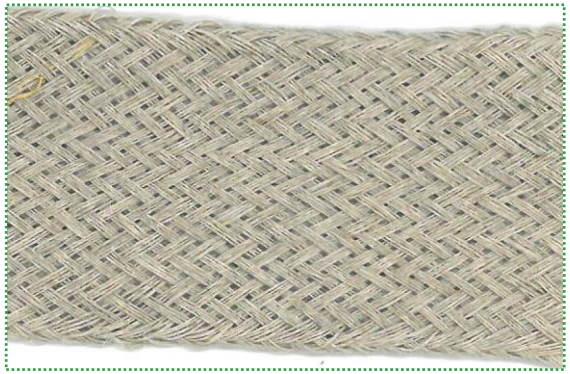
ampliTex® art. no. 5051 flax braid 50 mm Ø



Product description

Flax fibre braid, suitable for manufacturing fibre reinforced composite tubes with high performance and low environmental impact.

Fabric construction

Fibre type: Flax (EU)

Fibre TEX: 66 TEX

Nominal diameter (fibres at +/- 45°): 43 mm

Maximal internal diameter when stretched: 58 mm

Linear weight at nominal diameter: 33.6 g/m

Wall areal weight: 250 gsm

Measurements

Standard roll length: 100 m

Performance advantage

Considering that glass fibers have a density of 2600 kg/m^3 and a tensile modulus of 70 GPa, the flax ampliTex® braid can replace a 50.8 g/m glass fiber braid

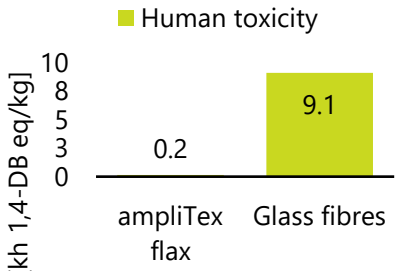
	Technical specifications	Dry fibres	Composite *
Tensile	Modulus // to fibres	61 GPa	34.6 GPa
	Modulus ⊥ to fibres	6.4 GPa	4.7 GPa
	Strength // to fibres	580 MPa	329 MPa
	Strength ⊥ to fibres	-	26 MPa
	Strain to failure // to fibres	1 %	1 %
	Strain to failure ⊥ to fibres	-	0.5 %
Flexural	Modulus // to 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	

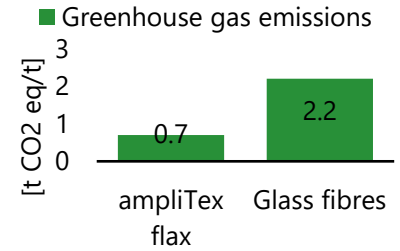
* Composite properties measured on samples (54% fiber volume), with Epoxy resin Araldite LY 8615/ XB 5173

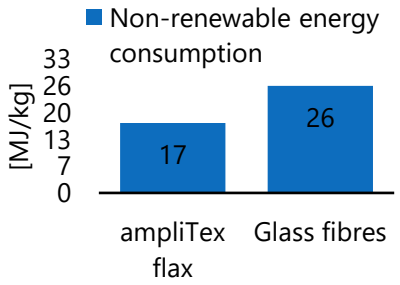
Ecological aspects

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

Production of flax has a negative global warming indicator because of CO_2 sequestration by photosynthesis.







Processing guidelines

- Great 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 fibres 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 50% 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 adhesive used for laminating and impregnating it with 50 to 60% resin in weight. Excess resin comes out while pressing the fabric.

For further details please contact us on: t +41 (0)26 558 84 02 | email contact@bcomp.ch