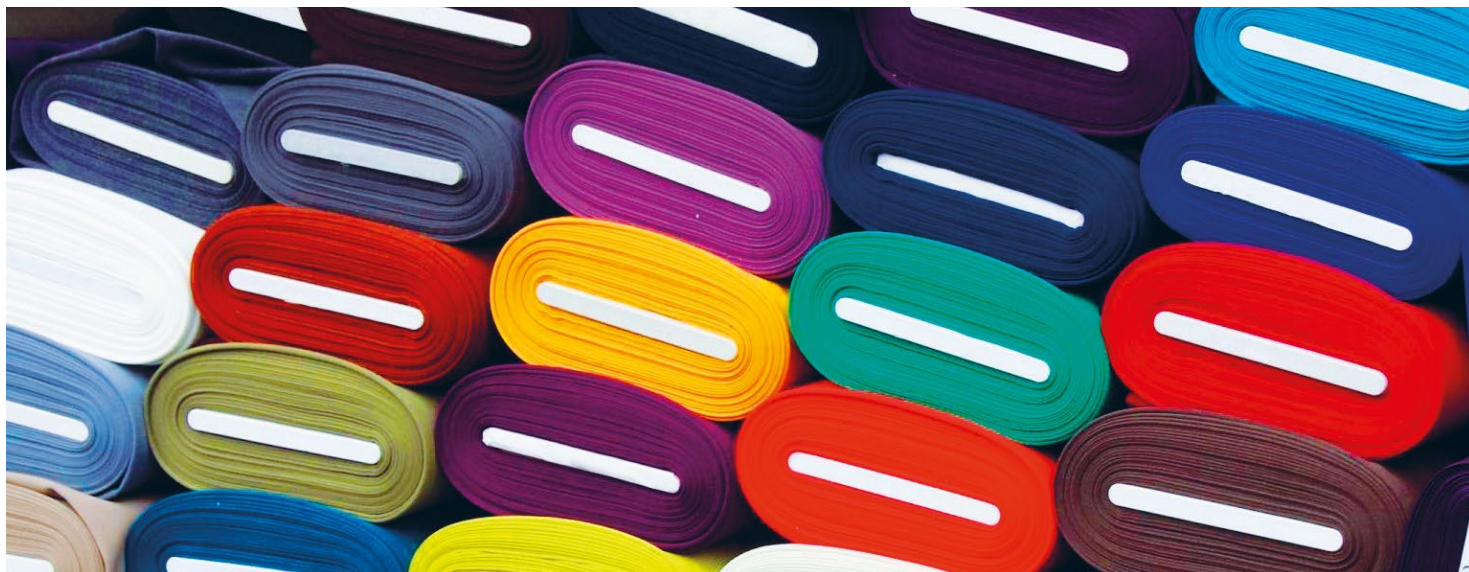




**lamberti**  
chemical specialties



## // CROSSLINKERS FOR PRINTING //

### Water based systems – General characteristics

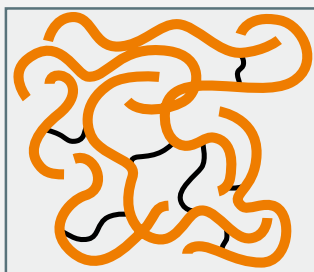
Water based systems show lower properties (in terms of resistance against hydrolysis, solvent, abrasion) when compared to same systems solvent borne. This general rule is valid for several polymers families: polyurethanes, acrylics, vinyl acetate.

### Crosslinkers – General characteristics

- To overcome this problem and improve properties of such water based polymers, the solution consists in creating a network into the internal polymer structure – practically introducing connections between polymer chains, the result is a better resistance against water: in fact, water will have more difficulty to enter into polymer structure.
- The operation that creates a network (chemically called IPNinter penetrating network) requires special molecules-agents called crosslinkers.



**Without Crosslinkers**



**With Crosslinkers**

Crosslinking result: polymer chains are linked and a network is created.

### Crosslinkers – Where to use them

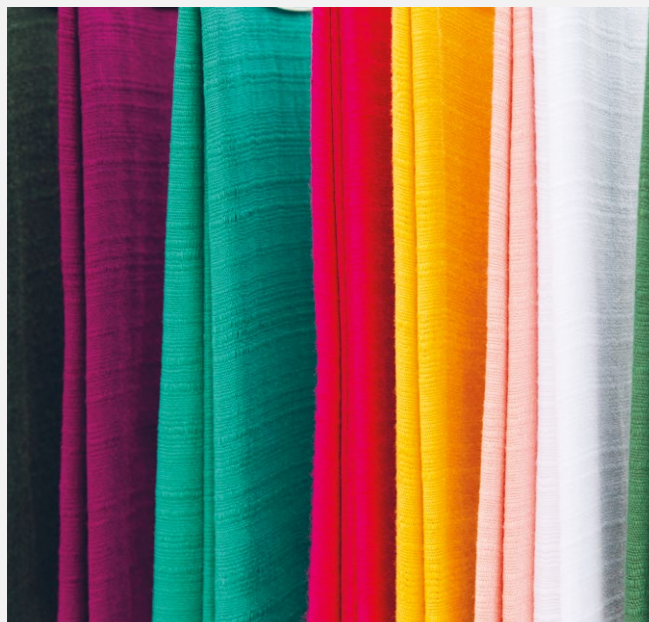
Applications where resistance against water has to be improved are: coating and printing paste preparation.

### ROLFLEX® – Crosslinking products

Lamberti crosslinking agents are blocked polyisocyanates types, very easily dispersible in water based systems. These products could be added during preparation.

### Blocked isocyanate main characteristics are:

- FORMALDEHYDE free
- APEO free
- GOTS approved
- Cross linking reaction starts only at high temperature
- One component system

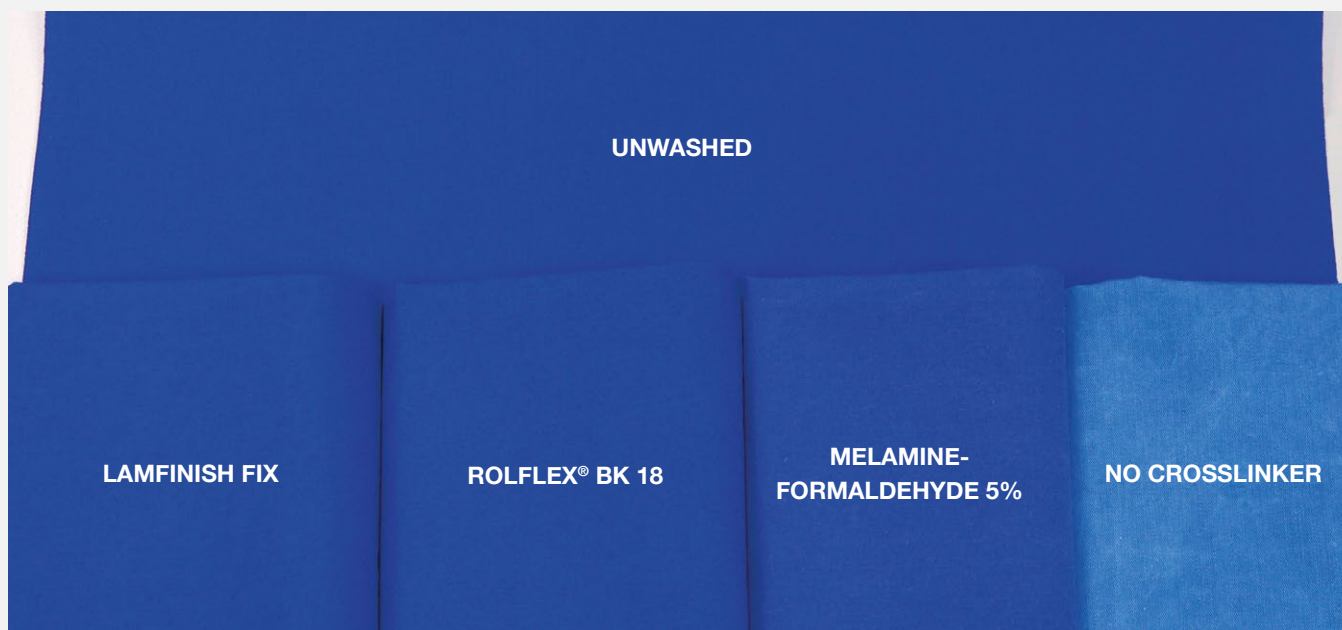




	Melamina Cellofix-Lerisene	NCO-blocked LAMFINISH FIX	NCO-blocked ROLFLEX® BK 18
Chemical characteristics	Melamina-Formaldehyde	Aliphatic isocyanate	Aliphatic isocyanate
Quantity (%)	4 - 6	5 - 10	5 - 10
Final product	1 component	1 component	1 component
Pot life at 20 °C	Days	Months	Months
Applications-polymerisation	3 min at 150 °C	3 min at 150 °C	3 min at 150 °C
Cycle needed after application	Washing cycle to reduce formaldehyde	No wash – 0% of formaldehyde	No wash – 0% of formaldehyde
Final textile properties	Increases hardness	No influence	No influence
Final characteristics	Increases water resistance	Increases water resistance	Increases water resistance
Market sector	Coating-printing paste	Coating, padding, printing	Coating-printing paste

**Polyurethane coatings have been tested against washing and rubbing**

**LAUNDRY TEST:** 5 machine washing cycles at 60 °C



	LAMFINISH FIX	ROLFLEX® BK 18	MEL/FORM	No crosslinker
Rubbing fastness	Dry: 5 Wet: 4/5	Dry: 5 Wet: 4/5	Dry: 4/5 Wet: 3/4	Dry: 4 Wet: 3

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