We have placed particular emphasis on the use of environmentally-friendly materials in the production of this brochure.

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Coatings protect surfaces, are functional or simply decorative. Committed to the environment, the researchers from the Surface Technology department develop paints and adhesives on the basis of vegetable oils, sugars, lignin and bio wastes. We carry out research for our customers on the entire value chain of wood coatings and adhesives, including the synthesis of binders, formulation and application of coatings. Method development of weather-related aging processes, standard tests and damage analysis complete our profile. We examine the products in their entirety and are therefore your competent research partner at every stage of the development.

Research focuses

Printing inks
In collaboration with our industry partners, we develop innovative printing inks for a multitude of printing applications. Our research is focused on the use of renewable raw materials and the substitution of harmful constituents in printing inks, in order to make an important contribution towards the production of sustainable printing inks.

Adhesives
We develop adhesives for wood and wood-based materials. Our focus is placed upon the synthesis of acrylate and polyurethane-based binders as well as their precursors. A further priority is the production of water-based dispersions and the application of bio-based source materials.

Aging/weathering of coating systems
The development of methods for practicable prediction in weather-induced aging is a core topic. Furthermore, we also offer standardized tests for natural and accelerated weathering.

Paints for wood coatings
We develop functional coatings for indoor and outdoor use. Antimicrobial, hydrophobic, oleophobic and haptically pleasant surfaces form the focus of our development work. We specialize in conventional dispersions, reactive systems and UV-curable coatings.

Bio-based polymers
We develop binders on the basis of sugars, vegetable oils and lignin. The main applications are wood coatings, glass coatings, plastic coatings and wood adhesives. Our research is also focused upon low-solvent and solvent-free binders and water-dilutable dispersions.

Damage analysis
We perform damage analyses on coated wood, wood adhesions, wood-based materials and solid wood. This requires a combination of practical experience and the application of special scientific and forensic methods which are continuously developed further.

Synthesis of monomers and polymers
- Customized modification of renewable materials such as sugars, fatty acids and lignins
- Polysters, polyurethanes, alkylds, poly(meth)acrylates, sugar acrylates, polyitaconates, polyvinylacetates, UV-crosslinking polymers
- Dispersions

Development of coatings and printing inks
- Coatings on the basis of renewable resources
- Aqueous and solvent-based coatings in accordance with Decopaint and VOC Directive
- Interior coatings, exterior coatings
- UV-curable printing inks, thermoplastic screen printing inks
- Functional coatings (antimicrobial, hydrophobic, flame retardants, adhesion to PE, PP)

Development of adhesives
- Dispersion adhesives
- Hotmelts / reactive hotmelts
- 1- and 2-component PUR adhesives
- UV-curable adhesives

Application, measurement and testing procedures
- Paint laboratory with robot-aided flow and spray-application, roller coating
- Natural (45° and 90°) and artificial weathering (QUV, XENON)
- Mechanical, chemical and physical measurement methods incl. temperature-dependent stress-strain diagrams, DMA, FTIR microscopy, paint analysis, MFFT, pendulum hardness
- Product testing and monitoring
- Development of new methods for the determination of paint aging
- Committee work (CEN/TC 139/WG 2 and DIN NA 002-00-15 AA “Coatings for masonry”)

Damage analysis
- Analysis of defects in coatings, adhesions, wood-based materials and solid wood
- Application of microscopic, spectrosopic, mechanical and forensic methods
- Clarification of damage cases for companies, courts of law and assessors