

EpoHyb – Hybrid yarns made from spinnable epoxy resins with glass and carbon fibres

Problem / Motivation

- Hybrid yarns made from thermoplastic and reinforcing fibres (glass/carbon) are well established and enable efficient impregnation and high-quality laminates.
- There is actual no comparable hybrid yarn solution for thermoset matrix systems.
- Standard thermoset fibres on the market are already chemically cured and are therefore no longer suitable for impregnation and processing.
- To address this, latent, uncured epoxy resin-hardener mixtures are to be combined with glass or carbon fibres.



Solution

- The aim is to develop hybrid yarns with thermosetting matrix fibres in order to open up new possibilities for lightweight construction using fibre-reinforced plastics.
- Production of the hybrid yarns via two possible methods:
 - Simultaneous spinning process: Glass and epoxy resin fibres are spun together and commingled
 - Separate production: Epoxy resin filament yarns are first spun individually and then combined with reinforcing fibres such as carbon fibres, for example by side-by-side assembly
 - Research into further processing into textile fabrics using tailored fibre placement and weaving processes
- Collection, provision and processing of data on material flows, resource consumption and processes involved in processing and the manufacture of semi-finished products (LCA – Life Cycle Assessment).

Project Launch

04/2025

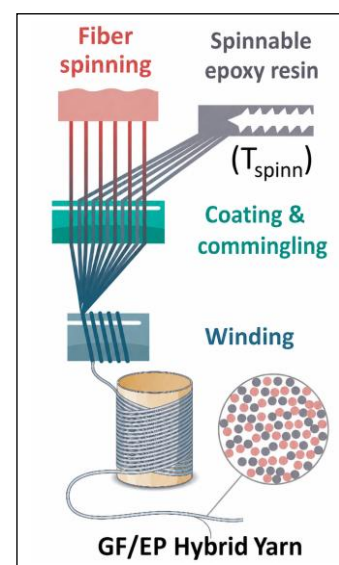
Project Partner

Leibniz-Institut für Polymerforschung Dresden e.V.

19 companies as members of the project steering committee

Acknowledgement

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