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

HybFil – Hybridnonwoven for Filtration Applications

Problem / Motivation

- Homogeneous single layer nonwoven structures are often unable to adequately meet the increasingly complex requirements for filter media
- High separation efficiency with low pressure drop are the general performance targets for filter media
- The project´s innovative concept is to combine different nonwoven structures to create hybrid structures which offer improved properties as filter media
- The research focuses both on the technical and technological feasibility of manufacturing the hybrid nonwovens and on evaluating the economic impact

Solution

- Wetlaid technology is particularly well-suited for producing thin and highly uniform functional layers
- The processing of short fibers–including recycled fibers, where applicable–can yield functional layers that cannot be produced using conventional nonwoven formation methods (e.g., electrically conductive; high-temperature resistant; chemically resistant)
- Wetlaid layers are combined with meltblown, spunbond, needle-punched, spunlaced, or knitted nonwoven layers to form hybrid structures; their mechanical and filtration properties are determined and compared with those of reference materials
- Mechanical, chemical, and thermal processes are investigated for the production of these composite layers

Project Launch

07/2025

Pilot scaled Wetlaid line at STFI (Foto: ©Hanus/STFI)

Danksagung

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Contact: Dipl.-Ing. Chem. (FH) Johanna Spranger Phone: +49 371 5274-218 Email: johanna.spranger@stfi.de
Patrick Engel, M. Sc. Phone: +49 371 5274-209 Email: patrick.engel@stfi.de