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# world of textiles

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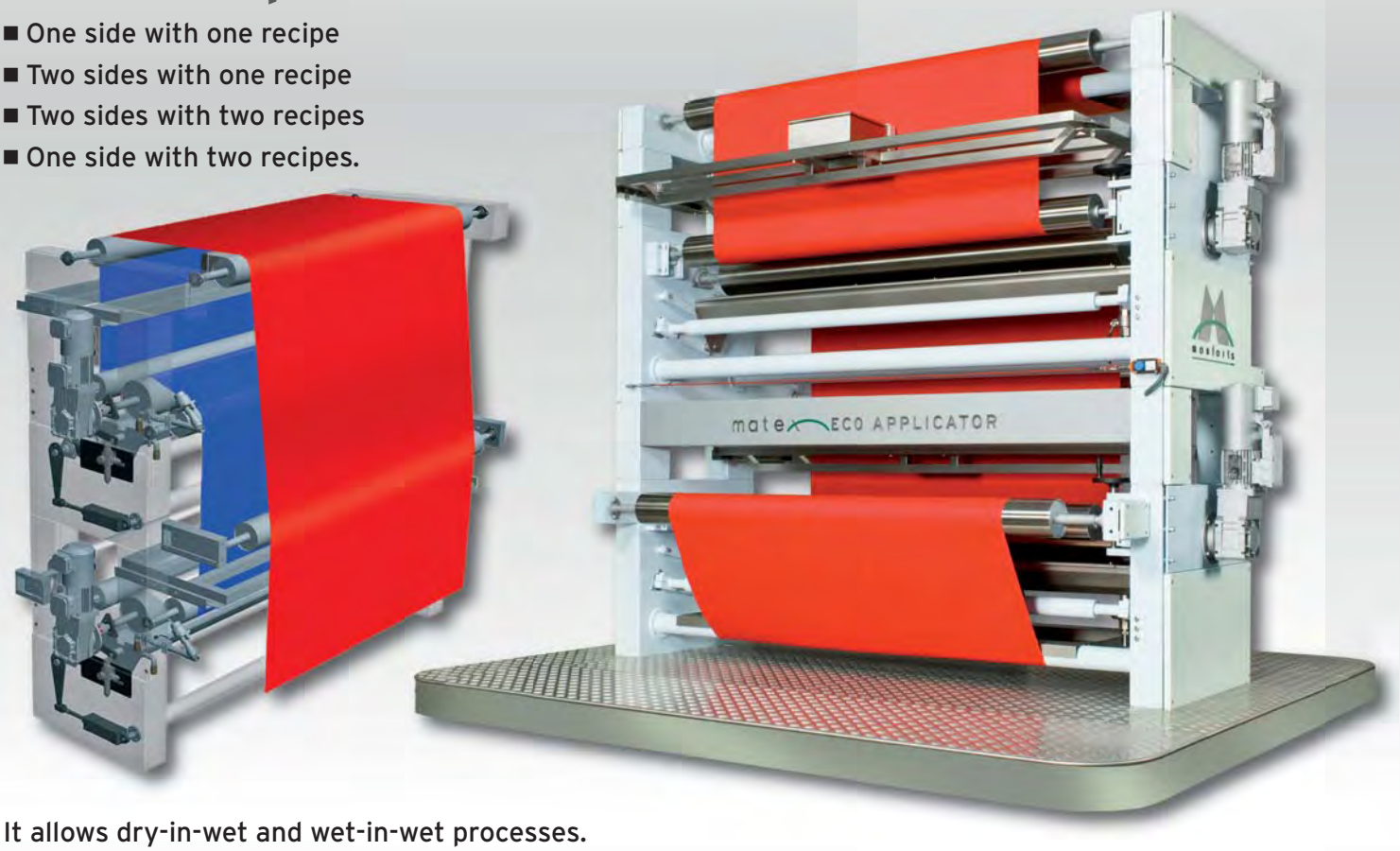
THINKING AHEAD
FOR SUSTAINABLE SOLUTIONS

# Maximum fabric effects with economic machine application.

## That's new: the application of selective quantities

- One side with one recipe
- Two sides with one recipe
- Two sides with two recipes
- One side with two recipes.




It allows dry-in-wet and wet-in-wet processes.

All film-producing formulations can be used.

The results: wetting, application time and penetration depth can be influenced selectively, drying costs cut, production speed increased and two-sided effects achieved.
Highest reproducibility through modern measuring and control systems.

Easy to install into existing plants.

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Partner of the Engineering Industry Sustainability Initiative

GERMAN Technology

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# Thinking Ahead - for Sustainable Solutions

The general trend as we approach ITMA'15 in Milan, Italy continues to provide solutions for both economy and ecology; resulting in new developments from Monforts such as exhaust air cleaning and heat recovery with automatic cleaning.

Furthermore for environmental processes, we continue to offer the best technology in the marketplace. The pre-requisites of the Advanced Technology Center are being well received by all our customers, testing all environmental processes such as finishing of knitted fabrics with EcoApplicator technology, continuous dyeing of woven fabrics with Econtrol T-CA process, as well as coating of technical textiles. As a result, Monforts, as a leading manufacturer of finishing machines, is able to offer the latest technology for environmental solutions.

These are further highlighted in this, the latest issue of World of Textiles, featuring global applications for Thermex continuous dyeing; a new Thermex 6500 in Pakistan featuring an Econtrol process system to ensure reduced production costs; and a new Allround modular coating system.

**Roland Hampel,**
*Managing Director*

BLUeCOMPETENCE Alliance Member
Partner of the Engineering Industry Sustainability Initiative

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# Contents


# Finishing off the heavy weights

## Montex stenter takes centre stage at the thriving contract furnishing fabrics plant of Belgium's Tavelmo Movelta.

"Advanced finishing is at the heart of everything we do here," says Frans Hellyn, owner of the highly successful Tavelmo Movelta Group, one of Europe's leading manufacturers of contract furnishing fabrics, "and the Montex stenter is at the heart of our finishing operations."

Since 2011, two previously separate businesses within the group have been consolidated at a state-of-the-art, integrated weaving and finishing plant in Nijverheidslaan, between the Belgian cities of Lille and Ghent.

Both yarn and piece dyeing are carried out at a separate plant in nearby Sint-Niklaas.

### Flat wovens

The Movelta brand has been well known for years for its ranges of woven velvets, while the Tavelmo name is equally renowned for flat wovens and cheniles. Fabrics for sofas, curtains and bedding are exported to more than 60 countries and the group also supplies materials extensively to manufacturers of caravans and mobile homes, boats and outdoor furniture.

With the merging of the two operations at the Nijverheidslaan plant, a six chamber Montex stenter with a working width of 1.8m was ordered through local representative Le Clair & Meert n.v. to replace two older machines.


*Frans Hellyn (left) stands with the family-owned company's third generation, daughter Charlotte (centre) and son Oliver (right).*

"It does the jobs both were previously handling much faster and with much better uniform quality results," says Mr Hellyn. "Everything we produce here goes through the stenter at least once, and often twice. If we mercerise the fabrics, they then go through the stenter again, and if we coat or print them, stentering also follows."

He adds that a conscious decision was made to focus on added-value wet and dry finishing operations and to invest in the best machines available for each process.

Tavelmo Movelta generally deals with fabrics that are much heavier than those produced for apparel, in the weight range of between 350-500gsm, and finishes such as flame retardancy, moisture repellency and even chlorine resistance for the marine market have to be accurately applied and their effectiveness guaranteed.

**Sensitive handling**

Specific products within the company's vast range demand especially sensitive handling, such as polypropylene-based outdoor fabrics where precise temperature control is essential, or the latex back-coating of caravan fabrics.

In the treatment of face-to-face velvets, meanwhile, the even backing applied on the Montex stenter is essential for achieving accurate pile anchorage.

"We are lucky to have a highly-experienced team here who can get the most out of the machines," Mr Hellyn says.

Tavelmo Movelta received the 2014 Blue Drop Award at the MOOD (Meet Only Original Designs) trade fair held in Brussels, for its development of a special velvet quality, based on bamboo polyester.

"The company succeeded in creating a kind of pelt, similar to fur," said MOOD trends co-ordinator Niek De Prest. "The ultimate softness obtained with the naturally antibacterial bamboo fibre is unrivalled and even the discolouration is perfect."

**'easy clean finish'**

Another new development which is attracting a lot of interest - and is also particularly demanding on the company's technicians and the stenter - is the new Easy Clean finish, developed in collaboration with a chemicals supplier.

With Easy Clean, stains on furnishing fabrics including ink, tomato sauce and red wine can be easily removed with water and unlike other treatments, its effectiveness is permanent.

> ***"Everything we produce here goes through the stenter at least once, and often twice."***

"The difference," Mr Hellyn observes, "is that we are embedding the coating deep within the fibres of the fabrics, which took a lot of research and development work to achieve."

Tavelmo Movelta was founded in 1948 by Mr Hellyn's father and his son Olivier and daughter Charlotte now run the business with him as the family-owned firm looks towards its third generation success.

"Today, it's not possible to compete as purely a weaver of fabrics," he concludes. "We are running against the wind in producing here in Europe, which is why we have to specialise and have made heavy investments in our finishing equipment."

# Leading the way with new technology

For a country which imports 60% of its domestic garments and home textiles from Asian producers, Brazil has a real 'home grown' success story with Döhler S.A.; considered to be be one of Brazil's leading home textile producers.

*Ingo Döhler, Managing Director*

Currently producing 1500t/month - predominately home textiles for the domestic market - Döhler has, according to the Managing Director, Ingo Döhler, ambitious plans underway to double production within 5 years from its 220,000m² facility in Joinville.

"We are producing the right product at the right price and so we have no need to fear the Asian competitors in our domestic market," he enthused. A confidence which resonates throughout his 3300 staff.

"To stay ahead of the competition we are constantly seeking new technology and solutions to further improve our production techniques," he added.

Recent expansion plans have included a 10,000 m² extension to the weaving department with 30 new high speed weaving machines and 78 new units total for the terry towelling production - "currently our most important product line accounting for 55% of production," said Ingo.

Newly introduced technology includes the recent installation of the first Monforts stenter, a Montex 6500.

"With a finishing department comprising 10 older, locally produced stenters, we recognised the need to look at the latest technology in the marketplace."

"Thanks to the excellent rapport and assistance from local representative, Herbert Erdmann at Euro Texteis, we placed the order for an 8-chamber Montex 6500."

"We have not been disappointed. Installed in a line incorporating a coating and flocking arrangement at the stenter infeed, the Montex has introduced wider fabric working at faster speeds."

"It has provided energy saving of around 18% and increased production as much as 30% at fabric widths of up to 3.20m." he said.

## Family-run

Döhler was founded in 1881 by Ingo's great grandfather Carl Gottlieb Döhler, a German immigrant. As a weaver he had hoped to make his fortune running a plantation. But with the land too poor he resorted back to his weaving roots; specialising in fabric for jackets and workshirts. Today, the company remains a family concern, with 10 family members - 6 as directors and 4 in production roles.

Led by President and Joinville's mayor, Udo Döhler and Ingo Döhler as managing director, as the 4th generation, the newest 5th generation members are nephews Alexander, an electrical engineer and Lucas Döhler, a textiles chemical engineer. Ingo is also looking forward to welcoming his 22 year old grandson on graduation as an engineer to start the next generation.

## Home textiles specialist

Some 60 years ago the company opted to specialise in home textiles, today producing a comprehensive range of curtains, upholstery, table cloths, bed linen, terry towels, kitchen towels, vertical blinds and mattress covers.

"This wide range allows us the flexibility to meet, for example, seasonal high demands for certain products."

In the finishing department, the fully integrated vertical operation purchased its first stenter in 1958, a Brazilian Texima. Today with 10 units, the management recognised the need to modernise its facility and recently installed the first Montex 6500.

With finishing on a wide range of fabrics including 100% cotton, cotton/polyester, cotton/viscous, viscous/polyester blends, linen, plus aramide and polyamide for military uniforms and raincoats.

The full coating and flocking configuration is able to undertake a variety of repellent coating and incorporates air knife techniques for table cloths and upholstery. Water proof


production is also assured for a wide range of garden/poolside furniture fabrics.

The range of fabrics handled through the Montex offer weights of 120g/m² for mattress covers up to 800g/m² for terry towelling.

### Montex line

"By incorporating the coating and flocking units into the inlet feed of the Montex 6500 we are able to carry out virtually every application required," explained Ingo. "The older stenters are virtually only able to finish one particular product.

"The Montex therefore makes us very flexible. For example, one of the older stenters also includes a coating and flocking unit, but it only accepts widths of up to 1.50m."

"The Montex with a working width of 3.20m opens new market opportunities for us."

Another new product made possible for Döhler, thanks to the new Montex, is a 2.80m wide blackout curtain fabric, soon to be introduced into the market.

"Currently a blackout curtain this wide must be imported," claimed Ingo, "We will be the first Brazilian company to offer this product."

The Montex is also proving its versatility with curtain fabrics running at speeds of 40m/min compared with 27m/min on the older stenters.

Having started work in the company at 13 after school hours, today, more than 60 years later, Ingo has witnessed many changes to production.

"For a long time I thought that changes in the printing department were the most significant, but I can see that today the Monforts technology has to be the most dramatic change in our business," he confirmed.

"It is just impossible to overestimate the importance of this new machine and the benefits it has opened up for us."

Working 24/7 the finishing department operates a 3-shift system each day to meet the increased production.

### Export growth

With todays improved trading conditions and preferential currency rate of exchange, Ingo confided that the near future plans include significantly increasing its 8% export figures.

"We are keen to seek larger export markets particularly to the United States; an opportunity today made more possible with the `add on` benefits achieved with the new Montex."

*Former students Erick Swolkin and Bruna Gaglianone, perform a pas de deux in Don Quixote*

# Joinville - a city of dance

Joinville, formally known as Colonia Dona Francisca, traces its origins to a contract signed in 1849 between the Hamburgo Colonization Society and the Prince and Princess of Joinville - he was the son of the King of France and she, the sister of Emperor Dom Pedro II; when land was ceded to mark their wedding.

Its history therefore began with the arrival of the first European immigrants and the founding of the city on March 9, 1851.

Over the next 30 years almost 17,000 immigrants mostly from Germany were to arrive.

Today with a population of more than 547,000 inhabitants, the city retains much of its German heritage. It is also recognised as the largest in city in Santa Cantarina State and a key industrial centre for Brazil, including a thriving textile sector.

Further, as host to the world's biggest dance festival and the venue for the only Bolshoi school of ballet, outside Russia, it is widely recognised as a city of dance.

## World beater

From tap to hip hop, from folk to neo classical, in total seven different categories attracting predominately amateur dancers has made Joinville's annual dance festival the largest of its type in the world.

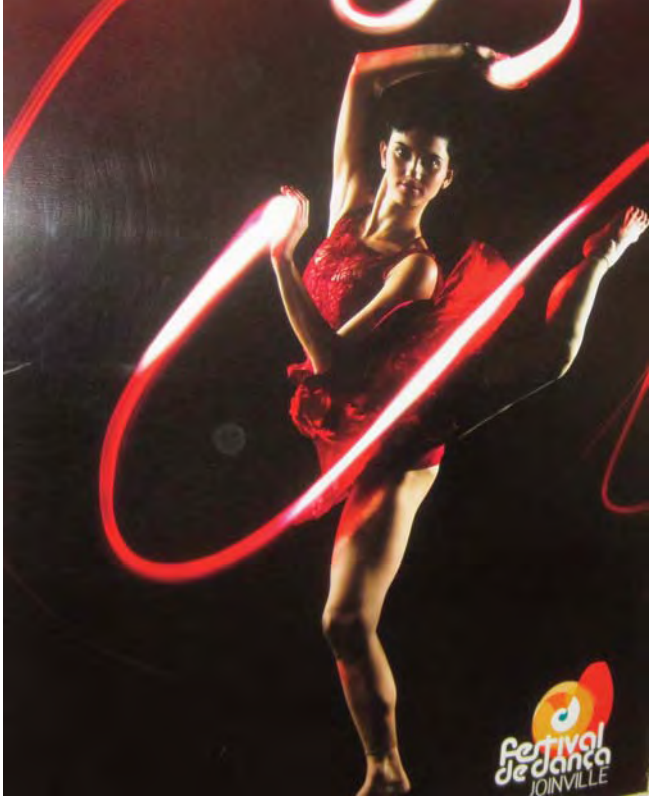
Spread over 11 days, up to 30 winners from the different categories and age groups compete in a 'champions' gala on the last night for the highly coveted gold medal for the overall best dancer. The festival was first held in 1983 attracting 600 dancers from across Brazil. It rapidly grew in popularity, with the Guinness book of World Records confirming its status as the world's biggest dance festival in 2005.

"Since then, the festival regularly attracts 6500 dancers but," confirms festival President for the past seven years, Ely Duniz da Silva Filho, "the shear logistics of venues, etc, means it cannot be made bigger."

The dance festival attracts audiences of 2,500 each day, and for the champions gala the 4,000 ticket event is a sell-out weeks in advance.

## The Bolshoi in Brazil

In 1996 the Bolshoi ballet toured Brazil with a performance at the 14th Joinville dance festival.




*Each year numerous groups of aspiring dancers visit the school for a tour*

The Russians were very impressed with the reception it had received from the audience and the reverence of the city towards art.

As a result the Bolshoi's Artistic Director, Alexander Bogatyrev, made proposals to establish a unit of the school in the city.

His long held 'dream' to export the training methods of the Bolshoi had, he felt, become a real possibility.

Working together with the city's mayor, Luiz Henrique da Silveira, plans were initiated to open the first school of Bolshoi ballet outside Russia.

Sadly in 1998 before the school opening, Alexander passed away, but his wife, a former Bolshoi ballerina, Galina Kravchenko came to Brazil and today she is a ballet tutor at the school; continuing his legacy with other Russian and Brazilian teachers.

Today the school takes students from Brazil and South America from 9 years of age for an 8 year course offering an education and ballet training.

Since these first years many students have graduated with 67% continuing in a career of dance.

Today in addition to regular concerts in Joinville and Brazil tours have been held in Uruguay, Paraguay, Switzerland, Italy, Germany and Russia. But perhaps seen as the highest accolade to its success, three graduates are currently performing in the Corps of Ballet at the Bolshoi in Moscow.

Each year the best dance companies in Brazil and overseas across Europe and the USA continue to take on many of the young dancers on graduation.

# Our specialty is to manufacture products for bed, bath, table, and decoration. But what we like is to produce well-being.

The quality of Döhler's products for bed, bath, table, and decoration begins by selecting the best raw materials. It continues in each production step, in the development of new production processes and the choice of more efficient equipment. This is how we ensure the ongoing evolution of our products and the complete satisfaction of our customers.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# Global deliveries for Montex Allround modular coating system

**Only recently introduced, Montex Allround modular and interchangeable coating system is already proving popular with technical textile producers. Global deliveries have been made to producers in China, France and Pakistan.**

> *"The patented Montex Allround offers considerable benefits to manufacturers."*


Technical textiles are extremely diverse in their end-use applications and manufacturers can be called upon to quickly produce a succession of materials with widely differing properties - often within a single shift.

These can range from carbon fabrics for today's high-performance composites, to filter media which must perform in extreme temperatures. Then there are the heavy duty membranes which are employed in the collection and storage of methane in biogas plants, as well as materials equipped with sensors and electrical conductors which are now used as base liners in DSC solar cells.

These very different materials, however, have one thing in common - they all require expert finishing for maximum efficiency.

In seeking to cater to the flexibility in processing technology demanded by such wide-ranging production, Monforts has developed the new Montex Allround, a modular, interchangeable coating system for technical textiles.

The patented Montex Allround offers considerable benefits to manufacturers of coated technical textiles - and not least in respect of its flexibility.


The modular coating heads of the system can be quickly and easily changed by a specially-designed undercarriage from the side of the unit, allowing it to be adapted for different applications.

There are modules for knife and slot die coating, in addition to those suitable for flexure, gravure and rotary-screen printing. Special modules for powder scattering and spraying are also available.

The unit can be enclosed with a special casing when the handling of fabrics treated with organic, or even toxic solvents is taking place.


The Montex Allround, which consists of a spreading unit and a pulling device along with the selected coating head, allows for the tension-free coating of the substrate along a greatly-reduced web path and a very short period of 'open' coating prior to it entering the dryer; ensuring significantly less chance of contamination.

The shortest possible distance between the coating head and the stenter infeed ensures the highest quality coating results.

# The nerve centre for textile finishing

**The Monforts Advanced Technology Centre in Germany draws on all of the know-how of the company in respect of fabric processing, including denim coating, elastane treatments, over-dyeing, creating special surface effects and much more. Textile journalist Adrian Wilson reports.**

At first glance, the two production-scale finishing lines at the € 2.5 million Monforts Advanced Technology Centre (ATC) at the company's head office in Moenchengladbach, Germany look very similar, yet they're designed with very different markets in mind.

And, at the same time, they represent engineering capabilities which are now solidly in place on two continents - the first line for treating knitted fabrics having been built at the Monforts plant in Zongshan, China, and the second line for treating technical textiles at the St Stephan facility in Austria.

"The ATC allows customers to test their own textiles and technical fabrics on Monforts dyeing and finishing machines under fully confidential, real production conditions," said Vice-President of Marketing, Klaus Heinrichs.

"Using the results from these trials, we are also able to make recommendations for improving many fabric finishes. As a global company, Moenchengladbach remains the nerve-centre for what it's possible to achieve with advanced finishing techniques."

The ATC also houses a Thermex range for the continuous dyeing of denim and other woven fabrics, including the Econtrol process, consisting of a padder, infrared pre-dryer, hotflue chamber, cooling zone and winder.

A steam generator for the Econtrol dyeing processes is installed, along with utilities such as the expansive colour kitchen and extensive fabric laboratory testing equipment.

The Monforts ATC offers unlimited potential for textile manufacturers to differentiate their products and benefit from Monforts' vast experience in fields ranging from special coating effects, elastane treatments, the over-dyeing of fabrics and the creation of entirely new special surface effects.

**Knitwear**

The Chinese-built Monfongs finishing line at the ATC is based around a Montex 6500 stenter with vertical chain return and is designed for the state-of-the art production of conventional knitwear.

Knitted fabrics, explained ATC Manager, Fred Vohsdahl, must never be stretched and need to be treated in a relaxed state. As a consequence, the 2.2 metre wide, four-chamber stenter incorporates a TwinAir nozzle system that ensures the relaxed fabric is kept at a suitable height in between the upper and lower nozzle system, despite 'bowing'.

Exact selvedge control with the minimum pinning in is also extremely important with knitted fabrics.

The line is equipped with the company's Eco Applicator system which eliminates the need for a conventional wet-on-wet padder, instead employing trough and roller techniques to precisely apply the re-

*Left to right: Peter Tolksdorf, Jürgen Hanel and Fred Vohsdahl*

> *Knitted fabrics must never be stretched and need to be treated in a relaxed state.*


quired amount of liquid/coating to the fabric.

This is an extremely flexible unit, allowing coating to be applied on either side of the fabric, or both, and with single or separate finishes.

An obvious example would be the application of a soil or water repellent finish on the face fabric and a softener or water absorption finish to the other side of the fabric.

"Compared with a padder system, the initial moisture content of 60% is reduced to 40% using the Eco Applicator, ensuring a reduction in drying times and reduced energy costs," explained Vohsdahl. "These are just a couple of the special elements of the line which has been engineered for complete, fingertip control of all working parameters," he added.

"People often talk of the 'recipe' for setting advanced finishing lines, but for me this word doesn't accurately describe what's being achieved and is more applicable to the dyehouse."

"We're talking about setting up and controlling all aspects of the line for maximum efficiency and repeatability."


*Though they look very similar, the two ATC stentering lines are engineered to deal with very different material requirements.*

**Technical textiles**

Jürgen Hanel joined Monforts as the manager of the company's Technical Textiles business three years ago when the ATC was just at the planning stage. He had a number of specific ideas what the second line dedicated to technical textiles within the ATC should be able to offer.

Firstly, it had to be capable of processing organic solvents, which can often be volatile.

"There was a wariness about organic solvents, but in the end, they're not as difficult to coat on textile substrates as they are on plastic films where they're already widely used, and they offer a lot of possibilities for companies to explore and develop entirely new products - especially in fields such as medical and filtration," he said.

Nevertheless, they do require a highly-controlled and contained environment, and as a consequence, the ATC technical textiles line which incorporates a Montex 8000 four-chamber, horizontal chain stenter, is fitted with an explosion-proof coating application chamber.

Every single component within the chamber has to meet the standards of the European Union's ATEX directives for working in an explosive atmosphere.

A range of sensors linked to alarms operate at various levels within the chamber to ensure the specified temperature range is never exceeded and the ventilation adapts accordingly.

The coating heads can be knife or roller for dealing with either water or solvent based finishes.

Special features on the finishing line relate to a further advanced function - the ability to treat materials not only at temperatures of up to 300°C, but also to be able to treat the top and bottom faces of certain materials at different temperatures within a single pass through the machine.

**Separate temperatures**

As a consequence, the first two chambers of the stenter are fitted with special, heavy duty TwinAir ventilation motors and separate burners for individual top/bottom temperature.

A temperature differential of up to 60°C can be achieved between the upper and lower nozzles within the chamber.

"There are a lot of applications where employing two separate temperature treatments is beneficial," explained Mr Hanel.

He continued, "For example, floorcoverings - where the textile face fabric is treated at one temperature and the rubber backing at another - as well as PVC flooring employing chemical foams or for materials like black-out roller blinds with heavy backings."

"And at the same time, in the pharmaceutical industry there are hundreds of different applications for organic solvents such as anti-septic


treatments which have to be treated very carefully and applied at very specific temperatures in order not to destroy their efficacy."

Other materials, such as PTFE-coated filter materials are also applied and then cured at separate temperatures.

**Stretching**

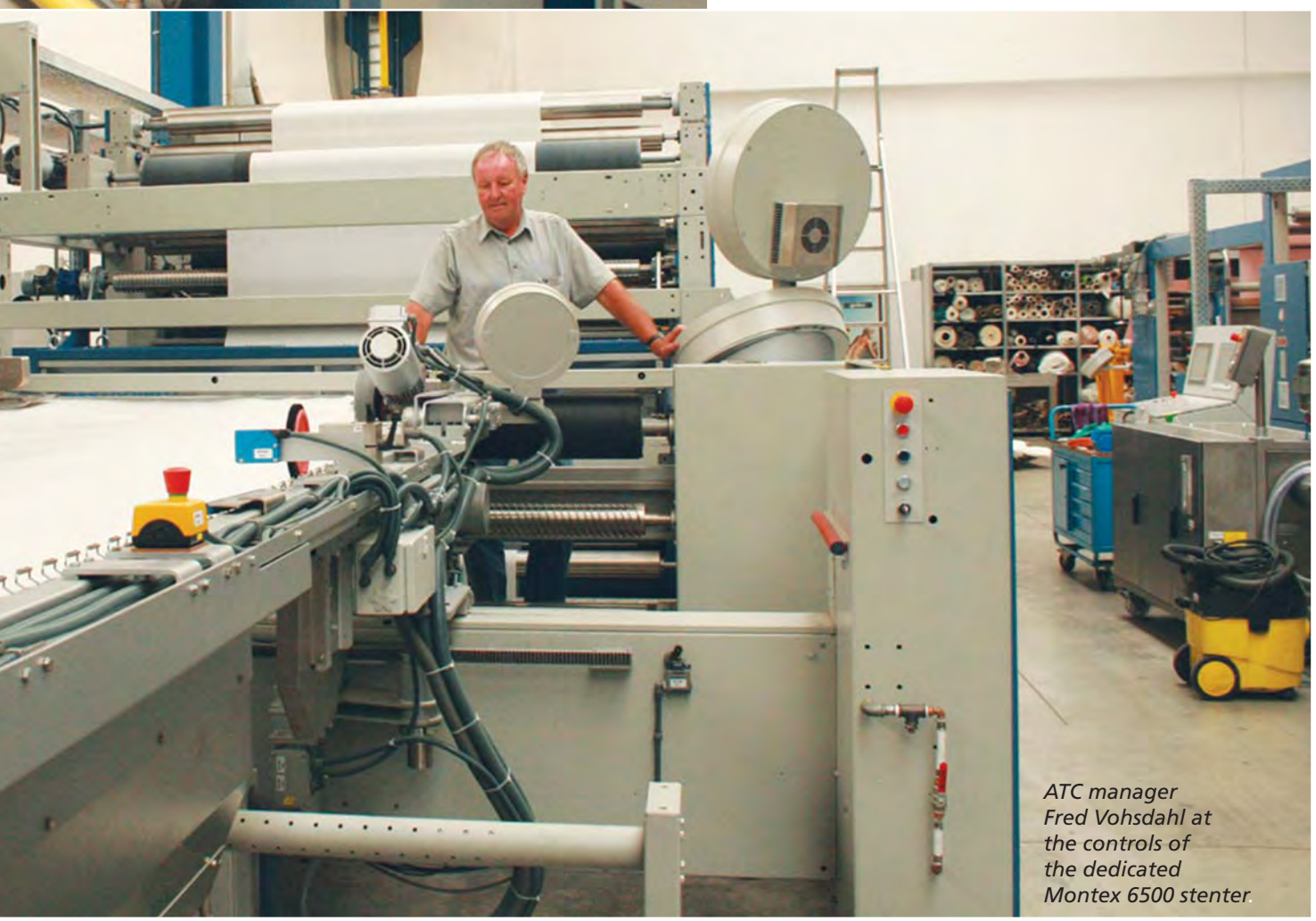
Another key feature is the special stretching device which is capable of pulling ten tons in length and ten tons in width - a huge amount per square metre of fabric and necessary in the production of materials such as woven or 3D knits for high temperature filter media.

Three weft straighteners - each with different key strengths - have been installed by Monforts ATC partners Erhardt + Leimer, Mahlo and Pleva.

"This line has been engineered to provide the ultimate in precision finishing, in order to achieve the standards required by the medical companies, and also the quality standards in place for aerospace and automotive grade materials," Mr Hanel concluded. "Denim manufacturers could find much inspiration from developments in parallel fields such as these, in addition to benefiting from our long experience of denim finishing."

"We are always happy to discuss existing possibilities and also the development of new concepts."

> ***"Using the results from these trials, we are also able to make recommendations for improving many fabric finishes."***



*ATC manager Fred Vohsdahl at the controls of the dedicated Montex 6500 stenter.*

# Inspiration from Italy

*Finalist of ITMA Sustainable Innovation Award 2015 - Industry Excellence Award*

**Berto SpA is taking Italian flair and German finishing machinery innovation to a whole new level with its latest Never Fade solid indigo denims which are guaranteed to retain their colour for a lifetime.**

Berto SpA, was the first Italian company to install a Monforts stenter line with an integrated Eco Applicator, with which it has developed a wide range of new coating and colouring concepts.

At a recent Denim by PV exhibition in Barcelona, Berto showcased its Grace Kelly and Romance printed denims and the Karma Glove range of coated stretch fabrics in vivid, full colours, in addition to the groundbreaking Never Fade jeans.

A strategy of continuous investment has been a key to Berto's success - it began spinning its own open end yarns and adding ring spinning in 2004.

As denim output intensified, the company installed an indigo dyeing plant and later, as part of a major modernisation and expansion programme, took delivery of the eight-chamber Montex stenter with the Eco Applicator installed in-line.

"This has enabled us to increase even further the wide range of differentiated fabrics - primarily denims - we are manufacturing each season," says Finishing Manager, Sebastiano Antico.

"The sensor-controlled Eco Applicator unit is a very efficient method


*"The reliability and accuracy of the Monforts line is excellent."*

of applying dyes and coatings via a sophisticated roller system."

"The reliability and accuracy of the Monforts line is excellent," he continued, adding "Since we installed it, the percentage of fabrics we've had to re-work has decreased substantially. It's also allowed us to considerably expand the range of special materials we offer, including resin treated and polymerized fabrics."

"Our latest Never Fade solid indigo denims have been a real success and rely on both a special dyeing technique and the precision finishing made possible by the Eco Applicator."

The Eco Applicator unit allows the very precise application of treatments for new functionality on just one side of the material, or on both, and can also apply separate treatments on each side.

The sensors automatically adjust the moisture application rollers to the speed of the fabric and can move with or against the line, depending on the desired objective.

Not only is this resulting in a wide range of new treatments and effects being achieved by skilled specialists at Berto, it's also leading to big savings, as a result of the amount of reduced drying energy for the fabric being used.

As a supplier of denim to the leading European designer brands - including Armani, Dolce & Gabbana and Valentino in Italy alone - Berto has been quick to exploit the potential of this new technology.

# Extended stretching field infeed for knitwear specialist

**Indonesian knitwear specialist P.T. Pelinitra Gunawan, has installed a 6m long stretching field infeed to ensure precise and constant width dimensions.**

A 6m long stretching field infeed to a Monforts compactor is ensuring stable, precise and constant width dimensions on a Montex line for Indonesia's knitwear specialist P.T. Pelintra Gunawan; installed by the local representative DKSH.

Founded in 1990 in Jakarta by Rudy Chan - who today still maintains a daily presence in the business - P.T. Pulau Intan Lestari produced knitted fabric from bought in yarns, while P.T. Pelinitra Gunawan maintain the textile colouring and finishing.

When the factory was severely flooded in 1995, the decision was made to move to Cikampek, some 98 km away.

By 2000 the company opened its own dyeing and finishing facility purchasing its first Montex and a Monforts relaxation dryer for the in-house produced circular knitwear increasing production to 280t/month.

Three years later further expansion saw a second Montex installed and a Monforts compactor increasing production further to above 330t/month.

Late last year a third Montex was delivered and installed by DKSH, increasing production up to 500t/month.

"Not a large scale operation but efficient, quality driven and meeting timely deliveries," said Production Manager, Anthony Chan.

Up to 80% of production today is cotton and its blend of primarily 65:35 and 50:50 cotton/polyester. Other blends feature viscose, tencel

*Production Manager, Anthony Chan*

and polyester lycra. For cotton/lycra blends of 5 - 12% lycra maximum are produced.

Fabric widths of 50 - 86 inch are produced from 85 - 380gsm - the latter generally baby-terry knit for jackets. Principally knitwear of 110 - 210gsm is produced for men's and ladies casual and intimate fashion wear for the Japanese and German markets.

Indirect export, through local garment make up and Indonesian agencies for customers such as Uniqlo, Asics, S Oliver, Esprit and Massimo Dutti account for 50% of production.

**Latest Montex**

The recently installed Montex, according to Andreas Arya, DSKH Product Manager-Textiles, introduces the latest technology to Pelinitra Gunawan and includes heat recovery to make the line more than 30% more energy efficient; thereby significantly reducing energy costs.

"It is also more user friendly, offering easy to use programmes," confirmed Anthony Chan.

All three Montex stenters have the capability to provide a variety of finishing processes including anti-bacteria, anti-yellowing, quick dry and others.

**Independent compactor**

Alongside the latest Montex, the felt compactor has been installed for independent operation rather than in line offering increased flexibility. Featuring a felt belt it offers according to Anthony, "good hand feel and lustre."

"It also offers good 'bulky' feel if required" he added.

Working 24 hours six days a week, the company places great emphasis on day-to-day routine maintenance to ensure trouble-free operation.

In concluding Anthony Chan confirmed that the company associated Monforts machinery with good German engineering precision. He added, "We have therefore stayed with their finishing machines with the latest delivery."

> ***"Late last year a third Montex was delivered and installed by DKSH, increasing production up to 500t/month."***

*The Monforts Compactor features a 6m long stretching field infeed to ensure stable, precise and constant fabric width dimensions.*

# Bed linen specialist invests in second wide-width Montex

## Asia Citra Pratama has added a second wide-width Montex stenter to its new textile mill opened in 2010.

Indonesia's Asia Citra Pratama has taken delivery of a second wide-width Montex stenter to meet increased production for its quality home textiles range.

In 2009 the established family business of Asia Citra Pratama (ACP) made a significant decision. Mr and Mrs Aries Tedjawisastra had founded the company in 1986, starting as a printer of narrow-width fabrics for shirts.

The idea was then to diversify further, into wide-width quality fabrics for home textiles and especially bed linen.

ACP was finding it impossible to expand its premises: surrounded by residential and commercial properties, there was no room for expansion.

So the decision was made to invest in a new production plant at the green industrial zone of Suryacipta City of Industry, in Karaweang, West Java.

**Greenfield site**

Located some 80km from Bandung and 55km south of Jakarta, the new site was a Greenfield one, and required the building and equipping of entirely new premises.

The family's two sons, Hendra and Henky Tedjawisastra took charge of the new plant, which started production in October 2010.

Hendra Tedjawisastra says that the decision to invest in a Montex stenter at that time had been based on the quality and reliability of the Montex machine that had been installed in Bandung in 1990, and which after 20 years was still providing "fantastic service".

ACP has recently added a second Montex stenter to its new mill, doubling the size of its production potential.

"The new Montex is exactly the same specification as the first unit," said Hendra. "Both can handle widths of 3.2m, which is what we need for the bed linen."

"Both have eight chambers and are handling mostly materials of 120 g/m$^2$."

Hendra said that the second Montex was needed because extra printing capacity was added: ACP has a complete wide-width pre-setting, finishing and production line for pigment printing, and has recently introduced a reactive printing line.

Between them the two stenters have a capacity of around 2 .5 million metres per month, with the throughput averaging about 800,000 metres per month for each machine.

"Most of the fabric makes two passes through the stenters, the first for setting and the second for finish-

> *"The new Montex is exactly the same specification as the first unit, said Hendra. Both can handle widths of 3.2m, which is what we need for the bed linen."*

*Hendra Tedjawisastra*

ing, following the printing process and the steamer," he stated.

**Energy savings**

Suryacipta City of Industry is designed as a garden industrial zone, and the environmental protection afforded by the Montex was an important factor when choosing to invest in the new mill, as were the energy saving features such as the heat recovery system that feeds exhaust air heat into the heat exchanger to heat the fresh combustion air.

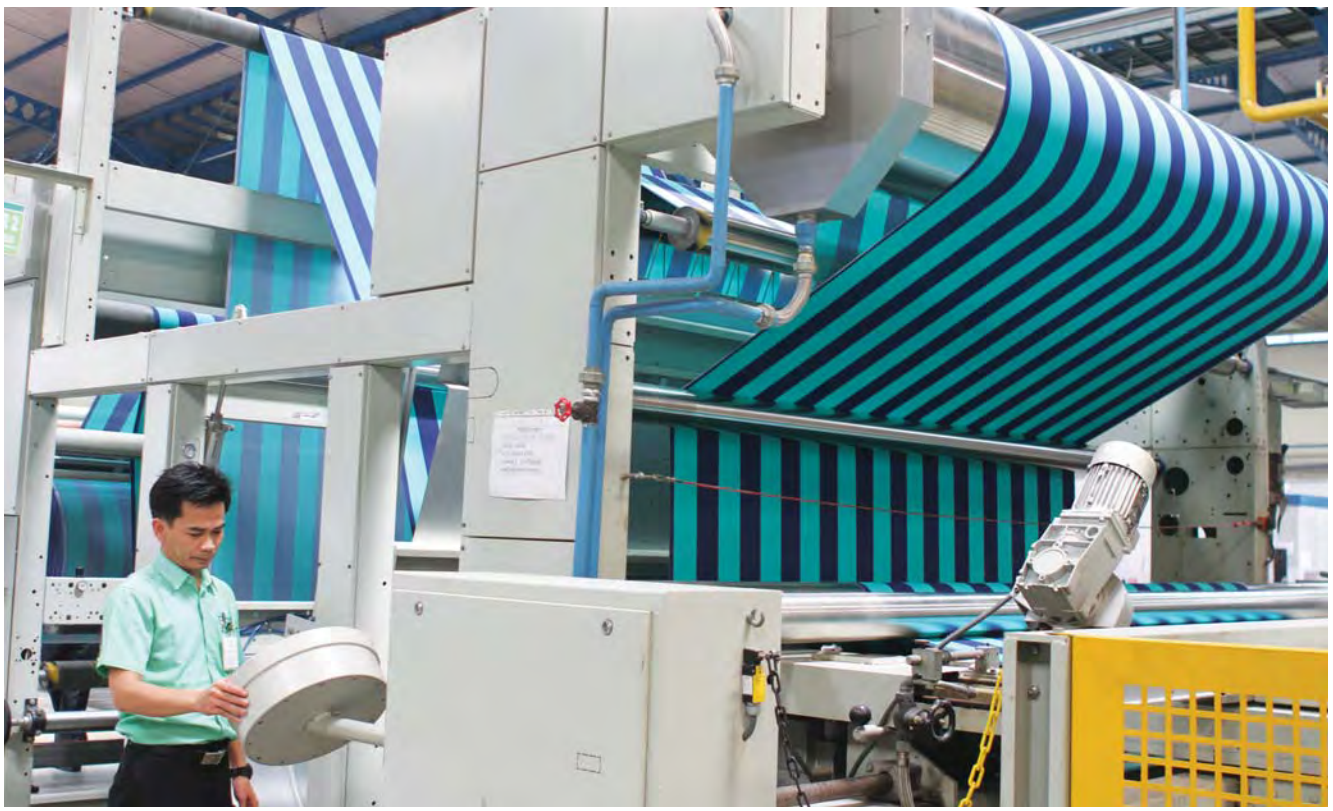
"We are minimising the use of water and electricity. For our energy source we use compressed natural gas, CNG, which is friendly to the environment as it does not create any hazardous or toxic wastes.

We also have our own wastewater processing facility that complies to the industrial zone's quality standards."

"So we have a safe, healthy work environment and our entire philosophy is based upon producing quality products in a safe and environmentally responsible manner."

ACP is now intent upon building on the expertise of the older generation and becoming leader in the production of home textiles for Indonesia, with the emphasis on bed sheets and curtain sets, bed cover sets, quilt cover sets and duvets.

"The Indonesian market is changing," says Hendra. "The rapid growth of the middle class, with its demand for higher quality products, is creating a great opportunity for us. And we are also starting to enter the international market."



# Competence in Denim Finishing

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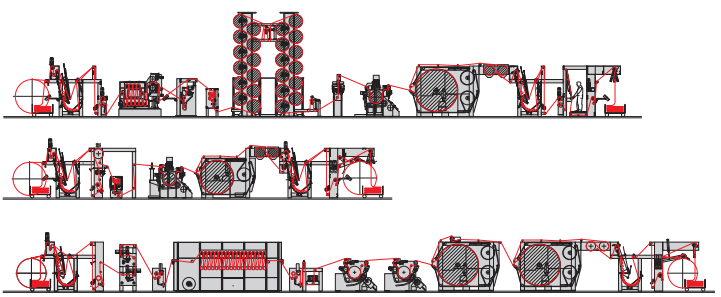

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GERMAN Technology

VDMA

# Monforts Denim Ranges

## A Concept for Denim Finishing Possibilities

By Dipl. Ing. Kurt van Wersch, Senior Consultant

**Part 2: Effect dyeing of denim wide-open fabric using the Eco Applicator**

The rapidly growing fashion constantly makes new demands on textile finishers with ever newer specifications, particularly for the finishing of denim.

Finished denim fabric in wide-open form is a further opportunity for finishers in the future.

With the latest process engineering and innovative machine technology, Monforts offers an economically and ecologically mature machine and process programme for denim finishing.

Over-dyeing, effect dyeing, printing, special pretreatments, coatings and functionalisation are currently determining the topics of the hour in the denim segment for designers, weavers and finishers.

Coloured jeans are the trend, special effects are called for, with functionalisation, such as various hydrophobic or hydrophilic finishes, flameproofing, etc., required.

Wellness is the new catch word for special denim finishing.

Monforts will be reporting on these topics in future with the Following articles planned:

Part 1 Over-dyeing of denim grey fabric with reactive dyestuffs using the Econtrol® process

**Part 2 Effect dyeing of denim wide-open fabric using the Eco Applicator**

Part 3 Denim - Pretreatment methods for creative fabric handles

Part 4 Denim - The latest possibilities for functionalisation and coating

Part 5 Denim - Stretching, skewing and compressive shrinking

**Monforts offers a wide variety of processes and ranges for the finishing of denim.**

For finishing of denim grey fabric after cleaning and singeing, and for pretreated and prewashed open-wide fabric Monforts offers, for example, padders, foam applicators, minimum-liquor applicators, numerous sizes and versions of stretching and skewing devices, dryers and compressive shrinkage ranges.

Processes and ranges are offered, for example, for desizing, mercerising,

stripping, continuous dyeing, single-sided or two-sided effect dyeing, single-sided or two-sided effect finishing and various functionalisation and coating possibilities in order to create special effects.

This article deals with the effect dyeing of denim wide-open fabric using the Monforts Eco Applicator minimum-liquor applicator.

# Monforts Denim-Anlagen

## Ein Konzept für Denim-Veredlungsmöglichkeiten

von Dipl.- Ing. Kurt van Wersch, Senior Consultant

**Teil 2.: Effektfärbungen auf Denim-Breitware mit dem Eco Applicator**

Die schnell wachsende Mode stellt ständig neue Anforderungen an die Textilveredler, dabei macht sie immer neue Vorgaben, besonders bei der Veredlung und Ausrüstung von Denim.

Veredelte Denimware in Breitform, ist für die Ausrüster eine weitere Chance für die Zukunft.

Mit aktueller Verfahrenstechnik und innovativem Maschinenbau bietet Monforts ein ökonomisch und ökologisch ausgereiftes Maschinen- und Verfahrensprogramm zur Denim-Veredlung.

Überfärben, Effektfärben, Drucken, spezielle Vorbehandlungen, Beschichtung und Funktionalisierung bestimmen zur Zeit im Denimbereich das Thema bei Designern, Webern und Ausrüstern.

Coloured-Jeans liegen im Trend, spezielle Effekte sind erwünscht, Funktionalisierung wie z.B. verschiedene Hydrophobierungen, Hydrophilierungen und Flammschutzausrüstungen sind erforderlich.

Wellness ist das „neue Zauberwort" für spezielle Denim-Ausrüstungen.

Monforts wird zukünftig mit Beiträgen zu diesen Themen in Monforts World of Denim berichten. Folgende Beiträge sind unter anderem vorgesehen:

Teil 1 Überfärben von Denim Rohware mit Reaktivfarbstoffen nach dem Econtrol®-Verfahren

**Teil 2 Effektfärbungen auf Denim-Breitware mit dem Eco Applicator**

Teil 3 Denim - Warengriff kreativ gestalten durch Vorbehandlungsmethoden

Teil 4 Denim - aktuelle Möglichkeiten zur Funktionalisierung und Beschichtung

Teil 5 Denim- Recken, Schrägstellen und kompressiv Krumpfen

**Monforts bietet eine Vielzahl von Verfahren und Anlagen zur Veredlung von Denim an.**

Für die Veredlung von Denim Rohware nach dem Putzen und Sengen sowie für vorbehandelte und vorgewaschene Breitware werden z.B.: Foulards, Schaumauftragsanlagen, Minimalauftragsanlagen, Reck-und Schrägstellwerke in verschiedenen Größen und Ausführungen, Trockner und kompressive Krumpfanlagen.

Zur Erzielung von Effekten werden Verfahren und Anlagen, zum Entschlichten, Mercerisieren,

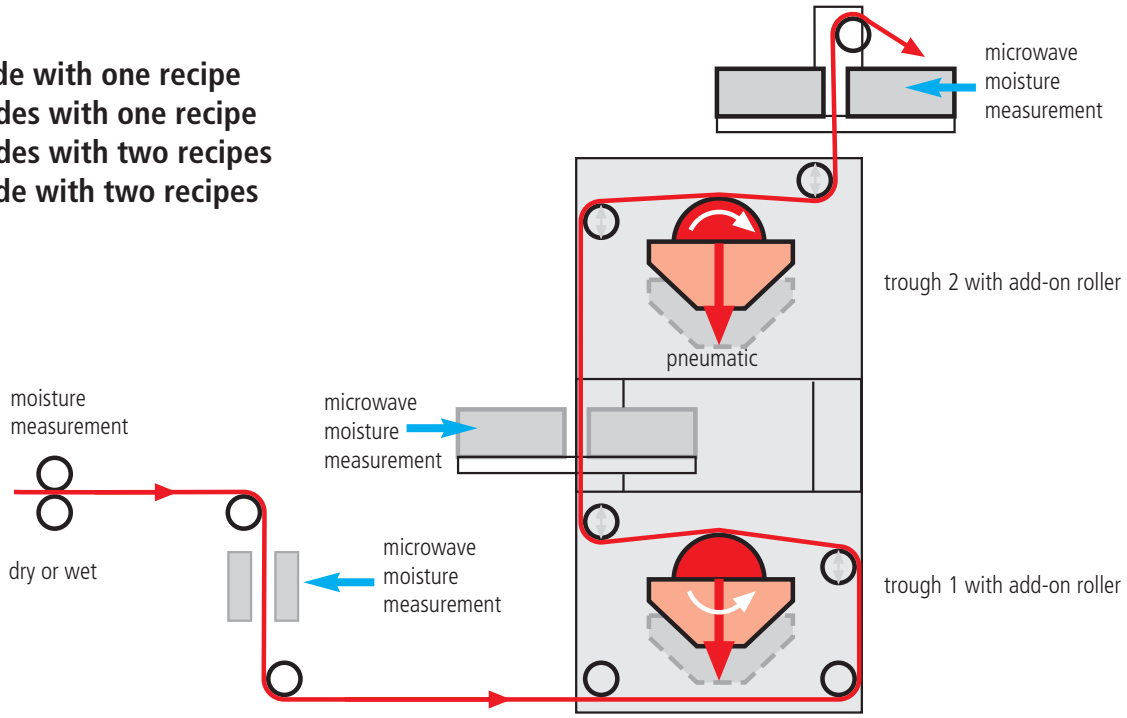
Abziehen, Kontinuefärben, einseitigem oder zweiseitigem Effektfärben, einseitigen oder zweiseitigen Effektausrüstungen und diverse Funktionalisierungs- und Beschichtungs- möglichkeiten angeboten.

Dieser Beitrag befasst sich mit Effektfärbungen auf Denim-Breitware mit dem Minimalauftragsaggregat Monforts Eco Applicator.

**Figure 1**

**Layout and Operation of the Matex® Eco Applicator**

- One side with one recipe
- Two sides with one recipe
- Two sides with two recipes
- One side with two recipes




### 1. Introduction of the Eco Applicator

Figure 1 shows the functional diagram of the liquor applicator. Both dry or damp fabric can be fed into the applicator. Moisture meters in the inlet section measure the condition of the ingoing denim fabric.

On the applicator:

- Liquor can be applied on one side (with one formulation) to the upper or under side
- Liquor can be applied on two sides (with one formulation) to the upper and under side
- Liquor can be applied on two sides (with two different formulations) to the upper and under side
- Liquor can be applied on one side (with two different formulations) to the same side.

The liquor is applied by means of controlled applicator rolls. Microwave-based meters measure and control the desired application rate.

The fabric wetted in this way is then transported to the dryer for product heatsetting and/or curing.

Selective measures and machine settings allow a very wide range of effects to be produced.

### 2. Effect possibilities with the Eco Applicator

**Fig. 2** Reactive or pigment dyestuff (only on the blue denim side)

**Fig. 3** Reactive or pigment dyestuff (only on rear side)

**Fig. 4** Reactive and/or pigment dyestuff (simultaneously on both sides of the fabric pigment black / pigment yellow)

**Fig. 5** Reactive and/or pigment dyestuff (reproducible unequal application on 1 side of the fabric)

### 1. Vorstellung des Eco Applicators

Abb.1 zeigt das Funktionsschema des Auftragsaggregates. Trockene, aber auch feuchte Ware kann dem Aggregat vorgelegt werden. Feuchtemessgeräte im Einlaufbereich erfassen den jeweiligen Zustand der Denim-Ware.

Wahlweise kann:

- ein einseitiger Flottenauftrag (mit einer Rezeptur) auf Ober- oder Unterseite,
- ein zweiseitiger Auftrag (mit einer Rezeptur) auf Ober- und Unterseite,
- ein zweiseitiger Auftrag ( mit zwei verschiedenen Rezepturen) für Ober- und Unterseite,
- ein einseitiger Auftrag (mit zwei verschiedenen Rezepturen) auf die gleiche Seite durchgeführt werden.

Die Flotte wird durch geregelte Antragswalzen aufgetragen. Mikro wellen. Messgeräte messen und kontrollieren die gewünschte Auftragsmenge.

Die so benetzte Ware wird dann dem Trockner zur Produktfixierung und/oder Kondensation zugeführt.

Durch gezielte Maßnahmen und Maschineneinstellungen lassen sich die verschiedensten Effekte erzeugen.

### 2. Effektmöglichkeiten mit dem Eco Applicator

**Abb. 2** Reaktiv- oder Pigmentfarbstoff (nur auf die blaue Denimseite )

**Abb. 3** Reaktiv- oder Pigmentfarbstoff nur auf der Rückseite

**Abb. 4** Reaktiv- und/oder Pigmentfarbstoff (gleichzeitig auf beide Warenseiten Pigment black / Pigment yellow)

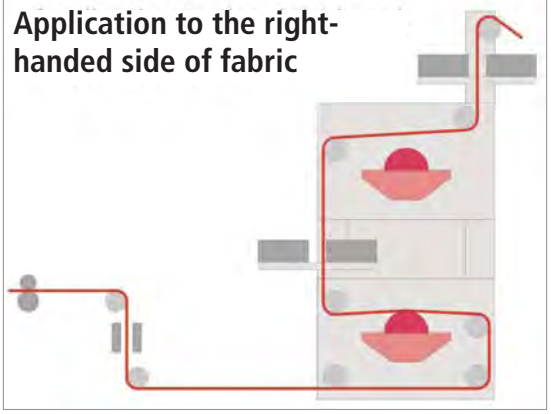
**Abb. 5** Reaktiv- und/oder Pigmentfarbstoff (reproduzierbar unegaler Auftrag auf 1 Warenseite)

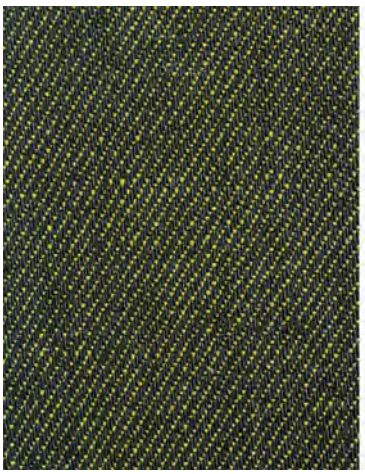
Front side/Vorderseite

Rear side/Rückseite

**Figure 2**

**Application to the right-handed side of fabric**





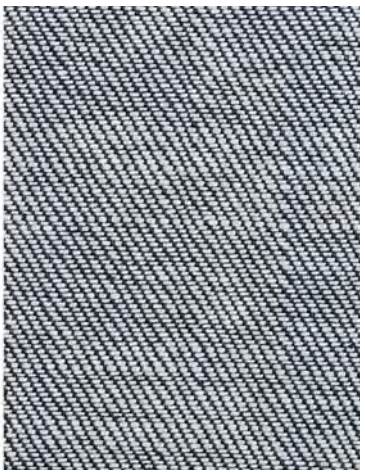
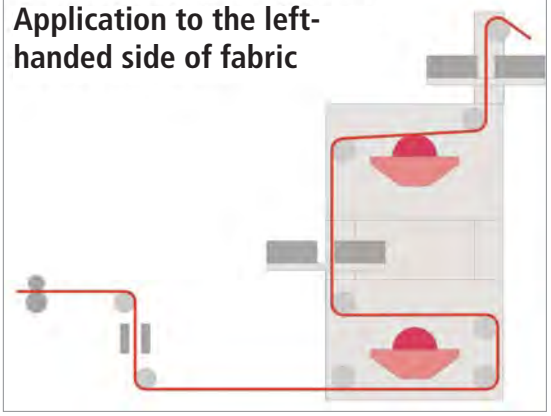


**Figure 3**

**Application to the left-handed side of fabric**



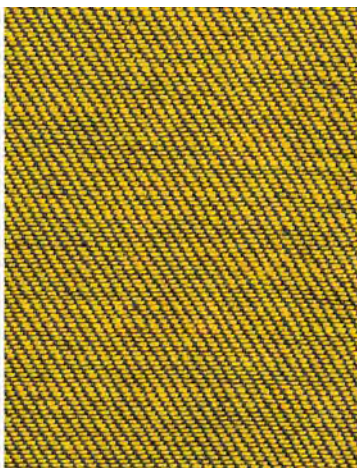
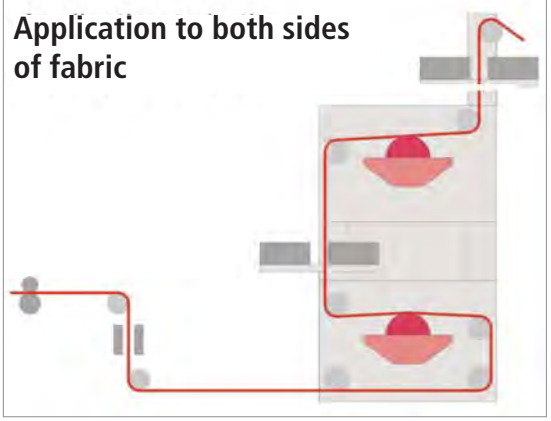


**Figure 4**

**Application to both sides of fabric**



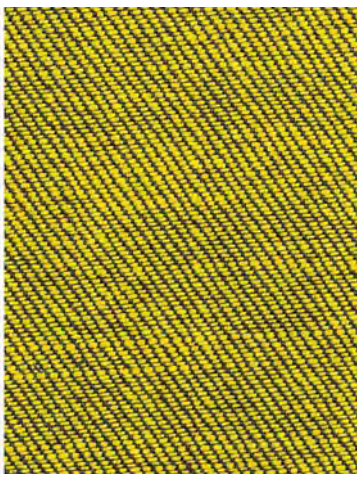
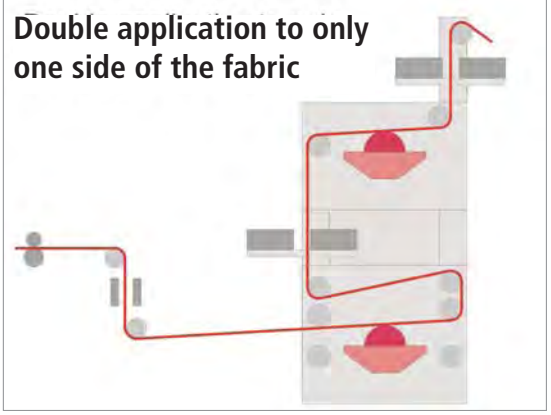
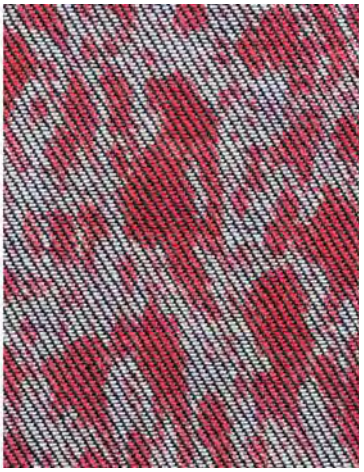
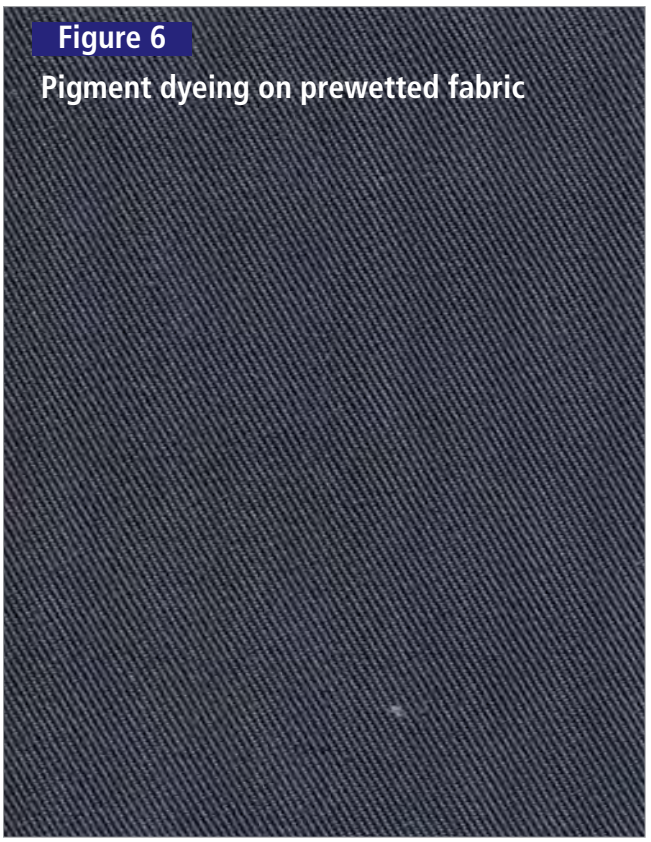


**Figure 5**

**Double application to only one side of the fabric**








The Eco Applicator therefore allows bi-colour effects to be achieved.

With reactive dyestuffs, the dyestuffs are fixed using the Econtrol process, (drying for 2-3 minutes, 110-130°C, 25% v/v steam in the circulating air). With pigment dyestuffs using the pad-dry cure process (drying at 120-140°C, curing for 2 minutes at 170°C).

The recommendations of the dyestuffs manufacturers must be observed.

### 3. Reproducible unequal dyestuff application using the Eco Applicator on white denim fabric (bull denim)

The white fabric is wet with water using the 1st applicator roller (approximately 20-25% moisture application). The second applicator roller (approximately 20% liquor application) applies, for example, a pigment dyestuff.

**Fig. 6** Pigment dyeing on prewetted fabric
Fabric appearance after application. Due to the previously applied water, the cotton fibre is only able to absorb the pigment dyestuff at the surface. A ring dyeing effect is produced.

**Fig. 7** Pigment dyestuffs - Penetration.
After drying and curing, the fabric is finished and made up. Garment washing then enables the desired jeans effects to be achieved.

**Fig. 8** Made-up and briefly washed
Another way of achieving the 'used look' is by following the non-continuous method.
The white fabric is wetted with water, pressed into a spin dryer and spun.
With approximately 40% residual moisture, it is taken out of the spin dryer and fed into the Eco Applicator in wide-open form.
The dyestuff is then applied to the damp fabric, the fabric is dyed and the dyestuff fixed. The fabric is finally finished in the normal manner.

**Fig. 9** shows the fabric appearance achieved.
The fabric is smooth, but appears wrinkled and has the desired 'used look'.

Mit dem Eco Applicator lassen sich so ebenfalls bicolor-Effekte darstellen.

Die Fixierung der Farbstoffe erfolgt bei Reaktivfarbstoffen nach dem Econtrol-Verfahren, ( trocknen 2-3 Minuten, 110-130 Grad Celsius, 25 Vol % Dampf in der Umluft ), bei Pigmentfarbstoffen nach dem Pad-Dry-Cure-Verfahren ( trocknen bei 120-140 Grad Celsius, Kondensation 2 Minuten bei 170 Grad Celsius ).

Hier sind auch die Empfehlungen der Farbwerke zu berücksichtigen.

### 3. Reproduzierbarer unegaler Farbauftrag mit dem Eco Applicator auf Denim-Weißware (Bull Denim)

Die Weißware wird mit der 1. Antragswalze (ca. 20-25 % Feuchteauftrag) mit Wasser angefeuchtet. Mit der zweiten Antragswalze wird ( ca. 20% Flottenauftrag ) z.B. ein Pigmentfarbstoff aufgetragen.

**Abb. 6** Warenmuster nach Auftrag
Durch das vorher aufgetragene Wasser ist die Baumwollfaser nur noch in der Lage den Pigmentfarbstoff an der Oberfläche aufzunehmen. Es entsteht eine Ringfärbung.

**Abb. 7** Nach dem Trocknen und Kondensieren wird die Ware fertiggestellt und konfektioniert.
Bei der Garmentwäsche lassen sich dann die gewünschten Jeans-Effekte erreichen.

**Abb 8** Ein anderer Weg zum „used look" ist auch nach folgender, aber nicht kontinuierlicher Methode zu erreichen.
Die Weißware wird mit Wasser benetzt, in eine Schleuder gepresst und geschleudert.
Mit etwa 40% Restfeuchte wird sie der Schleuder entnommen und ausgebreitet dem Eco Applicator vorgelegt. Hier wird nun auf die feuchte Ware der Farbstoff aufgetragen, die Ware wird getrocknet und der Farbstoff fixiert. Anschließend wird die Ware wie gewohnt fertiggestellt.

**Abb. 9** zeigt den erzielten Warenausfall
Die Ware ist glatt, wirkt aber optisch knittrig und hat den gewünschten "used look".

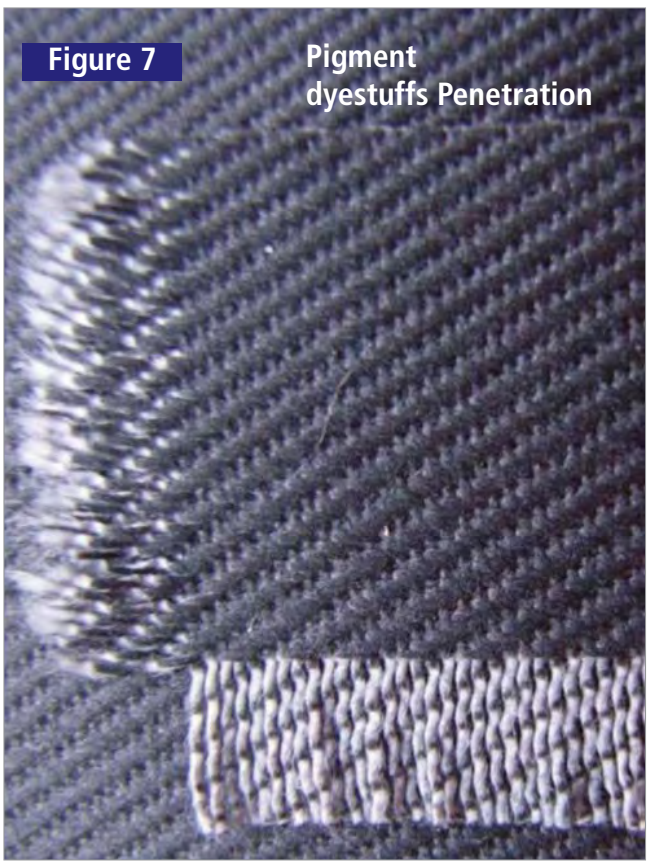


**Figure 8**
**Made-up and briefly washed**

The use of the Eco Applicator offers a wide variety of possibilities for achieving effects on wide-open denim fabric. It offers great potential for creative developers.

Denim forms a particularly significant part of present-day textile production with growing production figures.

Fashion designers, designers, dyestuff manufacturers, chemical industry, textile producers and machine engineering constantly work, hand-in-hand, with new ideas and innovations in order to achieve these growing production figures and to offer the consumer an 'ever young' denim product.

Denim reinvents itself time and again. We can help and show you how!

Der Einsatz des Eco Applicators liefert eine Vielzahl von verschiedenen Möglichkeiten Effekte auf Denim-Breitware zu erreichen. Der Eco Applicator bietet ein großes Potetial für kreative Entwickler.

Denim ist ein besonders zu beachtender Bestandteil der heutigen Textilproduktion mit wachsenden Produktionszahlen.

Modeschöpfer, Designer, Farbwerke, chemische Industrie, Textilproduzenten und Maschinenbau arbeiten Hand in Hand mit ständig neuen Ideen und Innovationen, um diese wachsenden Produktionszahlen zu verwirklichen und dem Verbraucher ein immer junges Denimprodukt zu liefern.

Denim erfindet sich immer wieder neu. Wir helfen mit und zeigen wie!

**Figure 9**

# Indonesia's first new Thermex continuous dyeing range

**In keeping with a strategy to modernize its production facilities, Indonesia's P.T. Dan Liris has begun using the first new generation Thermex 6500 continuous dyeing range; to increase its production capacity and improve quality.**

The installation of the first new generation Thermex 6500 continuous dyeing range fully equipped with Econtrol® will further strengthen P.T. Dan Liris' ability to meet market demand in Indonesia and overseas, as well as facilitate the manufacture of high quality textile goods.

Prior to using the Thermex 6500 continuous dyeing technology - ordered through local representative, DKSH - Dan Liris had relied on an outdated method that required more time to complete and was less efficient.

Following the successful installation of the new Thermex 6500, Dan Liris is now targeting a level of quality that will allow the company to enhance the competitiveness of its products in international markets.

**Econtrol®**

The Monforts Econtrol® system is designed to not only ensure the highest product quality, but also to minimize the use of dyestuff and chemicals, and reduce water consumption.

The system will prove particularly useful to Dan Liris in dyeing its range of fabrics weighing between 60 - 250 gsm. Made from materials including Polyester/Cotton (TC), 100% Cotton, Spandex, 100% Rayon and Polyester/Rayon (TR); these fabrics are manufactured through the use of Shuttle Looms and Air Jet Looms, in sizes ranging from 47 - 69 inches.

**Batik beginnings**

In 1928, Kasom Tjokrosaputro started a cottage industry business selling batik from door to door in the Indonesian city of Solo in Central Java. His sons, Handoko and Handiman Tjokrosaputro continued the family business by establishing a textile manufacturing company.

Named Dan Liris, in reference to the Javanese philosophy of 'Udan Liris', meaning a steady light rain or drizzle, the textile manufacturing company was founded with the expectation that it would be able to achieve strong and stable growth, while delivering prosperity to its shareholders, employees, partners and the surrounding community.

Founded in 1974 initial operations focused primarily on a Weaving Division before quickly expanding to include divisions in Spinning, Finishing & Printing, and Garments by 1976.

Today, under the guidance of Chief Commissioner I.P. Elizabeth Sindoro, wife of the late Handiman Tjokrosaputro, the leadership has passed to the family's third generation following the appointment of Ms Michelle Tjokrosaputro as CEO.

**Manufacturing capabilities**

Today Dan Liris fully vertical operations include spinning, weaving, finishing & printing and a garment division.

The Spinning Division, with a total of 108,680 spindles has a production capacity of 86,944 bales of yarn per year. This unit serves both local and export markets, as well as providing the company with the materials needed for other textile manufacturing processes.

It's Weaving Division has 572 shuttle looms and 537 air jet looms, operating at a production capacity of 85 million metres of fabric per year. The division caters for the local mar-

*Mr Heru Sudarno, Director - Textile Production.*


ket, as well as overseas buyers and for Dan Liris' own internal use.

Following the new Thermex 6500 installation the finishing & printing division has a production capacity of 42 million yards of fabric per year, with products allocated to the local market as well as for export to markets including Australia, Europe, Japan and the United Kingdom.

Econtrol® is a registred Mark of DyStar Colours Distribution GmbH, Germany

# Borobudur - a gem in Indonesia's history

Just a few hours' drive from Dan Liris is one of the greatest Buddhist monuments, dating from the 8th and 9th centuries and considered to be the world's largest Buddhist temple.

Covering an area of 2500m², it features six square platforms topped by three circular platforms and is decorated by almost 3000 relief panels depicting life during this period and 72 Buddha statues, each seated inside a perforated stupa.

The structure's base measures 123m x 123m with 4m thick walls. The temple's six terraces above the base are each of diminishing heights.

Above these, three circular platforms are topped by a main dome - the top of which is highest point of the monument at 35 m above ground level.

The temple was abandoned during the 14th century with the site gradually being taken over by the surrounding jungle. It was to lay hidden for centuries under layers of volcanic ash and jungle growth.

Worldwide knowledge of its existence was 'sparked' in 1814 by Sir Thomas Stamford Raffles, then the British ruler of Java and also the founder of Singapore.

Borobudur has since seen many restorations. The largest being undertaken between 1975 and 1982 by the Indonesian government and

This colossal project involved around 600 people to restore the monument costing almost US$7 million.

On completion in 1991 UNESCO listed Borobudur a UNESCO World Heritage site.

The temple was badly affected in 2010 by the eruptions of Mount Merapi with a 2.5 cm layer of volcanic ash falling on the temple complex.

With UNESCO donating US$3 million towards the costs of rehabilitation, more than 55,000 stone blocks were dismantled to restore the structures drainage system - clogged by slurry following heavy rainfall.

Today the temple is the single most visited tourist attraction in Indonesia attracting almost 2.5 million a year.

UNESCO with a complete restoration. More than a million stones were dismantled and removed during the restoration.

Set aside as a massive jig saw puzzle, the stones were individually identified, catalogued, cleaned and treated for preservation.

# Debut for Thermex 6500 with Econtrol® process in Pakistan

Continuous reactive dyeing process on a new Thermex 6500 continuous dyeing system with an Econtrol® unit at Pakistan's Nishat Mills is thought to be the first in Pakistan.

*Nishat MillsTechnical Director, Hafeez- ur- Rehman Siddiqui*

Pakistan's Nishat Mills has taken delivery of a purpose-ordered, Thermex 6500 continuous dyeing range with an Econtrol® process system to introduce, it is thought, the country's first continuous reactive dyeing line.

According to Nishat Mills Technical Director, Hafeez- ur- Rehman Siddiqui the company had recognised that the combination of Thermex 6500 and Econtrol® was proving extremely popular in India but the concept was new for Pakistan."

"There had to be a reason for its success. Although at this point we are still learning and evaluating as it has only been a few months since its installation."

"We are looking to meet our target of at least a million metres per month but our decision to acquire the Thermex system was not only to increase production, but also to enhance quality and reproducibility.

"We also bought the Econtrol system to help us reduce the cost of production by reducing water consumption and controlling pollution as well," he added.

The company's fabric dyeing plant in Lahore were already equipped with Monforts stentering, sanforizing and other equipment, which have been complemented by the new Thermex and Econtrol® systems.

**Continuous reactive dyeing**

The Thermex 6500 continuous dyeing system along with the Econtrol® was ordered through local representative Al Ameen Trading.

"Since we had already been relying on Monforts technology dyeing, I felt that we should consider changing to continuous dyeing for bottom wear, narrow width dyeing - which accounts for 70% of our total dyeing capacity."

"Furthermore, with this experience we did not want to deviate from our existing range and configurations."

"We evaluated the various advantages of the Econtrol® process to meet our specific quality parameters in processing bottom wear, narrow width, woven fabrics."

The main advantage of the Econtrol® process, in addition to the energy savings, for Nishat, was the improved fabric specifications of dyed materials with, for example, rubbing and light fastness, when compared with other processes, according to Mr Siddiqui.

He went on to explain, "We expect better quality and fabric specifications, and are currently running 100% cotton."

"An impressive feature of the Thermex continuous dyeing with Econtrol® is its energy savings," he explained elaborating further, "The cost of utilities in Pakistan is very high; almost equal to the total cost of dyes and chemical consumption."

> *"Thermex 6500 and Econtrol® was proving extremely popular in India but the concept was new for Pakistan."*


Econtrol® is a registred Mark of DyStar Colours Distribution GmbH, Germany

"The continuous process Econtrol® is not only energy efficient but also offers ecological advantages of continuous finishing with a minimum use of chemicals."

"It is great that we can finish our fabrics with excellent light and washing fastness."

"Installing the Thermex 6500 with Econtrol® was the right decision for us and will greatly contribute to meeting our target of 1 million metres of fabric per month," he concluded.

**Nishat Group**

With two spinning units and an existing Monforts yarn dyeing operation in Faisalabad, a weaving unit in Sheikhupura and weaving, fabric dyeing and finishing, stitching and garment making-up operations in Lahore, Nishat has grown over the years to become one of the biggest vertically-integrated textile operations in the country.

The fabric processing plant has the capacity to process over 10 million m of fabric monthly and has been purpose-designed to handle heavy weight fabrics such as twills, canvas and poplins, in addition to stretch fabrics in all high density weaves.

Nishat's operations are also equipped with extremely efficient, captive co-generation, power plants to meet in-house energy requirements at all of its spinning, weaving, processing, stitching and apparel units.

It has been a satisfied Monforts customer since starting in house dyeing operations in 1989; following its formation in 1951.

# Pakistani textile manufacturers visit the Technology Centre

Leading Pakistani textile manufacturers were provided with an exclusive insight into the latest dyeing technologies at the Technology Centre at the company's headquarters in Mönchengladbach.

> *"The suggestions for refinements and product improvements are often initiated by our customers."*

Fourteen Plant Managers and Technical Managing Directors of Pakistan's leading textile manufacturers were shown the latest production processes and resource-efficient solutions at the Technology Centre.

The exchange of views and information among experts at the Technology Centre is very important to Monforts.

"The suggestions for refinements and product improvements are often initiated by our customers," emphasised Chief Technologist Peter Tolksdorf. Pakistan is one of the most important individual markets in Asia for Monforts.

For decades this important market has been supplied with finishing and dyeing machines for the textile industry. "Quality awareness is also increasing in Pakistan," confirmed Wolfgang Poos, who is responsible for Monforts' sales in Pakistan. "And Monforts' machines are world leaders when it comes to sustainable and energy-efficient solutions," he added.

The visitors were more than taken by the opportunities presented at the Technology Centre.

In an experiment on the dyeing machine, an environmentally-friendly dyeing procedure was performed with the support of the dye manufacturer DyStar according to the 'Econtrol® process' jointly developed by Monforts and DyStar.

The Econtrol® method already fixes the dye during the drying process by means of a controlled chamber climate with 25 volume percent of steam, so that the entire steaming process can be saved.

Only 20 grams of salt per litre of treatment liquor is now required (approximately 20 tonnes per year instead of the previous 500 tonnes).The energy-intensive operation of an additional damper is no longer needed.

In addition, the dyeing result is already available after two minutes, whereas in the conventional processes, for example the cold pad-batch method, 12 to 24 hours have to be scheduled. This also saves energy.

Since the proportion of textiles with fibre mixtures such as polyester/cotton has considerably increased over recent years, a further specialised method has been developed on the basis of the Econtrol® process to fulfil the specific requirements.

With the Econtrol T-CA method it is now possible to dye polyester and cotton together in one step.

This saves the reductive cleaning and the associated intermediate drying. In addition to time savings and the reduced use of chemicals, the energy consumption is also significantly reduced.

"Our customers were impressed", said authorised signatory Klaus Heinrichs when summarising the delegation's visit. But Heinrichs did not need to do any persuading.

On the contrary: "Many of them reported that our machines have been used for years to their complete satisfaction in their production. That makes me proud".

After the impressive demonstration, it is very likely that other machines will be added.

# Toptex provides the 'extra edge' for Portugal's Malhas Sonix

One of Portugal's leading knitwear dyeing and finishing producers, Malhas Sonix, is at the forefront of the countries renaissance, meeting the demand by former customers seeking alternative suppliers to those in Asia; taking delivery of a purpose-ordered Toptex sanforising unit - to ensure an even higher quality finish for a wide range of fabrics.


*"Even though it is still early days, we have noticed a definite increase in quality."*

Malhas Sonix, a leading Portuguese knitwear dyeing and finishing specialist has installed a purpose-ordered Toptex sanforising unit; to ensure even higher quality finishing for a wide range of fabrics, as the company wins orders from former customers seeking an alternative supplier to its Asian competition.

The unit quickly proved its value. According to Sonix Production Manager, Ana Maria Costa, "on completing its first consignment the customer telephoned to congratulate us on the shrinkage quality and fabric shine."

The company had previously relied on outside sources for its sanforising, with no control over quality or deliveries.

"We therefore felt it was necessary to be able to guarantee quality, shrinkage, and fabric touch and ap-


pearance by keeping production in-house" she confirmed.

**50th anniversary**

Having been founded in 1968 Sonix will be celebrating its 50th anniversary in 2016. Formed as a knitting and dyeing operation, the company specialised in tubular knits for domestic and export markets.

By 1990, recognising that it needed more control over finishing with guaranteed quality and deliveries, the company installed its first 4-chamber stenter.

Expansion of its dyehouse in 2007, resulting in production increasing to 5 t/day - mostly open width knits - saw the need for a second stenter: with Sonix turning to Monforts for a 6-chamber Montex .

2007 also saw company becoming part of the Diastexstil Group of Companies - a major knitwear group producing finished garments with its own commercial, styling and design operations.

**Second Montex**

Continued investments also saw production increase further with a second Montex ordered in 2012 from the local representative Maquicontrolo Ltd. With space alongside the first Montex restricted, a shorter 5-chamber unit was installed.

The first Montex stenter, featuring a built-in, roof-mounted heat recovery system, is used principally for heat setting. The latest five-chamber Montex, with a standard exhaust system, is used for drying and finishing; often in at least two passes.

Today, the company only produces open width knitwear at weights of between 80 - 500 gm/m² and widths of 1 - 2.1 m in a wide range of specialised fabric blends. These include, for example, cotton and polyester, viscose or lycra blends; viscose/wool; viscose/cashmere; lycra/modal; lyocel/lycra; linen; linen/viscose; and piquet.

"This ability to work with such a diverse and wide range of fabric blends is the secret for the return of many former customers who had turned to lower cost Asian suppliers in the recent past," explained Monforts representative Fernando Araujo.

**Toptex 'shines'**

The new Toptex sanforising unit is quickly proving its value.

"Even though it is still early days, we have noticed a definite increase in quality. The Toptex rubber belt is

*Ana Maria Costa*

giving a fantastic 'shine' finish," extoled Ana Maria Costa.

"Perhaps the best results seen todate has been the linen/viscose blend with a really good 'shine'. We have also had excellent results with 100% cotton piquet achieving excellent length shrinkage," she added.

Operating with a belt temperature of between 120 - 140°C the unit runs at speeds of 25m/min for the lighter weight fabrics and 15m/min for heavier weights.

Portugal's finishing and dyeing houses are today enjoying a renaissance, according to Monforts representative, Fernando Araujo.

"There are probably around just 45 'finishing houses' in Portugal today with most enjoying good business following the downturn of recent years."

"This demand is recognited by European customers for the investment made by the dyeing and finishing houses into working with a wide range of complex fabric blends to a high quality."

"Gone are the days of working with just 100% cotton - recognising that much of this market can be handled at lower cost by countries in North Africa."

Returning customers want reliable production with on-time deliveries and high reproducibility for a diverse range of fabrics.

"Whilst the companies could not compete with the very large batch production from Asia, they are able to beat them on other aspects for smaller batches and certainly for the diverse range of fabrics."

"Portugal has proved that it is a major dyeing and finishing centre for high quality textiles compared with many of its European neighbours with excellent logistics across Europe."

*"This ability to work with such a diverse and wide range of fabric blends is the secret for the return of many former customers."*

# Thai textiles producer adds Monforts Thermex to its line-up

New Thermex 6500 joins existing Monforts machines at Thai Textile Printing Public Co., Ltd. to ensure increased production and extend the company's range of fabrics.

*Assistant Director Chai Her Ching, left, with factory manager Chainarong Chokwongwarun, right.*

Thailand's largest vertical textiles producer, Thai Textile Printing Public Co., Ltd., has added a Thermex 6500 continuous dyeing machine to its production line-up, enabling the company to increase production and add new fabrics to its range.

The Thermex was ordered through the local representative, United Engineering Overseas Ltd.

Thai Textile Printing was founded in 1973 and is located in the textile production district of Samut Prakarn, a province neighbouring Bangkok.

Undertaking bleaching, dyeing, printing and finishing of fabrics from its 110,984 m² factory, the company employs a little over 500 people and works on a 24-hour basis, six days per week, with three shifts per day.

The company installed its first Monforts unit, a sanforiser, in 1987; the machine is still operating today as an integral part of the production line.

"Installing the first Monforts machine allowed us to develop our range of textiles," says TTP Assistant Director Chai Her Ching.

"As we are pursuing a policy of quality production and environmental responsibility, we have subsequently invested in several other Monforts units."

TTP installed a Montex 5000 stenter in 2002, a machine that is also still in full production mode.

In 2012 a second Montex and a Thermex were added to the line-up.

TTP produces between 7 and 8 million metres of textiles per month, and the new Thermex 6500 will help the company increase production by a further 1.5 million metres.

**Roller balance**

The weight of the fabric passing through the machine will range from 140 to 240g/m², although the company handles light fabrics ranging between 85 and 130g/m², and heavier fabrics from 250 to 400g/m².

Mr Chai says that one of the reasons for selecting the Thermex 6500 is the balance of the rollers being excellent and the temperature eveness.

"We know from experience that the fabric will pass smoothly and evenly through the machine, and given the long runs and the tight schedules we have, this is important for our reputation for quality and reliability," he says.

The Thermex hotflue is equipped with indirect gas heating and features the Econtrol® process, which enables dyeing time to be completed in a matter of a few minutes.

The environmental and energy saving systems built into the Thermex help TTP to comply with its own internal policies and Thailand's environmental laws.

TTP gained its first ISO 9002 certification in 2000 and upgraded to ISO 9001 version 2008 in mid 2009. The company has had ISO 14001 certification since 2002.

The company uses a wastewater treatment system that can support 5,500m³/day of effluent, with an efficiency of 90-98% before being discharged into the environment.

**Military uniforms**

TTP is the country's largest producer of cotton textiles for the Thai military, producing uniform fabrics in various camouflage patterns for the Royal Thai Army, Navy and Air Force with anti-mosquito protection.

The company also produces fabric for other uniforms including the fire service with fire-resistant materials being a speciality.

About 70% of production is for overseas customers, with the re-

maining 30% going to the domestic market. The service extends to the finishing of piece-dyed and yarn-dyed fabrics to customer specifications.

Most of the fabric handled for continuous dyeing by TTP is 100% cotton, texture polyester/cotton, cotton/nylon blends and synthetic fibre such as polyester and nylon.

The printing side of production produces pigment print, and reactive, cosmo, disperse/vat, wet-on-wet resist, and pad-dry resist print.

**Finishes**

The range of finishes is extensive, including normal, chintz, peach, stretching, soil release, WR finish, UV protection finish, easy-care, flame retardant, liquid ammonia and Teflon HP finish.

Mr Chai says that Thailand's textiles sector has been in a very tough recession for the past few years, but now the industry is beginning to pick up again.

"We are confident this is the best time for us to invest in new production technology," he says. "The upturn is only just beginning, but we are well established and we have a good reputation for quality."

"We must take this opportunity and this is why we have installed the Monforts Thermex."

*The new Thermex 6500.*

***"Installing the first Monforts machine allowed us to develop our range of textiles."***

# Montex doubles capacity for Turkey's Vicenta home textiles brand

Vicenta Home is planning to expand its range of home textiles following the installation of a new Montex 6500 stenter.


Sebahattin Akyildiz Teksil, one of Turkey's leading producers of home textiles, has installed a Montex 6500 stenter at its production plant in Bursa to expand the capacity for its Vicenta Home brand.

Prior to the new installation, Sebahattin had been relying on a single stenter from a competing manufacturer.

"The Montex stenter will more than double our production capacity," says production coordinator Yasar Ozturk

The Montex 6500 is the first time that Sebahattin has used Monforts technology and it was delivered by Elitez Tekstil Mak San ve Tic AS, the representative for Turkey.

Sebahattin Akyildiz is located at Bursa, in North Western Anatolia, a city that is renowned for its textile production.

The company had been founded in 1991 as a subcontractor for other producers, and finding success in that sector had started its own production line in 1996.

In 2010 Sebahattin began a programme of modernisation, expanding its plant and investing in new equipment.

"We have been very much aware of the reputation Monforts has for quality and reliability," says Mr Oz-

*Sebahattin Akyildiz's production coordinator Yasar Ozturk.*


turk. "Vicenta brand has developed quickly since we launched it, and the range of products and designs is continually expanding."

"Much of our production is based on collections that are renewed each season, and consequently is very time sensitive."

Vicenta is produced for the Turkish domestic market and sold through retail outlets throughout the country as one of the best-known brands of home textiles on the market.

The knitted product range includes curtains, drapery, tablecloths and bedding, and features embroidery and lace elements.

Mr Ozturk says that the Montex will offer an individual adaptation to all the finishing effects that Vicenta requires for woven and knitted fabrics, and for polyesters, along with special solutions for pigment dyeing processes.

"We will now be able to create a greater range of patterns and designs, and experiment with new fabric combinations," he says. "As we now have such a large production capacity, we have the flexibility to include short production runs to test out new fashions and styles."

Vicenta's production will be in the range of 120-150 tonnes per month.

The Montex 6500 can handle all types of natural and man-made fibres in woven, knitted and warp knitted form, applying dehydration, drying, curing and heat-setting finishes.

# Monforts technology behind some beautiful curves

**The latest Montex stenter to be installed at the UK plant of bra cup specialist Simplex Knitting Company has been uniquely customised to specific requirements.**

*Production Director, Kevin McAndrew*

After 25 years of faithful service, the first-ever Monforts stenter for knitted goods to be installed in the UK has been replaced with a brand new one; ordered through local representative Colplan Engineering.

Simplex, based in Chilwell, a small town between the Midlands cities of Derby and Nottingham has installed a state-of-the-art Montex 8000 range as part of a complete re-configuration of its dyeing and finishing department.

Simplex was first established in 1953 purely as a warp knitting company - it is named after the Karl Mayer Simplex fabric technology - and only decided to forward-integrate into dyeing and finishing in the late 1980s.

"The company probably never looked back from that time," said Production Director Kevin McAndrew, who oversaw the initial implementation of the dyeing and finishing department and has run it ever since.

"It's probably the best thing we ever did and was simply a matter of wanting to be in greater control of our business. Before we had our own dyeing and finishing operation we were sending back four out of every ten of our commission dyed batches."

**Lingerie line**

Today, the largest market for Simplex fine gauge stretch and non-stretch (rigid) fabrics is in lingerie and intimate apparel, with a specialisation in bra cups, for key brand customers including Fantasie, Freya, Playtex and Wacoal.

Simplex fabrics are generally valued for their unique characteristics and in bras to gently envelope a woman's curves, providing shape and support, with an attractive, smooth, voluminous handle.

In addition to the 'Simplex' fabric production, 40 gauge tricot and 28 gg raschel power fabrics are supplied world-wide from the Chilwell factory.

The company also knits satins and charmeuse, tulles and mesh, a range of lightweight, soft stretch locknits and high power perform-


ance fabrics, as well as those incorporating branded fibres including Lycra, Coolmax, Coolplus and Novarel.

It can supply various print options including wet and paper prints, digital printing and delustre surfaces. And an extensive range of embossed designs can be applied to any of its 100% polyester fabrics.

Employing 37 people at the Chilwell site, Simplex also supplies to the active sportswear, cosmetic textiles, industrial and medical sectors.




While all of the company's fabric is knitted in the UK, it also has dyeing and finishing operations in China and Sri Lanka plus further offices in Hong Kong and Colombo, which form part of its extensive logistics and distribution network.

"The majority of the fabrics knitted here go to Asia. The finished garments however will end up back in European and US stores," Mr McAndrew observed.

The latest Montex 8000 stenter that has been installed is unique in having two padders in sequence at its entry.

"This was necessary because we don't have any water extraction and this configuration allows us to squeeze on the first padder and apply finishes on the second in a single pass," Mr McAndrew explained.

The stenter is also unusual in having only four chambers, partly because this is all the company requires to finish the lightweight and delicate fabrics it makes, but also for reasons of limited space within the plant; which is also making it necessary for a new building to be built to accommodate yarn and greige fabric stock.

The machine is working to its maximum capability and Mr McAndrew notes a number of new feature benefits over its predecessor.

"The control system is so much easier to operate on the new machines and once we've established a quality we can automatically repeat it," he said. "And as far as service and troubleshooting is concerned, the stenter is now directly linked by modem to Germany and we can make immediate contact with Monforts engineers."

"Because everything is electronic, it's much easier to solve any issues that may arise. It's a vast improvement on what we had before and we're now very happy with it."

# Competence in Finishing of Home Textiles

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