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// WATER-BASED AND SUSTAINABLE RESINS FOR WATERPROOF COATINGS //

Water-based systems: an introduction

Water-based resins, in particular polyurethane dispersions and polyacrylates, are one of the most growing segment for the outdoor and technical textile treatment, due to their lower amount of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), that has made them effective substitutes for the solvent base analogs.

The main challenge of water-based systems is to increase the water-column of the fabric and keep it after several washings, without lose in breathability.

Lamberti is working constantly to offer new high performance products for this type of applications and to meet the needs of the market, linking sustainability and performance.

Lamberti ROLFLEX®, ROLFLEX® TECH and ROLFLEX® A: the best solutions for high performance

Lamberti has developed a range of products specifically studied for water-resistant coatings able to meet several key properties such as:

- Easiness of formulation
- High water column
- Excellent adhesion on textile substrates
- High hydrolysis resistance
- Low gloss
- Low stickiness
- Good washing fastness
- Good breathability

Lamberti technical team cooperate actively with customers to find the optimal solution and the right synergy between each component.

Lamberti ROLFLEX® binders – Water-based polyurethane dispersions binders

PUD	Chemical nature	Charge	Solid content	Solvent	Characteristics	Use
ROLFLEX® D 27	PE	A	40	Free	High water column, hydrophobic, medium-rigid	Base and top coat
ROLFLEX® D 67	PE	A	40	Free	Medium-high water column, hydrophobic, medium-soft	Base and top coat
ROLFLEX® SW 3	PE/SI	N	35	Low VOC	Medium water column, hydrophilic, soft	Base and top coat

Lamberti ROLFLEX® TECH – Water-based polyurethane dispersions for technical driven performance

PUD	Chemical nature	Charge	Solid content	Solvent	Characteristics	Use
ROLFLEX® TECH WP	PE/SI	A	40	Low VOC	High water column, slightly hydrophilic, medium-soft	Base coat
ROLFLEX® TECH TWR	PE	A	40	Free	Medium-high water column, slightly hydrophilic, medium-soft, low gloss	Top coat

Lamberti ROLFLEX® A – Water-based acrylic emulsions for cost driven performance

PUD	Chemical nature	Solid content	Solvent	Characteristics	Use
ROLFLEX® A/ND	AC	45	Free	High water column, very soft	Base coat
ROLFLEX® A/MA	AC	40	Free	Medium-high water column, medium-soft	Base coat
ROLFLEX® A 298	AC	45	Free	Self-crosslinking, washing fastness, medium-soft	Base and top coat

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Just to have an idea... how can you use ROLFLEX® in your formulation?

In the water-based systems the resin must be accurately formulated to get the best results.

Standard formulation with ROLFLEX® TECH

Product	First layer	Second layer	Third layer
ROLFLEX® TECH WP	•	•	
ROLFLEX® TECH TWR			•
ROLFLEX® BK 9 or ROLFLEX® BK 18	10% w/w on resins		
VISCOLAM® 1016	To 15000 cPs		
DEFOMEX 2033/N			

Standard formulation with acrylic base coat

Product	First layer	Second layer	Third layer
ROLFLEX® A/ND	•	•	
ROLFLEX® TECH TWR			•
ROLFLEX® BK 9 or ROLFLEX® BK 18	10% w/w on resins		
VISCOLAM® CMD	To 15000 cPs		
DEFOMEX 2033/N			

Application conditions

Coating method	Air-knife
Drying time and temperature	100 °C – 1 min.
Curing time and temperature	150 °C – 2 min.

Water column or breathability data depend on substrate pretreatment, process and testing methods and must be evaluated on the specific application.

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