Bcomp®

| ampliTex™

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Art. No. 5009

UD fabric 300 gsm

ampliTex™ 5009 non-crimp unidirectional flax fabric with fibres oriented at 0°, suitable for manufacturing of high performance composite products with low environmental impact.

Fabric architecture

Fibre type : Flax (EU)

Construction : 0°

Yarn Tex : 105 tex

Fabric weight : 300 gsm +/- 5%

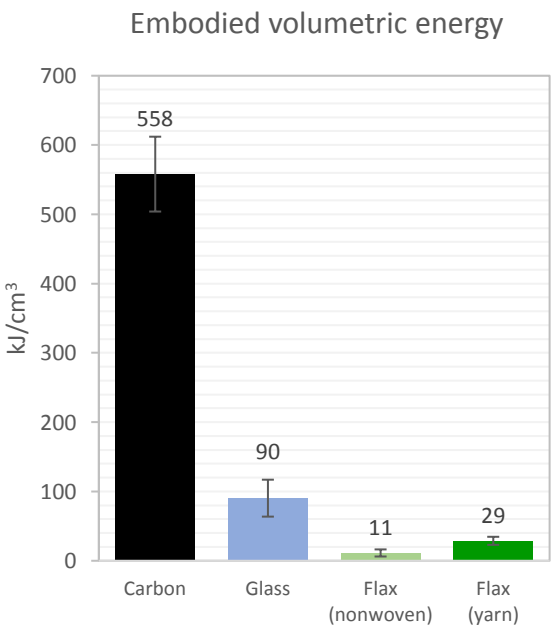
Dimensions

Standard width : 350 mm

Standard roll length : 50 m

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.
Find more details on bcomp.ch .



Technical Performances

The flax fibres used in ampliTex™ fabrics have a modulus of about 60 GPa and a tensile strength of 800 MPa, which makes them a performing technical fibre.
Comparing the specific stiffness of ampliTex™ and glass fibres shows that the tensile performance of ampliTex™ fabrics is about 50% better.
Further advantages are vibration damping properties which are much greater compared to glass or carbon fibre, and less fragile fracture behavior than carbon fibre.

Tensile Properties	
Young's Modulus // to fibres (GPa)	32.1
Young's Modulus ⊥ to fibres (GPa)	4.12
Strength // to fibres (MPa)	394
Strength ⊥ to fibres (MPa)	20.9
Strain to failure // to fibres (%)	1.72
Strain to failure ⊥ to fibres (%)	0.54

Flexural Properties	
Modulus // to fibres (GPa)	32.6
Modulus ⊥ to fibres (GPa)	4.6
Strength // to fibres (MPa)	377
Strength ⊥ to fibres (MPa)	26.4
Yield strength, Rp0.2 // (MPa)	348

Ply properties	
Density dry fibers (Kg/m^3)	1515
Ply thickness (mm) @ 43% | 60 % Vf	0.46 | 0.33

* Mechanical Properties evaluated on specimens manufactured from 8 layers of fabric in vacuum infusion, cured under pressure of 6 bar. Fibre volume fraction of 54%.

Processing Guidelines

- Excellent compatibility with epoxy and polyester
- Near-zero CTE, hence full 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 under ambient conditions. Some resins (especially polyesters) are sensitive to moisture and may poorly polymerize or create bubbles. In this case we recommend drying the fabrics prior use (110°C for 15 minutes)
- Fibre weight fraction of 60% can be achieved with process pressure > 5 bars. However, the fibres absorb a lot of resin when hand-laminating 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 will be squeezed out while pressing.