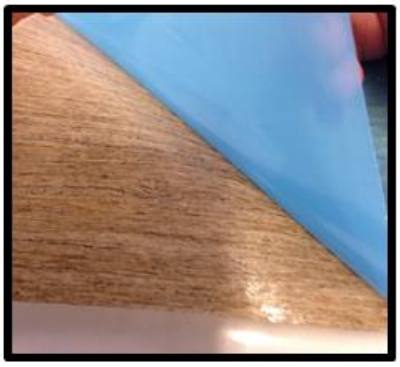
2015

TECHNICAL DATA SHEET - FLAXPREG T-UD

Description:

FLAXPREG T-UD is a range of pre-impregnated material based on an epoxy resin system and the UD flax fibres reinforcement developed by LINEO: the FlaxTape™.



Unidirectional (UD) fibres

Main markets:		**Advantages**
Sport and leisure	Flax is already used to improve the dampening properties of rackets, bicycle frames, skis, boards, …	Dampening properties
Transportation	Already used in aeronautic, automotive, boat manufacturing, railway.	Weight reduction, Mechanical & Acoustic properties, Close to aramid behaviour, Bio-based material
Wind energy	Development projects	Dampening properties, Weight reduction, Bio-based material

Reference	Flax reinforcement	Epoxy part of the total weight	Width
FLAXPREG T-UD 50	FlaxTape™ – 50gr of flax/m²	50%	0.4m
FLAXPREG T-UD 70	FlaxTape™ – 70gr of flax/m²	50%	0.4m
FLAXPREG T-UD 110	FlaxTape™ – 110gr of flax/m²	50%	0.4m

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Mechanical properties:

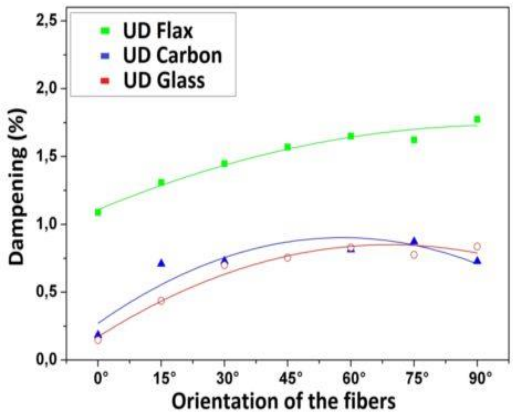
Mechanical results from a composite made with 12 layers of "FlaxPreg T-UD 110":

RATE OF FIBRES	By weigth	51 %
TRACTION (ISO 527)	Tensile strength	365 MPa
	Modulus	35 GPa
	Failure strain	1.35 %
FLEXION (ISO 14 125)	Ultimate stress strength	300 MPa
	Modulus	27.5 GPa
	Elongation	2.6 %
THEORIC DENSITY		1.3 g/cm^3

Dampening properties:

Low frequency dampening (flexion / mode 2):

Product	Dampening ratio
UD Flax	1.47%
UD Carbon	0.18%
UD Glass	0.15%



Available curing cycles:

Curing Time	Curing Temperature	*Glass Transition Temperature*
2 hours	110°C	*113°C to 122°C*
1 hour	120°C	*125°C to 134°C*
30 min	130°C	*127°C to 136°C*
1 hour		*135°C to 145°C*
15 min	140°C	*134°C to 144°C*
30 min		*135°C to 145°C*
1 hour		*135°C to 145°C*
15 min	150°C	*128°C to 136°C*
30 min		*136°C to 146°C*

Shelf Life:

Storage Temperature	Shelf Life
< 4°C	> 1 year
23°C	6 – 8 weeks
30°C	3 – 4 weeks

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