Sächsisches Textilforschungsinstitut e.V.

Affiliated institute of the University of Technology Chemnitz

Managing Director: Dr. Heike Illing-Günther
Annaberger Straße 240 | 09125 Chemnitz | Germany | Phone: +49 371 5274-0 | Email: stfi@stfi.de | www.stfi.de

SustAbsorbHair – Textile oil absorber made from human hair

Problem / Motivation

- One of the biggest environmental risks worldwide is water pollution caused by oil, as just one drop of oil can contaminate up to 1000 liters of water
- Current measures to remove oil spills, chemically and mechanically, are associated with great expense and great technical effort, or themselves consist of environmentally harmful components and methods (microplastics from material discharge, “in-situ-burning” of oil slicks)
- The project aims to develop a cost-effective, user-friendly textile oil absorber product, made from 100 % natural materials with comparable performance to standard market products
- The basic material of the absorber is human hair – a waste material generated in large quantities as cutting waste in hair salons and households, which is currently sent for thermal recycling as residual waste at high cost

Solution

- Characterisation of the raw material in delivery condition, resulting in the development of a supply chain and potential process chain
- The textile absorber is based on a structure-optimised nonwoven fabric made of human hair
- Development of a ready-to-use, easy-to-operate and floatable oil absorber or system for oil-water separation
- Testing of the product/system under real operating conditions in cooperation with the city of Kiel

Project Launch

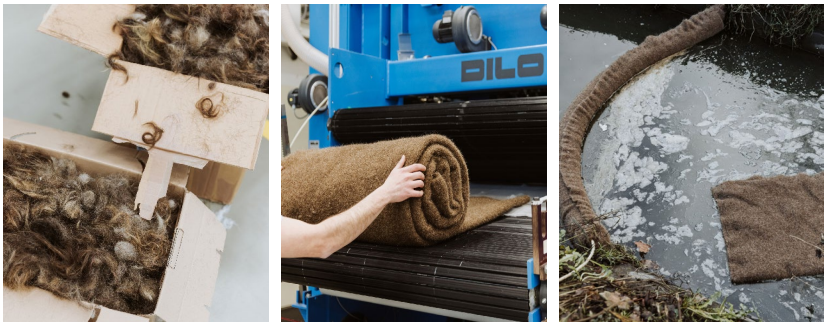
02/2025

Project Partner

Groz-Beckert KG,

FettFressHair,

Landeshauptstadt Kiel



Human hair (left) being mechanically processed into an oil absorber (centre) and in application testing (right; © FettFressHair/Groz-Beckert)

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Contact: Dipl.-Des. (FH) Tina Borchert, Phone: +49 371 5274-259, Email: tina.borchert@stfi.de
Patrick Engel, M. Sc., Phone: +49 371 5274-209, Email: patrick.engel@stfi.de

www.stfi.de

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