

New, environmentally friendly and high performing thermal and acoustic insulating material based on banana tree fibres

Abstract

The CREPIM is one of the major European Laboratories for the approval of materials covered by various regulations. It is recognised by the French railway operator SNCF, and is accredited by COFRAC (European Accreditation) Located in the heart of Europe in France, CREPIM tests and develops fire-resistant formulas for companies working in the mass transportation sector (railway, aircraft and boat), in the building, electrical, and textile sectors. This led us to various collaborations with industrial partners.

One of our customers has recently developed a new process for the treatment of banana tree fibres and an international patent application has been filed claiming this innovative process (PCT application).

This process features the mechanical and chemical treatment of the banana tree fibres and leads to a fungi resistant, non combustible material and high performing thermal and acoustic insulating material.

The raw material can be processed as any rockwool and linen & hemp wool, to make insulation layer and textile for wall coverings. The banana tree fibre can be also projected on a substrate by air pulse or flocked on fire resistant requirement substrate. Also note that it appears as a cost efficiency application for all moulded lightweight equipments.

End use activities feature building materials (e.g. pressboards, insulating material, insulating material for sound insulation; landscaping (growing tubs for plants [substrates]), technical textiles: (e.g. heat protection clothing, geological textiles for erosion protection in road construction, road building, and water engineering.), low weight and high acoustic performances original equipment for automotive company and mass transport.

Description

Our partner looks for licencing activities and industrial partnership that can develop the end use activities connected with non woven insulating layer, pulsed & flocked coating and moulding applications.

Technical specification

The process is basic and does not require any implement and costly technological inputs. A wide array of end use specifications can be reached featuring various degree of strength and of flexibility.

First characterisations point out outstanding values of thermal isolation ($\lambda < 0.04$), non combustible performances (M ranking M0-M1-Euroclasse A2-B) and remains economically performant in comparison with other types of natural fibres (low cost and well identified raw material production capabilities all over the world)

Application domains

End use activities features

- ❑ Automotive and mass transport applications
- ❑ building materials (e.g. pressboards, insulating material, insulating material for sound insulation; paper Industry (e.g. non-woven fabrics,)
- ❑ landscaping (growing tubs for plants [substrates],
- ❑ technical textiles: (e.g. heat protection clothing, geological textiles for erosion protection in road construction, road building, and water engineering, belts.)

and more generally all application requiring lightweight, high insulating properties and fire resistant properties.

Collaboration details

Licensing agreement

Partner type

- ❑ Producers
- ❑ Traders
- ❑ Distributors

Activities area

- ❑ Original equipment manufacturers for cars
- ❑ Natural based insulating material producer for building and other application
- ❑ Fire resisting and fire retarding systems producers
- ❑ Fire resistant coating producers
- ❑ Fire resistant flocked product producers

