



## Institute

The main research activities of the Fraunhofer Institute for Wood Research WKI in Braunschweig are the manufacture and improvement of innovative wood-based composite materials such as particleboards, fibreboards and wood-polymer composites (WPC), the development of durable coatings based on renewable resources, measurements of emissions and application of non-destructive techniques for various materials and products. In addition, Fraunhofer WKI is working in the following areas: Building physics, including natural and artificial weathering, weathering simulations, corrosion protection, evaluation of hygrothermal material properties, and fire safety.

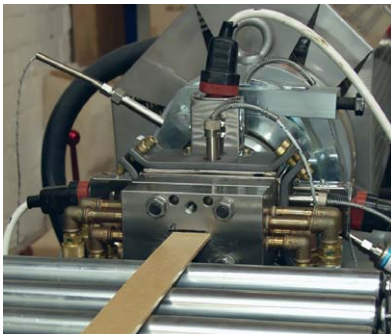
## Services

We can produce wood and natural fiber-based composites using various techniques such as extrusion and hot-pressing and determine their mechanical, thermal and physical properties according to your requirements. We have equipment for reducing wood and other lignocellulosics to chip form, for sieving and sorting as well as drying. A laboratory-scale refiner plant with a double disc refiner can be used to produce thermomechanical pulp (TMP) and chemo-thermomechanical pulp (CTMP) from various lignocellulosic materials. Resins and additives can be added to lignocellulosics using blow-line application in our refiner plant. Hollow-core profiles or tapes can be manufactured on a conical, counter-rotating twin-screw extruder (54 mm screw diameter). A parallel, co-rotating compounder, a thermokinetic mixer and a Palltruder (plast agglomerator) can be used to prepare compounds.

### Current WPC research projects are:

- Use of refiner wood fibres (TMP fibres) for WPC extrusion
- Preparation of polymer blends based on engineering polymers in virgin and recycled forms
- Bonding of WPC profiles
- Coating of WPC with Water-based, solvent-free coatings

Fraunhofer WKI is an accredited testing laboratory for WPC decking according to the "Qualitätsgemeinschaft Holzwerkstoffe e.V." in Gießen, Germany.



## FRAUNHOFER INSTITUT FÜR HOLZFORSCHUNG (WKI)

### Foundation

- 1946

### Employees

- 117

### Branches

- Wood-based Panels and Wood-Polymer Composites Industry, Coatings, Wood Engineering and Construction, Fire Safety, Emissions

### Key materials

- Wood, Natural fibres, Refiner fibres, Wood-based Panels, Wood-Polymer Composites, Coatings

### Key products/services

- Wood-based Panels, Wood-Polymer Composites, Coatings

### Contact

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