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EnTreHeaT – Enzymatic surface treatment of biogenic hemp bast strips for incorporation into high-performance composites

Problem / Motivation

High-performance fibre composite components made of peeled green hemp bast exhibit insufficient fibre-matrix adhesion, which can lead to delamination as well as to a lower mechanical performance of the composite components

→ Improvement of the surface interaction between hemp bast material and common thermoset matrices

Solution

- Biotechnological pretreatment of hemp bast surfaces for direct coupling between fibre and matrix
- Development of a modified spraying process with minimal amounts of liquid compared to standard enzymatic reactions
- Development of a hemp bast strip feeding device to the knitting machine's knitting point

Project Launch

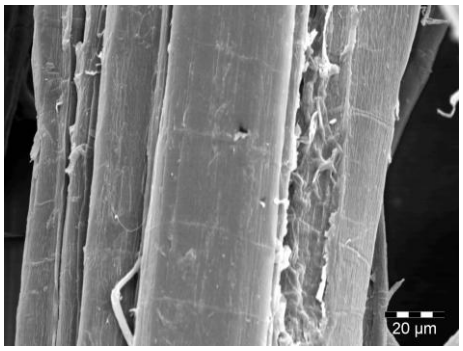
06/2025

Project Partner

Faserinstitut Bremen e.V. FIBRE

InoTEX s.r.o. (CZ)

Hemp bast peeled



Enzymatically treated hemp bast

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