



WE OFFER YOU

- polymer development
- resin formulation and synthesis
- structural resins (e.g. epoxides, polycyanurates)
- thermosets for lightweight applications
- commodity resins (e.g. unsaturated polyester, phenolic resins)
- new measurement techniques for polymer characterization
- polymer analysis
- implementation of new technologies and their adaptation to specific production peculiarities

RANGE OF APPLICATION

- automotive
- aerospace
- railway transportation
- naval architecture
- wind turbines
- sports and leisure
- construction engineering



CONTACT

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POLYMERIC MATERIALS AND COMPOSITES

OUR EXPERTISE – YOUR SUCCESS





EXPERTISE IN ALL KINDS OF POLYMER-BASED LIGHTWEIGHT TECHNOLOGIES

The research division Polymeric Materials and Composites PYCO at the Fraunhofer Institute for Applied Polymer Research IAP is your competent partner when it comes to the research and processing of thermosetting resins and fiber-reinforced materials. Our scientists have years of experience in developing polymer systems along the whole supply chain, from monomers on up to the finished part. We can offer you individual solutions thanks to our state-of-the-art equipment and technologies.

SERVICES

- synthesis and formulation of thermosetting resins
- development and modification of polymers and composites for applications in lightweight design
- processing of polymers
- alternative curing (microwave, UV, IR, 190 keV electron-beam)
- repair and recycling of polymers and fiber-reinforced plastics
- application-oriented analysis for product introduction
- consulting, preparation of studies and expert reports

MATERIAL DEVELOPMENT

- fiber-reinforced polymers, multilayer composites, core materials, sandwich structures (also in combination with other materials, e.g. metals)
- prepregs, laminates
- adhesives, fillers, coatings, laminating casting resins, foams, thin functional layers
- integrated optical components, barrier layers
- radiation-curable thermosets (UV, microwave, e-beam)

PILOT PLANTS

- horizontal and vertical pilot impregnation plants
- microwave plant (8 m³ microwave oven and continuous microwave plant) equipped with dielectric spectroscopy and IR modules
- UV curing (UV LED systems, mercury-vapor lamps)

CHARACTERIZATION

- testing and characterization of polymers and composites
- development and advancement of special characterization methods (e.g. Optical Crack Tracing (OCT) for determination of fracture toughness)
- fire smoke toxicity (cone calorimetry, limiting oxygen index)

