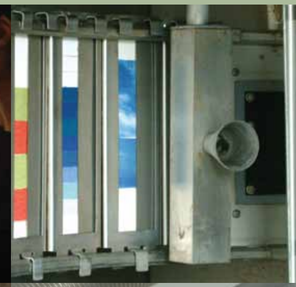
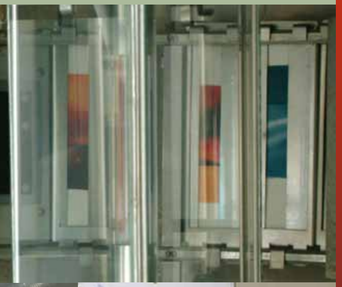
Testing

textile properties

- burning behaviour and flame retardancy
- barrier properties (permeation)
- antistatic properties/conductivity
- antimicrobial properties
- easy cleaning (soil repellency)
- hydrophobic / hydrophilic properties
- water vapour permeability
- air permeability
- colour measurements (△E, high-visibility, reflection, retroflection...)
- colour fastness to light, washing, active chlorine, water, dry cleaning, NOX gasfading...
- ageing (UV, Xenon, weathering, light, temperature)
- water column
- laundry efficiency
- tensile and tear strength
- abrasion resistance





process-related testing

- rheology of coating pastes
- viscosity (Brookfield viscometer)
- microscopy
- stability of textile finishing formulae

conformity with REACH & other regulations

- chemical analyses for Oeko-Tex®, GuT...
- VOC emissions
- X-ray fluorescence
- FTIR infrared spectroscopy

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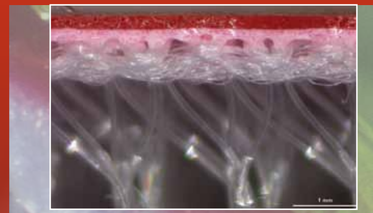
textile coating & finishing



TECHNOLOGICAL PLATFORMS & LABSCALE PILOT LINES

By applying new and high-performance properties to textile (and other flexible) substrates, textile coating & finishing account for the larger part of a textile product's added value. Because of their crucial value for the textile industry and the many possibilities they offer to create innovative textiles, Centexbel has created a special technological research field and a technological platform dedicated to textile coating & finishing.

New molecular surface modification techniques, such as Corona and Plasma treatment, are being increasingly applied in the production of high performance (technical) textiles used in both very advanced and in daily-life applications.

The growing ecological awareness, energy-savings and the goal of sustainable production urge textile finishing and coating companies to use eco-friendly techniques and additives in conformity with the REACH and other regulations.

Functional Properties	*Application Fields*
fire retardancy	decoration textiles, floor covering, bedding, PPE, car interior textiles
soil repellency (easy cleaning)	outdoor textiles, clothing, workwear, protective clothing and gloves
self-repairing properties	protective clothing and gloves, workwear, sportswear
water and oil repellency	outdoor textiles, protective clothing & gloves, technical textiles
water vapour permeability	outwear, workwear, sportswear
antistatic behaviour	workwear, carpets
electrical conductivity	smart textiles, textronics, workwear
antimicrobial properties	medical textiles, bedding, hospital linen
barrier properties	medical textiles, protective clothing and gloves
uv resistance	outdoor textiles, protective clothing, sportswear, children's clothing
controlled release of perfumes, drugs & cosmetics	medical textiles, panty's, clothing

Services

Centexbel supports the industry's endeavours to improve and innovate products and production processes by means of:

- technological consultancy on process optimisation, (sustainable) product development and testing of coated and/or finished textiles
- assistance in the exploration, testing and implementation of innovating processes and products
- problem solving
- process monitoring: energy and water consumption, COD analysis
- process audits
- in-company training sessions and seminars
- patent search and IPR consultance

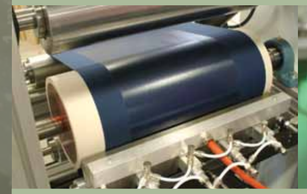
Research & Development

Centexbel's research is focussed on the application of emerging surface treatment, modification and coating techniques and new (ecological) additives in view of a sustainable product and process development.

Techniques	*Materials & Additives*	*Sustainable Development*
plasma & corona surface treatment	nano-additives	biopolymers
UV curing	hydrogels	biodegradable auxiliaries
IR drying	natural dyes	recycling and reuse of wastewater
hotmelt coating	sol-gel	process optimisation
Lower Critical Solution Temperature	Ionic Liquids	energy-saving drying and curing processes
yarn coating ...		textile care and laundring processes ...

textile coating & finishing platform

Continuous Pilot-Scale Application Lines



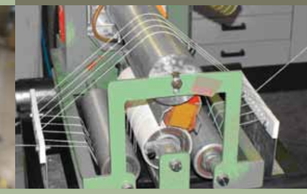
hotmelt applicator	*yarn coater*	*finishing coating line*
coating or lamination	all yarn types	applicators:
slot-die application	application of low viscosity products	→ padder
thermoplastic hotmelt	flow rate: 0.5 - 100 ml/h	→ blade-over-roll
max. application temperature: 200°C		→ blade-in-air
max. working width: 45 cm		max. working width: 50 cm
	drying/curing: thermal, IR, UV	drying/curing: thermal
line speed: 0.5 - 30 m/min	line speed: 1-3 m/min or > 20 m/min	line speed: 0.5 - 12 m/min



Semi-Industrial Coating & Finishing Line

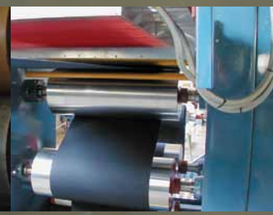
applicators	*specifications*
padder	drying and curing: thermal, UV, IR
blade-over-roll & blade-in-air coater	max. working width: 50 cm
screen coater	water-based formulations
foam coater	Corona pretreatment + precursor
powder scatter coater	
lamination unit	
transfer coating device	

Surface Treatment



corona	*corona + precursor*	*plasma jet*
ambient air	ambient air	nitrogen atmosphere (+ O_2 or H_2)
		treatment in afterglow
max. substrate thickness: 1.5 cm	max. substrate thickness: 1.5 cm	no limit to thickness
max. working width: 32 cm	max. working width: 50 cm	max. working width: 6 cm
speed > 1.5 m/min	speed: 1.5 - 10 m/min	





Labscale Applications

applications	*specifications*
textile finishing:	small samples & prototypes
→ padding	→ water or solvent based products
→ impregnation	→ compact paste
	→ foam
textile coating:	→ 100% systems
→ blade-over-roll	→ UV-curable products
→ blade-in-air	→ powders
→ dip-coating	
powder deposition	various drying & curing options