

# **High Performance and Renewability** developed in waterborne polymers for coatings and inks

Focus on BIO Based Resins Renewable Carbon Content

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# Highlights.

Lamberti: Experties & Solutions

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2 Roadmap in Biobased polymers **3** Product offer for Coatings & Inks



# Our technological expertise

### Natural polymers,

carboxymethyl cellulose and hydrocolloids Waterborne synthetic polymers acrylic and poyurethanes

**Polymer beads** acrylic and polyurethanes Hydroxyapatite

Oleochemicals and fatty derivatives

Active ingredients for cosmeceuticals

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# Systemic solution provider

## $\rightarrow$ Agriculture

We aim to feed the world minimizing the consumption of natural resource

### $\rightarrow$ Geoscience

Innovative, tailor made and fit for purpose chemicals for the Oil & Gas, Tunneling, Civil Engineering and Mining Industries

# → Personal Care

**Experience and Vision** 

# $\rightarrow$ Ceramic and glassware

Our heritage to built an innovative ceramic hub

## $\rightarrow$ Food and regulated industries

A long and strong heritage allows us to offer natural polymers with high degree of purity

# $\rightarrow$ Surfactants

An extensive chemistry to optimize a variety of industrial applications

### → Surface treatment

Our tailor-made solutions and products reveal the ingenuity in approach of the diverse applications for coating and inks industries.

### $\rightarrow$ Leather for tanneries

High performance products for leather finishing

## $\rightarrow$ Leather for formulators

Chemical specialties to produce high performing formulations for leather finishing

### $\rightarrow$ Polymer beads

Next generation of matting agents and effect pigments

### $\rightarrow$ Drymix for construction

Our chemical additives are capable of solving issues caused by severe climate and help to achieve a desirable visual effect in design.

### $\rightarrow$ Wet end paper

The core of Paper and Board - Hydrocolloids technology that improves paper making cycle and final products.

### $\rightarrow$ Textile printing and finishing

Modern life is wrapped up in yards of different fabrics, starting from garments to industrial materials.



Strategic area For enhancing product sustainability





In 2020, we have reinforced our cooperation with suppliers and created a **multi-disciplinary product sustainability team** putting together R&D, regulatory and corporate development skill to measure, following international protocols, the Carbon Foot-print and the Life-Cycle Assessment of our products and processes.





# Fossil carbon replacement

### **Renewable Sustainable Biobased Feedstock**

- **Biomass Fermentations**
- Natural Oil extracted
- Carbohydrates
- CO2
- Recycled chemicals
- Created for industrial and chemical sectors
- Clear strategy of not having impact on food chain

### **Renewable carbon is measured at product level:**

We test and control using the following methodology

- Radiocarbon analysis C<sup>14</sup> on Ctotal by **ASTM D6866**
- By mass balance quantity present on Product Anhydrous following EN16785-2:2018

As long as the existing carbon are kept in a circle, there is no damage done to the climate



# Our Journey in the innovation of sustainable biobased polymers

### Renewable Sustainable Biobased Feedstock

- Created for industrial and chemical sectors
- Clear strategy of not having impact on food chain

### Lamberti Biobased polymers

- Manufactured in ISO14001:2015 certified plants,
- BLUESIGN system partner and approved products ZDHC Level 3
- Biobased Content measured
- Adopting PCF analysis according to ISO 14067 and LCA analysis following ISO 14040, 14044

# Developing technical and sustainable solutions together

- Generating new products with Less Carbon Footprint and better Life Cycle Assesments
- Adding value to customer



# Our Today Biobased Innovative Product offer

### Biobased Waterbased Polymers

- Coating, Crosslinkers & Adhesives
- Additives for surface treatmt







## Surfactants and Fatty Derivatives

- Not made by EO and PO
- Biodegradable
- Low irritation
- 100% Biobased

# **Chimipal Bio**

# Rheology Modifiers

- Carbohydrates feedstock
- Synthetic Polymers
- Rheology performances

နှာ Esacol®

Carbocel<sup>®</sup>

နှာ Viscolam®



# Coatings & Inks portfolio

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Fossil Based Acrylic Self Crosslinking Acrylics Hybrid Urethane Acrylic Waterborne Polyurethane





Synthetic Rheology modifiers

# Adiwax, Defoamex

Wax emulsions Defoamer



# Esacote Bio®

Waterborne Polyurethane Hybrid Urethane acrylic



# Crosslinkers



# Our film forming Biobased industrial offer



Table Update 20/04/2022





# **Our Biobased Matting** agents





#### FIGURE 1. SEM PICTURE OF DECOSPHAERA BIO 8 TR

- Automotive interior applications • Enlarging our BIO-based portfolio with new particle size grades and renewable ingredients.
- Wood coating applications • Architectural coating applications • Synthetic leather applications





**ESACOTE & DECOSPHAERA BIO** Developed to increase Renewable carbon in Coatings



Solid content: 32% Bio 66%

- Low Gloss •
- Natural look
- Solvent free



Solid content: 100% Bio 52 %

- D<sub>50</sub> about 8 µm
- Deep Matt @ high angles
- Abrasion resistance
- No Whitening
- High Transparency for UV coating

# **Esacote Bio**® 148

Solid content: 35% Bio 33 %

- High Gloss

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# Esacote Bio<sup>®</sup> 9001

Matt & soft touch film

### Esacote Bio<sup>®</sup> 4900

Solid content: 35% Bio 62 %

- Gloss & transparent
- Koenig Hard = 70"
- Adhesion to multi substrates, Bio plastics
- Approved also for plastic inks

Koenig Hard = 100" Hybrid Technology Hard and Flexible Chemical resistance

BMHR resistance

# **Esacote Bio**<sup>®</sup>118

Solid content: 32% Bio 33 %

- High Gloss
- Koenig Hard = 150"
- Polyurethane Alkyds
- No need of dryers and metals
- **BMHR** resistance

# Focus on Interior Coating: How to keep Performance and Increase bio content for flooring & high quality forniture

We worked on 4 guidelines formulations following market directions for interior coatings:

		Gloss	
•	Final Biobased Content: 22%		
•	Solid content abt 42%	100 -	
•	Low gloss with enhanced deep matt	90 -	
•	High gloss and brilliance	80 -	
•	Mechanical hardness and endurance	70 -	
•	Chemical & Stain resistance	60 -	
•	Low co-solvent demand: maximum 6% co-solvent	50 -	
•	Crosslinkable for 2K systems (professional usage)	40 -	
		30 -	
Esacote BIO 4900, Esacote BIO 118, Decosphaera BIO			
Esacote AC 202			
		0	
			LOW



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#### Konig



Gloss & Hardness: Esacote Blo formula @ fixed final Bio based content

Gloss @85 Gloss @60 --- Konig Hard 7d

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# Overall Chemical comparison 1K and 2K



- -BIO 4900/BIO118/AC202 Esacote BIO LOW gloss Formula 1
- -BIO 118/AC202 Esacote BIO LOW gloss Formula 2
- -BIO 4900/AC202 Esacote BIO LOW gloss Formula 3
- -BIO 4900/BIO 118 Esacote BIO GLOSSY Formula 4

# Overall Stain comparison 1K and 2K

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- -BIO 4900/BIO118/AC202 Esacote BIO LOW gloss Formula 1
- -BIO 118/AC202 Esacote BIO LOW gloss Formula 2
- -BIO 4900/AC202 Esacote BIO LOW gloss Formula 3
- -BIO 4900/BIO 118 Esacote BIO GLOSSY Formula 4

# We help you to increase performance and bio content

- Interior coating
- Wood flooring
- High quality furniture

Esacote BIO 4900 Esacote BIO 118 Decosphaera BIO

Esacote AC 202 Crosslinker 08









# Sustainable chemistry is reality. Let's work together!



• We provide high performance building blocks and ingredients to create innovative solutions for architectural paints, inks, metal, wood, paper, plastics applications



- Renewable carbon content
- Minimized usage of hazardouse substances
- Waterbased Technology



Performance, Easy handling Sustainability

For all Surface Treatments at product Level

Follow our Journey

# Designing new values In Chemistry