Selection, conditioning and pre-treatment of natural fibres for the reinforcement of moisture-resistant composite structural components
Background

Up to now, bast fibres have only been used to a limited extent in plastics and durable applications due to their high moisture absorption, which is why the DuroBast project aims to significantly reduce moisture absorption though fibre modification in order to considerably expand the range of applications for natural fibres.

Durobast objectives

The DuroBast project aims to develop innovative, 100% bio-based materials that can be used to manufacture structural components for various applications on a mass production scale. This includes the production of mouldable natural fibre-reinforced thermoplastics (NFRP) with low moisture absorption and improved mechanical properties, which are then tested in specific applications (bus bellows, automotive equipment, snowboards).
Bast fibres for buses, boards and automotive interior

The natural fibre-reinforced plastics developed in DuroBast will soon be used in the manufacturing of automotive interiors, snowboards and bus bellows.
Benefits of natural fibre-reinforced plastics

- Reduction of fossil based raw materials
- Use of renewable local raw materials
- Increased safety by producing durable, lightweight and low-splinter materials
- Support for local agriculture
- Wide range of applications (automotive, sporting goods, footwear, load-bearing components)
- 100 % bio-based components
Fibre pre-treatment is carried out to increase the stability and water resistance of the fibres: fibre cavities and interfaces are filled with thermoplastic material, which also prevents water absorption at damaged areas and cut edges of the composite.
Project consortium

Project lead

Fraunhofer LBF
Dr. Roland Klein
Schlossgartenstraße 6
64289 Darmstadt

durobast.de

Contact

Fraunhofer LBF
Dr. Roland Klein
Schlossgartenstraße 6
64289 Darmstadt

nova-Institut GmbH
Dušica Banduka
Leyboldstraße 16
50354 Hürth
dusica.banduka@nova-institut.de

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