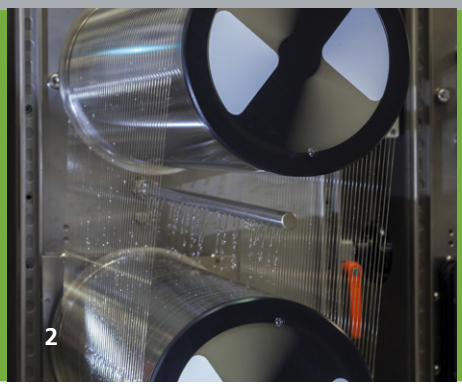
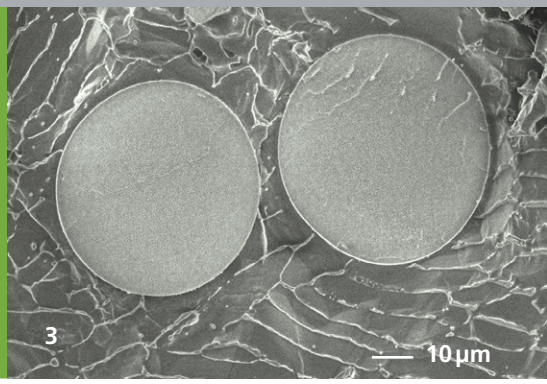
Fraunhofer

IAP

FRAUNHOFER INSTITUTE FOR APPLIED POLYMER RESEARCH IAP





1 *View on the pilot plant of the Fraunhofer IAP.*
2 *Washing rollers of the wet-spinning line.*
3 *Picture of a never-dried fiber by electron microscopy.*

FIBER TECHNOLOGY

Capabilities

Fibers, nonwovens and films for technical and textile applications as well as corresponding processes for manufacturing are in the focus of the industry-oriented works of the department fiber technology.

Wide and variable machinery for solution and melt spinning in laboratory plus pilot plant scale are available. The usage of biopolymers like cellulose, lignin, proteins or poly lactic acid and the development of environmentally, efficient spinning technologies play an important role.

In the application of regenerated cellulose technologies focus is placed on environmentally friendly alternatives, such as lyocell technology and the carbamate process, in addition to viscose processes.

In combination with the broad analytical methods for structure characterization at the Fraunhofer IAP it is possible to identify directed structure-property-correlation to get conclusion for the appropriate spinning technology, whereby optimum material properties can be generate.

Services

- development and adaption of the wet-spinning process on customer specific polymers
- processing of dope according the lyocell technology
- melt-spinning of new thermoplastic materials
- development of high performance fibers like carbon or hollow fibers
- pulp and viscose (Treiber) characterization

Equipment

- diverse solution aggregates (rotor/stator, kneader)
- facilities for rheological characterization of spinning dopes
- video supported microscopy
- Blaschke pilot plant viscose equipment (10 kg viscose)
- LIST horizontal kneader Discotherm B63 (50 kg Lyocell dope per hour)
- adjustable wet spinning lines (up to 3 k)
- BiCo melt spinning line (Fourné)
- shaping machinery to produce fibers, nonwovens and films

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