

VliesComp12 – PA12 staple fibres for nonwoven-based hybrid materials

Problem / Motivation

- Application of PA12 is particularly suitable for safety-critical structures due to its low density of 1.01 g/cm³, low water absorption of 0.8 wt.-%, and the resulting dimensional stability
- Insufficient data on the processing of PA12 into staple fibres and limited knowledge of the adhesion mechanisms between PA12 and recycled carbon fibres (rCF)
- Validation of the processability of PA12 into staple fibres and validation of textile processing parameters for the production of hybrid reinforcement structures (with focus on rCF)

Solution

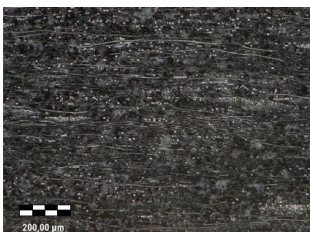
- Conducting spinning trials of various polymer modifications for optimal textile processing
- Development and characterisation of rCF hybrid nonwovens with PA12 as:
 - Staple fibre > 30 mm in the carding process
 - Staple fibre < 30 mm in the wetlaid process
 - Powder processing in the wetlaid process
- Reduction of the CO₂ footprint by approx. 40 % compared to the reference materials

Project Launch

08/2023

Project Partner

currently none,
open for enquiries



rCF-TP mixed fibre semi-finished product



Carbon fibre pilot plant at STFI: Production of mixed fibre nonwovens

INNO-KOM

Supported by:



on the basis of a decision
by the German Bundestag

Acknowledgement

We would like to thank the Federal Ministry for Economic Affairs and Climate Protection for funding the research project VliesComp12 (Reg.-Nr. 49VF220059) within the funding programme "FuE-Förderung gemeinnütziger externer Industrieforschungseinrichtungen – Innovationskompetenz (INNO-KOM) – Vorlauforschung (VF)".

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05/10/2023