



TECHNICAL BULLETIN

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# Rolflex® HS18: an alternative to PVC for synthetic leather effect

## INTRODUCTION

An alternative process to obtain synthetic leather article by direct or transfer coating avoiding PVC become possible thanks to the special properties of Rolflex® HS 18: high solid polyether waterbased PU

## PRODUCT CHARACTERISTICS

**Appearance at 20°C:** milky liquid

**Dry matter:** abt. 59-60 %

**pH (ASTM E70 25 °C):** 7,0-9,0

**Viscosity (Brookfield RVT @ 25°C, 50 rpm):** 150 cPs

**Film aspect:** opaque, soft

**König hardness (s):** 38

**Elongation at break (%):** 550-650

**Tensile strength (MPa):** 16,4

**Tensile strength at 100 % elongation (MPa):** 3,65

## PROPERTIES

The main goal of Rolflex® HS 18, in addition to its high solid content, is the good resilience and facility to be foamed , which allows to obtain a very stable, leveled and elastic foam with an amusing capability to recover its shape after pressing . A 1 mm thick foam after cold calendering recovers more than 90% of the original thickness in few seconds .

This fact makes that Rolflex® HS 18 foam coating is ideal to achieve softness and fastness normally obtainable by PVC plastisols.

## EXAMPLES

DIRECT COATING			
Pretreatment (padding application , pick up 80%) g/l			
1	LAMGARD FT 60 CP	15	Fluorocarbon C6
2	ROLFLEX® BK FREE	5	Blocked isocyanate MEKO/DMP free
3	IMBITEX NRW 3	1	Wetting agent
Drying at 100°C 2 minutes			

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FIRST LAYER			
Blade on roll coating (wet thickness 1 mm, foam density 500 g/l) parts in weight			
1	ROLFLEX® HS 18	100	PU
2	FOMEX 84	2	Foaming agent
3	TEXTOL F/STA	4	Foam stabilizer
4	ROLFLEX® BK FREE	10	Blocked isocyanate MEKO/DMP free
5	PIGMENT	X	
Drying at 100°C 2 minutes			
SECOND LAYER			
Gravure cylinder (wet thickness 20 µ -abt 6 g/m <sup>2</sup> dry) parts in weight			
1	ESACOTE® PVC TOP/K	80	Ready to use lacquering
2	ROLFLEX T 87	20	Polycarbonate based PU
3	ROLFLEX® BK FREE	10	Blocked isocyanate MEKO/DMP free
4	BYK 346	0,3	Spreading agent
5	DEFOMEX 2033/N	0,3	De-foaming agent
Drying at 100°C 1 minute			
THIRD LAYER			
Gravure cylinder (wet thickness 40 µ- abt 10 g/m <sup>2</sup> dry)-parts in weight			
1	ESACOTE® PVC TOP/K	80	Ready to use lacquering
2	ROLFLEX® T 87	20	Polycarbonate based PU
3	ROLFLEX® BK FREE	10	Blocked isocyanate MEKO/DMP free
4	BYK 346	0,3	Spreading agent
5	DEFOMEX 2033/N	0,3	De-foaming agent
Dry and cure at 150°C 2 minutes			
FINAL EMBOSING IS POSSIBLE			



TRANSFER COATING			
Pretreatment (padding application , pick up 80%) g/l			
1	LAMGARD FT 60 CP	15	Fluorocarbon C6
2	ROLFLEX® BK FREE	5	Blocked isocyanate MEKO/DMP free
3	IMBITEX NRW 3	1	Wetting agent
Drying at 100°C for 2 minutes			
Coating on release paper			
FIRST LAYER (SKIN)			
Blade on roll coating (wet thickness 0,1 mm wet)-parts in weight			
1	ESACOTE® PVC TOP/K	100	Ready to use lacquering
2	ADIWAX H 305	3	Polyethylene based softener
3	ROLFLEX® BK FREE	10	Blocked isocyanate MEKO/DMP free
4	BYK 346	0,3	Spreading agent
5	DEFOMEX 2033/N	0,3	De-foaming agent
Drying at 100°C for 2 minutes			
SECOND LAYER (FOAM)			
Blade on roll coating (wet thickness 0,6 mm, foam density 500 g/l) parts in weight			
1	ROLFLEX® HS 18	100	<u>PU</u>
2	FOMEX 84	2	Foaming agent
3	TEXTOL F/STA	4	Foam stabilizer
4	ROLFLEX® BK FREE	10	Blocked isocyanate MEKO/DMP free
5	PIGMENT	X	
Drying at 100°C 2 minutes			
THIRD LAYER (ADHESIVE)			
Blade on roll coating (wet thickness 0,2 mm, foam density 500 g/l) parts in weight			
1	ROLFLEX HS 18	100	<u>PU</u>
2	ROLFLEX BK FREE	10	Blocked isocyanate MEKO/DMP free
3	VISCOLAM 1022	0,8	PU thickener
Wet lamination (to the pretreated fabric)			
Dry and cure at 150°C for 2 minutes			

Technical results for both the recipes:

MARTINDALE ABRASION	Standard wool fabric 120 KPa	Ok after 50 000 cycles
ROOM T° BALLY FLEX		Ok after 50 000 cycles
HYDROLISIS	Jungle test one week	good

**FINAL APPLICATION : BAGS, FURNITURE ,FASHION ACCESSORIES  
INDUSTRIAL TRIALS STILL DONE SUCCESSFULLY**