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Fraunhofer Institute for Casting,
Composite and Processing
Technology IGCV

Wetlaid Technology



Pilot Line on Industrial Scale



Innovative Paper Technology

»Wetlaid technology for processing technical fibers is currently experiencing a revolution following centuries of papermaking tradition.«

Pilot Line Specifications

- Processing speed: up to 30 m/min
- Role width: 614 mm
- Grammage: approx. 20–250 gsm
- Role length per batch: approx. 90 m
- Mass throughput: Up to 55 kg/h (but limited to batch operation in 1st stage)
- Single layer head box (1st stage)
- Modular Head Box design specifically adapted for technical fibers
- Overall machinery is entirely \geq IP65 standard
- The machine setup allows for hardware upgrades or project-specific modifications
- Setup with a very high flexibility for a wide range of fiber variants and additives

Research Focus Topics

- Main Focus is the development of wetlaid nonwovens from recycled carbon fibers (rCF)
- Optimization of nonwoven homogeneity
- Influence of binder systems
- Influence of fiber length and fiber length distribution
- Influence of fiber orientation
- Synergy between semi-finished product and fiber-composite product level
- Production of very variable area weights
- Integration of online process monitoring
- Identification of robust process windows with high product reproducibility

Upcoming Topics

- Gas diffusion layer (GDL) for H₂ fuel cell
- Battery electrode and separator materials
- Healthcare products
- Filtration products
- and maybe your requirement or application

Our Reference Projects



ScrapSeRO

»From scrap to secondary resources – highly orientated nonwovens from CFRP-waste«

www.igcv.fraunhofer.de/maiscrapsero_eng



NGST

»Next Generation Schutztextilien – efficient production of new, high-quality infection protection textiles«

www.igcv.fraunhofer.de/ngst_eng

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Title: © alibray – stock.adobe.com / Inside: left: wetlaid pilot line; middle: recycled carbon fibers © Christian Strohmayer; right: processing of hybrid nonwovens © Fraunhofer IGCV