

## The Biopolymer Company: A pioneer and one of the innovation and technology leaders in the global bioplastics industry

High-quality bioplastics – from Ilsfeld to the world. TECNARO stands for technologies for the industrial use of renewable raw materials in plastics processing.

From the finest fibers for yarns and textiles, to completely chemically safe baby toys, to massive molded parts such as the “lost core” for all carbon-ceramic brakes manufactured by Brembo SGL Carbon for, for example, Porsche and Formula 1.

Inspired by the environmental conference in Rio de Janeiro, Jürgen Pfitzer and Helmut Nägele began researching CO<sub>2</sub> reduction potential in the plastics industry at Fraunhofer ICT in 1996.

With their groundbreaking invention “**ARBOFORM® – liquid wood**” the two founded TECNARO GmbH in 1998 as one of the very first spin-off companies of the Fraunhofer Society and one of the first companies in the world to focus exclusively(!) on the production of bioplastics. The goal was and remains the further development, production, and distribution of the lignin-based bioplastic “Liquid Wood” ARBOFORM®, as well as the other TECNARO materials **ARBOBLEND®** (biopolymer compounds) and the natural fibre-reinforced composite material **ARBOFILL®**.

TECNARO thus replaces fossil raw materials such as petroleum with sustainably available plant-based raw materials such as lignin, starch, sugar. TECNARO stands out not only for its modern, environmentally conscious solutions, but also for its tangibly superior bioplastic granules, which are gaining market share in competition with fossil-based raw materials and plastics produced by large chemical companies. Thanks to the ingenuity of the TECNARO team – which now numbers nearly fifty – and the challenges posed by the multitude of customer inquiries, **over 6,000 formulations** have been developed for a wide variety of mass-production applications. Its customers include companies such as the Gucci Group, Fujitsu, Benetton, SGL CARBON, UHU, and Edding.



### FOUNDATION

- 1998

### EMPLOYEES

- Approx. 50

### KEY MATERIALS

- Lignin and lignin derivatives
- Polyactic acid, polybutylene succinate, bio-polyethylene, polycaprolactone, bio-polyamide, starch, natural resins and waxes, cellulose and natural fibres

### KEY BIO-BASED PRODUCTS

- **ARBOFORM®:** Liquid Wood: At the heart of all TECNARO innovations lies the invention of a material that sets new standards!
- **ARBOBLEND®:** The sustainable revolution for your innovations!
- **ARBOFILL®:** Aesthetic, functional, and cost-effective compounds made from renewable raw materials

### KEY SERVICES

- Technical Consulting
- Material Development and Customization
- Product Testing and Approval
- Manufacturing and Delivery
- Sustainability and Marketing

### BRANCHES

- Compounding
- Bio-based and biodegradable materials e.g. for toys, automotive, furniture, electronics, music instruments, packaging, office, building and construction industries as well as in funeral business, agriculture and forestry

### CUSTOM MATERIALS TAILORED TO YOUR NEEDS

In addition to our superior standard solutions, we develop custom materials specifically tailored to your applications – which means maximum efficiency, higher product quality, and a clear competitive advantage for you.

## TECNARO's excellent bioplastic granules for your success: Anything is possible – without costing the earth!

### ARBOFORM® Family

- 100 % renewable raw materials
- Biodegradable
- Recyclable
- Burrwood or natural fibre appearance
- High stiffness
- Low shrinkage
- Excellent acoustic properties
- Medium to high heat resistance
- Natural odour or odourless
- Production of carbon moulded parts via pyrolysis
- Alternative to real wood, wood-based materials, and conventional plastics



### ARBOBLEND® Family

- Made from up to 100 % renewable raw materials
- Biodegradable or resistant to microorganisms over the long term - even under anaerobic conditions and in water
- Recyclable
- Available in a range of finishes, from natural fibre look to high gloss and transparency
- Stiffness and viscosity adjustable over a wide range
- Medium to very high impact strength
- Medium to high heat resistance
- Food-safe
- Good printability and bondability
- Good colourability using standard masterbatches
- Flame retardancy, transparency, translucency, and high scratch resistance possible
- Serves as a material alternative to (L) LD-PE, HD-PE, PP-Copo, PP-homo, PP-GF, PS, HI-PS, ABS, TPE, PVC-P, PA, PA-GF

### ARBOFILL® Family

- Up to 80 % made from renewable raw materials
- Recyclable
- Natural appearance with visible natural fibres
- Medium to high impact strength
- Medium to high heat resistance
- Food-safe grades
- Dishwasher-safe
- Fiber optics in spruce, beech, coconut, or solid colours
- Serves as a material alternative to HD-PE, PP-Copo, PP-homo, PP-GF, PS, HI-PS, ABS
- ISCC Plus-certified grades

for more information



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