

## FLAXPREG

### **Description:**

FLAXPREG is a range of pre-impregnated material based on an epoxy resin system and pre-treated Flax Fibers using the LINEO patented sizing technology.



Balanced fabric



Unidirectional (UD) fabric



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	Description	Epoxy part of the total weight	Width
<b>FLAXPREG UD 150</b>	UD fabric - 150gr of flax/m <sup>2</sup>	50%	1m
<b>FLAXPREG UD 180</b>	UD fabric - 180gr of flax/m <sup>2</sup>	50%	1m
<b>FLAXPREG BL 150</b>	Balanced fabric - 150gr of flax/m <sup>2</sup>	50%	1m
<b>FLAXPREG BL 200</b>	Balanced fabric - 200gr of flax/m <sup>2</sup>	50%	1m
<b>FLAXPREG BL 300</b>	Balanced fabric - 300gr of flax/m <sup>2</sup>	50%	1m
<b>FLAXPREG BL 550</b>	Balanced fabric - 550gr of flax/m <sup>2</sup>	50%	1m

### Mechanical properties:

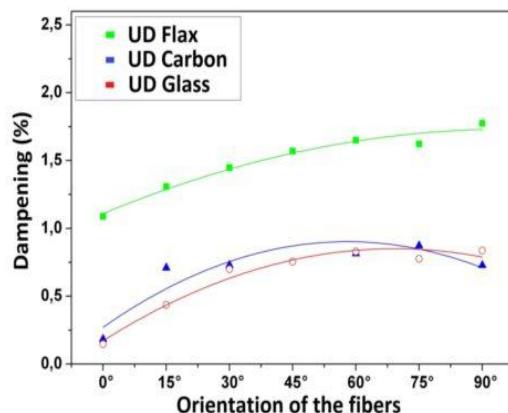
Mechanical results from a composite made with 12 layers of "FlaxPreg UD 180":

RATE OF FIBRES	By weight	65 %
	By volume	60 %
TRACTION (ISO 527)	Tensile strength	330 MPa
	Modulus	35 GPa
	Elongation	1.8 %
FLEXION (ISO 14 125)	Ultimate stress strength	300 MPa
	Modulus	22 GPa
	Elongation	2.4 %
THEORIC DENSITY		1.33 gr/cm <sup>3</sup>

### 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		127°C to 136°C
1 hour	130°C	135°C to 145°C
15 min		134°C to 144°C
30 min	140°C	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