



**DURO  
BAST**



**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 through 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.

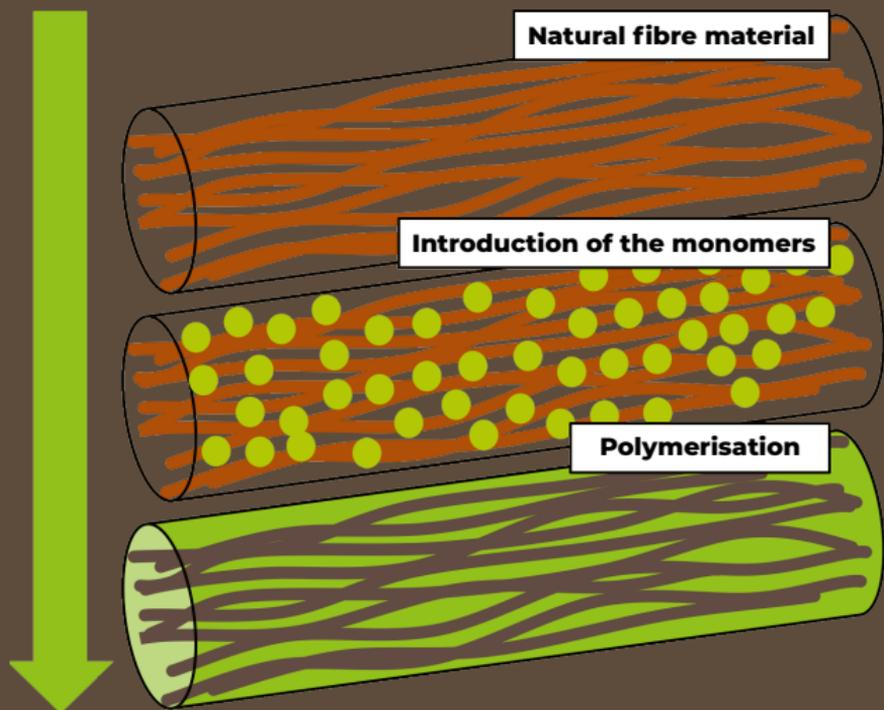


## Benefits of natural fibre-reinforced plastics

- 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



## Optimisation through cavity polymerisation



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



[durobast.de](http://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](mailto:dusica.banduka@nova-institut.de)



Bundesministerium  
für Ernährung  
und Landwirtschaft

The DuroBast project receives funding from the Federal Ministry of Food and Agriculture on the basis of a decision by the German Bundestag under FKZ: 2220NR090E.



Fachagentur Nachwachsende Rohstoffe e.V.

### Project period

01.03.2021 – 29.02.2024