

Surface treatment

Solutions for Textile
and Synthetic Materials



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 range provides high performance building blocks to create innovative solutions with reduced environmental impact for infinite applications on textile printing, textile finishing/coating and synthetic materials.

Solutions for traditional textile

Fabrics, of natural or synthetic origin, can be used as **protection, structural reinforcement**, and can be applied in **sports, automotive, homecare**, and **industrial sectors**. Those are textiles that require **performance materials and solutions**.

We developed several technical solutions based on our core manufactured technologies to bring innovative extra performance and solve the complexity of technical textile.

Fastness

We have developed a wide range of cross-linking agents, Formaldehyde free and based on one of our core poly-isocyanate technologies.

Rolflex® and **Esajet** are used in diverse applications in textile and printing and obtained **ZDHC, GOTS** and **BlueSign® certifications**, that place them in the top range of sustainable products.

Hydrorepellency

Protection of fabric surface from water, oil and dust is a burning challenge of "green functionality". Greater attention to health and environment drives the fine tuning of hydrorepellency towards short fluorine chains or completely fluorofree solutions.

We developed a complete line of **Rolflex® BK** crosslinkers, boosters and adhesion promoters from traditional C6 fluorocarbons to fluorofree waterproofing resins.

Water column & breathability

Respect to traditional solvent base, **Rolflex®**

waterborne polyurethane and acrylic dispersions have lower amount of VOCs and hazardous air pollutants that explains their growth as an emerging segment of outdoor and technical textile applications.

We developed a dedicated product range for water resistant coating with key properties, such as easiness of formulation; high water column and good breathability; good washing fastness and hydrolysis resistance; wide chance to modulate softness, gloss and low stickiness.

Lamination

Adhesive is key to bond the fabric in multi layered materials in order to match desired mechanical properties along with extra resistance to wear and tear, ageing and washing.

A selection of waterborne polyurethane **Rolflex®** has been developed to run properly with all the kind of processes, machineries, fibers and materials.

Solutions for digital textile

The textile printing industry lies since several years under the severe scrutiny of various governmental entities and NGOs, like Greenpeace, which push it to become more eco-friendly and sustainable. In particular, the reduction of water consumed during the production of printed textile has become one of the most important missions for the whole textile industry.

As an eco-responsible company, we are committed to contribute actively to the general improvement of the sustainability in the textile printing industry by developing a series of solutions spurring the adoption of digital printing, which we consider as being a step in the right direction.

Pre treatments for all digital textile printing inks

For all types of inks and fabrics we are offering optimized textile preparations for digital printing. We have designed those preparations to control the penetration and the bleeding of the digital inks on the surface of textile fabrics, while enabling optimal colour fixation and further minimizing the dyestuff waste.

Hyper dispersants for inkjet sublimation inks and pigment inks

We manufacture **Fluijet**[®] hyper-dispersants, they show an outstanding affinity for the disperse dyes, which do not behave like classic pigments and require specific products to exhibit fine and stable aqueous dispersions.

Fluijet[®] for pigment inks exhibit an increased reactivity on cationic pre-treatments, comparable to SDP dispersions, without compromising dispersion stability or limiting the number of dispersibles.

Binders for digital textile pigmented inks

Our **Esajet** technology is developed to fix the pigment inks without the risk of integrity of the print-heads. Those “digital” binders offer excellent fastness properties and fabric softness, while preserving the integrity of the print-heads.

Other ingredients

We rely on Lamberti's core technologies to offer in particular an extensive range of thickeners to increase the inkjet ink viscosity to the specifications of high-viscosity printheads, without resorting to massive amounts of glycol, and wetting agents to control the print-through and print definition.

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Solutions for technical formulations

Every waterborne compound has its obstacles in the right interaction between binders, fillers, additives and rheology. We help our customers to find the right synergy through several proven binders, thickening and dispersing agents that allow you to obtain the better mix without constraints.

High loaded paste

The regular barrier that formulators usually face with waterborne compounds is the difficulty in smooth interaction between binders, fillers, additives and rheology. **Rolflex®** are designed to be highly loaded binders and customisable from soft to medium-hard mechanical behaviour. **Rolflex®** allows high dry content preparations, flame retardant compounds, concentrated white pastes and suspensions that provide excellent adhesion and resistance even with a high filler / binder ratio. Our team is ready to help with the choice of the right formulation.

Foam coating

Thick, soft, swollen and resistant flawless properties of the textile substrate for furniture, contracts & hotels, bags and shoes, outdoor and technical curtains can be achieved by sustainable technologies. We have solutions to achieve all of the properties and performances without using solvent base resins. Our **Rolflex®** waterborne resins, in combination with the right auxiliaries and processes, are applied in different foamable products with high solid content for synthetic mate-

rials, blackout curtain, technical fabrics or shoe insoles.

Flame retardant

We are committed to develop halogen/heavy metal/VOC free flame retardants. Nonetheless, eco friendly solutions maintain performance at the required level. Our **Rolflex® FR** water-based polymers have a selected range of polyurethane and polyacrylic formulations, designed and tested to conform to the most commonly used flame retardant principles.

Solutions for waterborne synthetic materials

We have developed solutions for synthetic surfaces with waterborne sustainable technologies based on film forming polyurethane and acrylic polymers, matting agents and protective coatings to enhance performance, protection and product life.

We provide key components and technical solutions that can be easily formulated to enhance performance, resistances and fastness in diverse sectors such as automotive industry, sportswear, fashion and industrial production. They are suitable for fabric coating, for synthetic materials that simulates the feeling of real leather, for protective coating and digitally printed soft substrates.

Renewable solutions

Awareness of the environmental impact of products has changed the market and consumer demand. **Rolflex**[®], **Viscolam**[®], **Esacote**[®] are designed for new generation of performance coating fully compliant with the **Zero Discharge of Hazardous Chemicals (ZDHC), manufacturing restricted substance list (MRSL), Bluesign**[®] approved products.

Overcoat and protective

We offer **Rolflex**[®] and **Esacote**[®] PVC water-based polyurethane and acrylic, technological components that are easy to be formulated to enhance performance, resistances and fastness. We invented a dedicated product line to be used in top finish, that brings very low gloss and uniform matt effect, assuring outstanding

protection of printed and pigmented PVC and PU based materials.

Skin & adhesives

We manufacture **Rolflex**[®] water-based polyurethane and acrylic dispersions to be used by transfer coating to fabric or synthetic materials, providing a balance between performance and sustainability.

Matting agent

Matting agents are essential to create a durable luxurious appearance. With our **Decosphaera**[®]/**Spheromers**[®] transparent polymeric beads we can improve scuff, scratch and burnishing resistances while offering unmatched deep matt with varied haptic and optic effects. Our matting agents beads are designed for being easily formulated.

Solution for ECO textile

We are committed for being agents of change, reducing consumption of non-renewable raw materials by investing in low impact, up-cycled or recyclable materials, thus designing de novo, a new generation of products that suit our changing world and its future – that means beauty and sustainability.

We invest, sustain and develop, a new a greener textile focus on the attention of avoiding the use of dangerous substances, using renewable and circular materials and certified products. We have developed biobased polyurethane dispersion for textile coating and impregnation for reaching high standard and performance.

Rolflex® BIO are developed to eliminate solvent like DMF or toluene in textile and reduce the carbon dioxide total emission in the environment because they contain renewable materials to further increase the sustainability of the final article

Lamberti has a long list of textile chemical products approved by:

**Bluesign® approved,
GOTS® approved,
ZDHC® approved
Reach® approved
Private label RSL approved**

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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