



Your Materials Expert

The materials for tomorrow - already today!

Read Deck - 2024

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Overview



Slide(s)	What to read?
1	Who are we and where to find us?
2	Biocompounds for the Raw Material Change
3-4	Our Part in the Supply Chain & Added Value
5-10	Customized Development & Product Portfolio
11	Profile Extrusion
12-13	Exemplary Applications & Success Stories
14-15	Further Fields of Innovation

Who are we and where to find us?

Founded: 2011, as a subsidiary of LWB Steinl GmbH & Co KG

Today: Joint Venture of...



&



ANVIS Group



HQ /Development & Innovation; Landshut & Straubing, Germany



Production: Indust. Scale | current production capacities: 8000 tons/year; Epinal, France



"Biofibre Americas": Sales & Business Development for all Americas; São Paulo, Brasil

BIOCOMPOUNDS FOR THE RAW MATERIAL CHANGE

From the idea to market maturity -Cross-industry development partner with modern industrial production possibilities.

Tailor-made material innovations.

Developed biomaterials can be processed by common **state-of-the-art methods** (e.g. injection molding).



Material expertise & processing competence - together we realize your ambitions!

Our Part in the Supply Chain & Added Value



Distibre

Our Part in the Supply Chain & Added Value



4

b fibre

Customized Development & Product Portfolio



b fibre®



bioSustra

Biofibre® BioSustra – a compound with a CO2 negative matrix for the products of tomorrow. The name "Sustra" is derived from the English word "Sustainability" and thus symbolizes the sustainability of this product group.

CO2 negative PP binder # natural fibre reinforced # For complex products with long flow paths at low wall thicknesses# Exemplary Application: durable applications (e.g. automotive or construction industry), rigid packaging/durable consumer goods

Material Specifications			
E-Modulus/[MPa]	1800-2500		
Yield Strength/[MPa]	20-26		
Strain at Break/[%]	4-8		
Notched Impact Strength (Charpy)/[kJ/m ²]	5.5 (fracture)		
Hardness	n.n.		
Melt Flow Rate [g/10min]	25		
Melting Range/[°C]	160-170		
Heat Deflection Temperature/[°C]	96		
Density/[g/cm ³] (Inj. Mold. Part)	0.98		
Food Contact Tests	under investigation		
Processing Methods (proven)	injection molding		
Exemplary substitute for	PP, HDPE		



bit fibre Silva

The Biofibre® Silva product group contains the essence of Biofibre®. These are compounds based on a biopolyester matrix and wood fibers. The name "Silva" is based on the Latin origin for "forest" and thus symbolizes the importance of the naturalness of this product group.

Natural look & feel # All binder ingredients industrial compostable (DIN EN 13432)# Exemplary Application: Commodity products, rigid packaging, toy industry

Material Specifications				
E-Modulus/[MPa]	2000-4200			
Yield Strength/[MPa]	43-50			
Strain at Break/[%]	2-3			
Notched Impact Strength (Charpy)/[kJ/m2]	2.2 (fracture)			
Hardness	78 (Shore D)			
Melt Flow Rate [g/10min]	21-25			
Melting Range/[°C]	150-160			
Heat Deflection Temperature/[°C]	<54			
Density/[g/cm ³] (Inj. Mold. Part)	1.28			
Food Contact Tests	under investigation			
Processing Methods (proven)	injection molding, 3D printing, blow molding			
Exemplary substitute for	PS, PET			



wide world of colors

bit fibre Lenta

bistibre[®]

In the field of bioplastics, Biofibre® Lenta serves the desire for specific material requirements in the area of toughness and strength. The name "Lenta" is derived from the Latin origin "lenta", meaning "tough", and indicates the very stable material properties of this product group.

For tough environments # All binder ingredients industrial compostable (DIN EN 13432)# Exemplary Application: Shoe trees, stationery industry

Material Specifications			
E-Modulus/[MPa]	3500-4000		
Yield Strength/[MPa]	35-50		
Strain at Break/[%]	10-14		
Notched Impact Strength (Charpy)/[kJ/m ²]	no fracture		
Hardness	78 (Shore D)		
Melt Flow Rate [g/10min]	14		
Melting Range/[°C]	150-160		
Heat Deflection Temperature/[°C]	<54		
Density/[g/cm ³] (Inj. Mold. Part)	1.33-1.41		
Food Contact Tests	yes (TÜV Rheinland)		
Processing Methods (proven)	injection molding		
Exemplary substitute for	ABS, PC/ABS		



bit fibre Solva

bit fibre®

Biofibre® Solva is a material blend of a wide variety of biopolyesters. The name "Solva" is derived from the Latin origin "solvere", meaning "to dissolve", and indicates the possibility of soil degradability of this product type.

Ability to degrade in soil # For flexible products# Exemplary Application: Tree Protection

Material Specifications			
E-Modulus/[MPa]	50-300		
Yield Strength/[MPa]	9-12		
Strain at Break/[%]	12-450 (>)		
Notched Impact Strength (Charpy)/[kJ/m ²]	10 (fracture)		
Hardness	n.n.		
Melt Flow Rate [g/10min]	28-34		
Melting Range/[°C]	80-120 (>)		
Heat Deflection Temperature/[°C]	46-61		
Density/[g/cm ³] (Inj. Mold. Part)	1.22 - 1.26		
Food Contact Tests	under investigation		
Processing Methods (proven)	injection molding		
Exemplary substitute for	LDPE, HDPE		



wide world of colors

Construction & contract manufacturing of high-quality WPC (Wood Plastic Composite) and **Natural Fibre Composite Granules**

- Regranulation or refinement of plastic regrinds
- Production on, among others, an inhouse-developed 12-zones natural fibre extruders (L/D 40) (special screw design allows a gentle & homogeneous processing with a final residual moisture of frequently <0.5%)
- Special Extruder Setups allow various profiles and sizes (e.g. deckings, handrails, baseboards, door panels; up to 250 mm x 250 mm)
- Usage of a wide variety of raw materials (e.g. PP, PE, PLA, PVC)
- Advantages WPC in comparison to neat synthetic plastics. e.g. a potential lower price, natural look & feel (fibres), customized technical properties (e.g. higher stiffness, lower coefficient of thermal expansion







Natural Fibre Composite Granules











Exemplary Applications & Success Stories

Consumer Goods



Project goal: production of a highly biobased jewelry box with a clear appearance of fiber optics/high quality haptic Material Solution: Biofibre Silva Current Status: on the market



Toy Industry

Material Solution: customized **Current Status:** prototypes

Find here an article about this project.



Project goal: material solution with highly biobased raw material components Material Solution: Biofibre Lenta Current Status: on the market



Furniture

Material Solution: Biofibre Silva Current Status: on the market

12

Exemplary Applications & Success Stories

blothbre

Agriculture/Forestry



Project goal was:

substitute for LDPE bite protection cuffs

Biofibre's contribution:

~ ½ year development support to gain an exceedingly flowable granule
(→ filigree tips and webs can be sprayed completely) without any sign of brittleness of the final product even after 1 year on terminal sprout

Current Status:

product on the market since 2019

Building & Construction



ECO SPACER® BY BIOFIBRE®

Project goal was:

- biobased & biodegradable solution for the existing granulate rock layer
- specific mechanical properties (pressure load & elasticity)
- grain shape

Biofibre's contribution:

- > around 1.5 years material development
- parallel ongoing partnering to tackle the customers needs

Current Status:

product on the market since 2018



Further Fields of Innovation – Moor Grass Composites

30-40 tons* CO₂ per year per hectar \rightarrow > 6,5 million tons in Bavaria^{**}



Functioning peatlands have impressive capacities as natural carbon reservoirs, BUT only if they are rewetted!

Distibre



Further Fields of Innovation – Paper Fibres





Fakuma Showcase: Game Nine Men's Morris - the focus for the bricks was on the use of paper fibres in the injection moulding process - this was demonstrated as a masterbatch solution.

- ✓ Main component: paper fibres
- ✓ Primary & secondary paper fibres possible
- ✓ Overall aim: recyclable in the paper stream
- ✓ Processable with state of the art Injection Moulding
- ✓ Today: possible applications limited to less complex geometries, but with great potential, e.g. for packaging solutions (caps, …)
 - → estimated Technology Readiness Level: ~5-6

Search for partners with concrete use cases for piloting/prototyping in

order to further develop and scale up to market maturity in a targeted

IVNDFI

ARBURG

Do you have any questions or need further informations?

We look forward to supporting you in tackling your challenges!



Contact us:

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