

SAS LINEO

Natural flax fibers for Aeronautics



Right : FLAXPREG T-UD FR



Case History

SAS LINEO developed a flax prepreg satisfying the self-extinguishing constraints of Aeronautics !

In 2014, LINEO developed an advanced flax reinforcement impregnated with an epoxy resin, which meets the requirements of FAR 25-853a standard in terms of self-extinguishing. This prepreg is marketed under the name

FlaxPreg T-UD FR
(FR: Fire Retardant)

It can be used for non-structural and semi-structural parts in interiors of aircrafts of less than 20 passengers.



Helicopter's lateral cover



Air duct

The French Ministry of Defense supported this development and the Directorate General of Armaments (DGA) carried out all fire resistance characterizations so as to encourage the use of natural fibers in future tenders.

The reinforcement fibers:

The used reinforcement is a veil of long and parallel flax fibers. This natural veil, developed and marketed from 2013 under the name FlaxTape™, is the subject of an international patent application.



FlaxTape™ - UD flax fibers

The weights used for the production of "FlaxPreg T-UD FR" are from 50gr to 110 grams of flax fibers per square meter.

FlaxTape™ is an unidirectional reinforcement which only contains flax fibers. The fibers are aligned in one direction and all the bonds between the fibers are created with the cements naturally occurring in flax.

The FlaxTape™ reinforcements are very flat, which makes them easy to densify and reduces the quantities of resin required to fabricate composite parts. FlaxTape™ products are compatible with most resins and manufacturing processes of the composite industry.

FLAXPREG T-UD FR

Aeronautical Applications

• Advantages of « FlaxPreg T-UD FR »:

- ✓ The advanced reinforcement of orientated flax fibers is flat and light: available from 50gr/sqm till 110gr/sqm
- ✓ With a density of 1.45, flax is lighter than glass and carbon
- ✓ Mechanical properties of flax are similar to glass
- ✓ Better acoustic behavior brought by the damping properties of flax
- ✓ Flax may be used as the unique reinforcement fiber or combined with other fibers such as carbon or glass

• Key Features of the product:

- ✓ Self-extinguishing (FAR25-853a)
- ✓ Optimized mechanical properties
- ✓ Competitive price

<http://www.lineo.eu>

"The FlaxTape™ reinforcement allows to exploit the full potential of flax fibers!"

Joris BAETS, KU Leuven

