

# Surface treatment

Solutions for Industrial  
Coatings – Inks – Paints



Designing new values  
in chemistry

# Science of surfaces

Surfaces are as boundaries, exposed to external agents that, in some cases, can be extremely harsh and challenging but they are also the gateways through which we perceive the objects we use in our everyday life!

Whether it is aesthetic appearance, durability, rust protection or barrier properties, the right treatment can boost these characteristics.

Our approach lies in a mix of science and experience. In close collaboration with our customers we select the right film formers for each specific surface, developing a tailor-made formulation choosing the right rheology modifiers and additives.

Our commitment is to promote sustainable chemistry considering peo-

ple's health, their well-being and protection of the environment.

We at Lamberti foster our path towards sustainability and circular economy moving in four main directions:

- **Performances:** higher durability of goods;
- **Biobased content:** higher renewable raw materials content without decrease in performances;
- **Waterborne products:** continuous focus on the cosolvent and Volatile Organic Compound (VOC) reduction;
- **Process optimization:** constant improvement of industrial processes with the aim to reduce the consumption of energy, water and air, improving efficiency and sustainability.

# Surface treatment

A smart toolbox to face the coating's challenges!

Lamberti's product range provides high performance building blocks and ingredients to create innovative solutions for **architectural paints, inks, metal, paints, paper, plastic** and **wood** applications.

# Solutions for architectural paints

In building constructions and in the maintenance of our houses we are becoming more and more sustainable by using more renewable ingredients and reducing volatile compounds.

We believe since so long that chemistry needs to focus on sustainable but performant ingredients to bring our houses to upper level. While permanently improving sustainability, we always focus to lower ratio cost/performances that is a crucial parameter in this highly competitive paint sector.

We produce and market a wide range of rheological additives for the paint industry; from synthetic **Viscolam**<sup>®</sup> based on acrylic and polyurethane polymers, to natural based thickeners: **Carbocel**<sup>®</sup>, based on cellulose derivative (carboxymethyl cellulose - CMC) and, thanks to our wide know-how in the guar's technology, with our **Esacol**<sup>®</sup> we bring to the market the best of sustainability together with high performances.

This additive range is completed with a full portfolio for pigments & extenders challenges: with **Reotan** dispersing additives, **Verapon** wetting & dispersing agents and **Fluijet**<sup>®</sup> hyperdispersants. We also provide **Defomex** defoamers, and hydro-repellents **Cerfobol** & **Paracel** to provide paint industry with a wide toolbox.

We offer specific, waterborne, performance binders with our **Esacote**<sup>®</sup> PUDs range suit-

able for the architectural paints sector: from concrete floors, including industrial platforms and car parks, up to trendy waterborne waterproofing membranes and cool roofing thanks to inherent elastic **Esacote**<sup>®</sup> or just to boost existing formulation as co-binder, we have long lasting solutions to offer.

We are able to bring our experience in the wood & metal industrial sectors for DIY/Professional trim paints and parquet floors with flexible, hard and high resistant **Esacote**<sup>®</sup>.

With our **Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup> transparent polymeric beads and **Adiwax** wax preparations, we can solve scuff, scratch and burnishing resistances while offering unmatched deep matt with varied haptic and optic effects.

**Decosphaera**<sup>®</sup> is also available in 5 different colour, and many different particle size, used in wall paint indoor application is possible create multicolour effect with unique haptic like silky or fabric effect.

Ultimately, we widen up your choices from pure performance with synthetic products to highest sustainability **bio-based options**.

# Solutions for plastic coatings

Many polymeric materials are named “plastic” but they can actually be very different from each other: from a flexible and thin polyolefinic film to a rigid polyvinyl chloride calendered film. We, at Lamberti, are able to guide our customers in the selection of the right binders for each specific plastic substrate.

We offer full range of waterborne polymers (**Esacote®**), rheology modifiers (**Viscolam®**), and polymeric beads (**Decosphaera®/Spheromers®**) to develop the right solution for several applications:

## **Protective coating**

Depending on the type of plastic and the level of mechanical, chemical or outdoor resistances needed, we provide several solutions: 2K systems, self-crosslinking PUDs or radiation curable PUDs in order to match even the most stringent specification in the automotive sector. The use of **Decosphaera®/Spheromers®** polymeric beads can also bring some extra features to a protective coating: deep matt, unique haptic effect, outstanding scratch and burnishing resistance. This way, we combine technological efficiency with appealing visual effects.

## **Haptic and matt solution**

We offer different options in terms of haptic behaviour and visual effect with our inherently matt PUDs. Current market trends are

oriented towards additional performances (scratch and burnishing resistance) and original “touch” effects (sandy or paper-like). We combine both features in our portfolio of **Decosphaera®/Spheromers®** polymeric beads.

## **Transfer coating**

Through a well defined balance between mechanical properties and chemical structure with our PUDs, we achieve easy peel and sharp edges in the hot and cold stamping process. We know how to minimize the hurdles typical for this application (blocking, affinity to Al deposition, printability of the final article).

## **Pretreatment coating**

Every plastic needs its primer to improve the printability (especially with the most demanding UV inks) and the adhesion of functional top coats. We can select the right binders for each plastic having always in mind secondary processes that the final article will withstand, such as sterilization or lamination.

# Solutions for waterborne inks

Prints are everywhere around us, but behind a nice printing there is a lot of technology and know-how. After many years of global dominance of solvent-based inks now the push to be more sustainable brings water-based inks to the foreground.

**Esacote**<sup>®</sup> product range is our tangible contribution to the sustainable transformation of the printing market. Our solutions have good compatibility with the most commonly used pigment dispersions, providing strong adhesion to a wide range of non-porous substrates (BOPP, BOPET, BOPA, PVC) along with outstanding mechanical properties for the most demanding applications.

For **lamination inks** our PUD binders reveal their potential by increasing the lamination bond both in flexible packaging and in vinyl flooring application while reducing remarkably the risk of blocking in the reel.

We support our customers with a complete “tool box” of ingredients to formulate their inks: **Viscolam**<sup>®</sup> rheology modifier to control in-can viscosity and guarantee a smooth printing; high-performing hyper-dispersants, **Fluijet**<sup>®</sup> for outstanding stability of the finest pigment dispersions and **Esajet** dedicated product range for the development of waterborne digital inks.

Thanks to our portfolio of polymeric beads (**Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup>) with different particle size distributions, we can use them at

low dosage as an efficient anti-blocking additive. With this solution, the texturized and deep matt effects are obtainable with extra scratch resistance. The pigmented versions of these polymeric beads extend opportunities to create special graphic effects in combination with the base colour of the ink.

**Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup> can be used in UV/EB 100% formulation to create ultra matt or soft touch effect.

We also take up the challenge of **digital waterborne inks** that unlock the possibility of industrial printing on plastic films. We have developed the **Esajet** “Digital” binders range, based on polyurethane and acrylic resins, that deliver adhesive power to a wide range of substrates including the most commonly used plastic films (BOPP, BOPET), and at the same time they remain safe for the inkjet printing heads and are easy to process in the inkjet ink production.

We support our customers with a complete “tool box” of ingredients to formulate premium inks: **Viscolam**<sup>®</sup> rheology modifier to control in-can viscosity and guarantee a smooth printing; high performing hyper-dispersants, **Fluijet**<sup>®</sup> for outstanding stability of the finest pigment dispersions.

# Solutions for functional and coated paper

Functional coating applications give great opportunities and very peculiar features to the paper and board. At Lamberti, we develop customized surface treatments that deliver innovative solutions for the paper performance needs.

Competition pushes all producers to differentiate themselves and contain costs. Both differentiation and cost optimization must be driven in the direction of a technological improvement so that the competitive advantage is based on added value rather than reduction in quality.

Thanks to our industrial and chemical expertise, our solutions comply with regulatory issues and environmental constraints in an eco design development approach which considers all the final product's stakeholders.

## **Barrier coating**

One of the most important macro trends that the paper industry is experiencing. At Lamberti we exploit our natural and synthetic polymer's know-how (**Esacote**<sup>®</sup>) and scientific capabilities to develop our range of food contact barrier solutions that provides maximum flexibility in achieving the desired barrier performance towards grease, water, aroma, along with heat sealability at low temperature (from 75 to 100°C).

## **Coated paper**

In graphic and packaging paper, the optimization of coating formulations is a crucial task in modern papermaking. Lamberti provides nat-

ural (**Carbocel**<sup>®</sup>) and synthetic (**Viscolam**<sup>®</sup>) rheology modifiers and tools for enhancing productivity and quality in a process that exploits our rheology expertise and considers runnability, output optimization, energy demand reduction and paper/board surface characteristics improvement.

## **Security paper**

Circulation life of banknotes is affected by many factors like soiling, sunlight, heat, moisture and mechanical stress. Lamberti offers top surface treatment to produce long life banknotes: thanks to our expertise we produce solvent free polyurethane dispersions (**Esacote**<sup>®</sup>), compatible with all current security features and inks.

## **Luxury packaging**

Luxury packaging quality lies in evoking a synthetic experience, where materials play the most important role. We produce a wide portfolio of inherently matt and glossy PUDs (**Esacote**<sup>®</sup>) with varied haptics, which can confer very exclusive finishing to your substrate.

## **Sublimation paper**

Dye sublimation papers are specifically developed for textile applications like fashion, sportswear, home and advertising textiles. Thanks to Lamberti natural polymers technology (**Carbocel**<sup>®</sup> - **Cellcoate**) and our application laboratory capabilities we can offer performing coatings that provides excellent image transfer and calibrated ink drying time.

# Solutions for metal coatings

Metal surrounds us: from major infrastructures like airports and bridges to tiny precision gears. Metal became subtle but vital part of our daily routine that makes our lives easier and saves precious time. It has a lot of merits and one big drawback: corrosion.

We at Lamberti develop solutions that consolidate highest performance, outstanding protection from corrosion and weathering.

Our range of polymers is fully based on waterborne technologies for polyurethanes and acrylic resins. Starting from well appreciated “traditionally” manufactured PUDs, we have come a long way for making our products more sustainable and performing. We are able to provide **Esacote**<sup>®</sup> based on low VOC, radiation curable and self crosslinking technologies for delivering innovative solutions.

**Esacote**<sup>®</sup> & **Viscolam**<sup>®</sup> can be used either in the prepainted coil coating industry or in “Direct-To-Metal (DTM)” applications providing excellent performances like:

- excellent adhesion
- hardness & flexibility
- chemical resistances
- solvents resistance
- corrosion resistance
- colour & gloss retention

Our **Esacote**<sup>®</sup> range, entirely based on waterborne polymers, enables us to design

performing & sustainable coatings to be used for formulating pretreatments, primers and topcoats suitable for different substrates like aluminum, Al-Zn alloys, cold rolled steel and galvanized iron.

**Esacote**<sup>®</sup> **LX** range is suitable for developing waterbased radiation-curable formulation to achieve very high physical and chemical performances.

Our **Viscolam**<sup>®</sup> range of rheology modifiers based on different technologies fine tunes rheological behaviour of coatings to properly match all production setups.

**Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup> is full range of polymeric beads. It is solid dry powders that we have developed to meet the macro trend of ultra matt. It can be used, alone, or as a booster in combination with other traditional matting agents. Moreover the addition of polymeric beads will enhance scratch and abrasion resistance and reduce blocking effect.

We are running fast but there is still a long way to go. For solvent based formulations we can provide our **Adiwax DSP** waxes dispersion especially designed for can & coil industry. Our **Adiwax DSP** range is based on carnauba and polyethylene waxes and food contact material declaration are available for “food contact” applications.

# Solution for wood coatings

In our waterborne technology for wood coatings, we combine excellent chemical/mechanical resistance and haptic effects of the wood.

We offer waterborne resin **Esacote**<sup>®</sup>, and polymeric beads **Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup> suitable for water, solvent and 100% radiation curable systems.

Among **Esacote**<sup>®</sup> families, we provide solvent free PUDs with high mechanical resistance for parquet, but also self-crosslinking copolymers for furniture and kitchen and versatile acrylic resins for primers and topcoat systems.

With **Esacote**<sup>®</sup> inherently matt PUDs we achieve the natural beauty and warmth of the wood, along with excellent brushstroke and levelling.

**Esacote**<sup>®</sup> **LX** rad curable waterborne PUDs are designed to be easily applied with common matting agents and provide extra chemical and mechanical performance.

**Decosphaera**<sup>®</sup>/**Spheromers**<sup>®</sup> family of polymeric beads are solid dry powder that we have developed to meet the macro trend on ultra matt and natural look. It can be used, alone, or as a booster in combination with other traditional matting agents, like silica and waxes.

**Esacote**<sup>®</sup> **BIO** and **Decosphaera**<sup>®</sup> **BIO** manufactured with selected bio-based raw materials, enables development of top quality coat-

ings with 30 up to 60% of renewable content.

Wood coating portfolio offers a full range of synthetic thickeners: **Viscolam**<sup>®</sup> and wax preparations for both water-based and solvent-based systems: **Adiwax**. In particular **Adiwax DSP** is highly suggested for acrylic and polyurethane 2k solvent-based coatings.



# The Lamberti Group

## Explore, Design, Provide, Evolve.

We design and produce customized chemical solutions for different industries: not simply products or formulations, but sets of skills, capabilities, visions, developed with dedication and attention to our customers. Our science is made of experience, technology, and precision, for tailoring and delivering high performing solutions to our customers. Our ability to fit any market evolution demonstrates our capacity to be creative and innovative.

## The history of our company is continually written by people's living stories.

Since 1911, our experience stems from over a century of history. From the initial affiliation

to the textile industry, we have learned the value of being part of structured eco-systems. Over time, we have invested in industrial plants and laboratories to cover all geographies. We have fostered a network of relationships, a rich wellspring of experience that gives value to our people.

## We want to do better, creating a positive legacy for the future of the planet and living species.

Sustainability became a crucial challenge for Lamberti that we addressed with the subscription to international programs (RSPO and Ecovadis) as well as with the voluntary publication of the Group's Sustainability Report (2020).

## Our technologies per market

	Cellulosics	Hydrocolloids	Acrylics	Waterbased polyurethanes	Oleochemicals
Agriculture	•	•	•	•	•
Personal care	•	•	•	•	•
Food and regulated industries	•	•			
Oil&gas	•	•	•		•
Mining and civil engineering	•	•	•		•
Ceramics and glassware	•		•	•	•
Surfactants					•
Wetend paper	•	•			
Drymix for construction	•	•			
Textile printing and finishing	•	•	•	•	•
Architectural paints	•	•	•	•	•
Coated and functional paper	•	•	•	•	•
Industrial coating			•	•	•
Digital inks			•	•	•
Inks ingredients			•	•	•
Leather finishing			•	•	
Synthetic materials		•	•	•	•



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