

Nonwoven pipe – Basic analyses of the correlations between flat needed nonwovens and round needed pipes made from them as well as their possible applications

Problem / Motivation

- Comprehensive research into the interdependencies between material, design and process parameters as variables influencing the properties achieved in round needed non-woven pipes (Rontex process)
- Development of a standardised and data-based foundation for the predictable generation of specific properties of circular needed nonwovens
- Development of a planning tool for industrial companies to use in product development and optimisation



Solution

- Creation and execution of a targeted test plan using statistical test analysis for the combination of flat-needed nonwovens and subsequent circular-needed nonwovens, each for the starting material polyester fibres and carbon fibres
- Determination and description of the interdependencies of material use and processing on the properties of the manufactured nonwoven pipes, using multivariate regression analysis
- Transfer to commercial processes in the form of specialist presentations, publications, trade fair appearances, advice for interested companies and transfer of the results to industrial scale via the project support committee

Project Launch

02/2023

Project Partner

Hof University, Institute for Materials Science (ifm)



Nonwovens used in the project (left), production of flat needed nonwovens at STFI (centre) and DILO Rontex machine at Hof University of Applied Sciences (right)



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