

2015

Innovation in Materials | **Winner: EcoTechnilin**

FibriRock - a 100% bio-sourced composite for aerospace industry comprising flax, basalt and waste-sugar-based bioresin

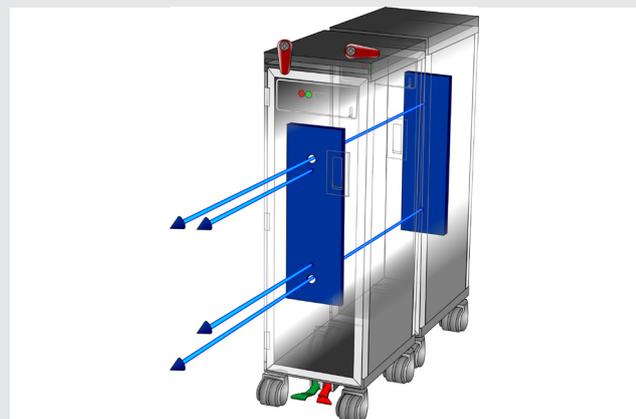
Overview

FibriRock is a 100% bio-sourced composite for aerospace industry comprising flax, basalt and waste-sugar-based bioresin. The FibriRock pre-preg supplied by EcoTechnilin is produced in an innovative way: both the material and the process are patented. The flax non-woven acts as a structural carrier for the resin system and as well as excellent mechanical and exceptional FST (Fire, Smoke, Toxicity) performance, the resulting composite can be cured in 150 seconds, 10 times faster than most competitive materials in then aerospace industry. The composite is highly mouldable which allows the edges of the honeycomb sandwich to be pinched and sealed in the tool; areas around fixings are also recessed with no loss of strength. FibriRock also won the sustainability prize at the 2015 JEC composites show in Paris.

FibriRock has first gone into production in the lightweight SmartCart: a fully certified galley cart which uses FibriRock panels and won a top award at the Hamburg Aircraft Interiors show. EcoTechnilin supplies FibriRock pre-preg blanks to ACT in Wales and composite panels are formed by using two skins of FibriRock outside a Nomex core. The panels for the galley cart are produced in a closed, heated tool system in a one-shot process with a cycle time of 150 seconds. FibriRock is mouldable so the edges of each FibriRock panel are pinched and sealed in the same tool. The SmartCart is assembled using only mechanical fixings and each FibriRock panel has recesses around each fixing to assist assembly. The prepreg contains a black pigment which allows the SmartCart to be supplied "bare" (with no paint or film). If a film or paint finish is required, they can be significantly cheaper than other aerospace solutions thanks to the excellent heat release performance of FibriRock.

Partners & collaborators

TransFurans Chemicals
Development and optimisation of bioresin system to meet the specification requested by EcoTechnilin



The Composites UK Industry Awards are presented at the black-tie dinner on the first Wednesday in November. The event is aligned with the Composites Engineering Show in Birmingham.

Keep an eye out for our annual nomination process each May for your chance to apply.

www.compositesuk.co.uk/awardsdinner

