

30%. The resultant fabric has a much cleaner stitch definition due to no surface abrasion, and to produce a similar g/sq.m fabric as exhaust dyeing, an increase in stitch density should be considered at the knitting stage if the cpb application route is intended.

Developments in machine design are mostly for open width processing using sophisticated auto-centre and edge uncurling devices but also include dosing pumps, low-liquor troughs and configurations to allow dye application in the nip as well as in the low-liquor trough. Also on modern pad rollers the pressure can be adjusted across the full width to allow uniform liquor pick-up to eliminate side-centre-side variation.

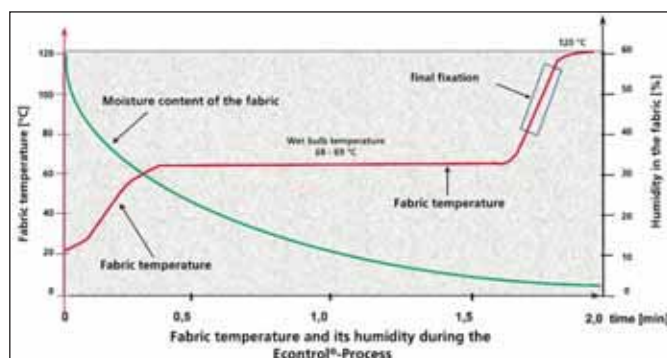
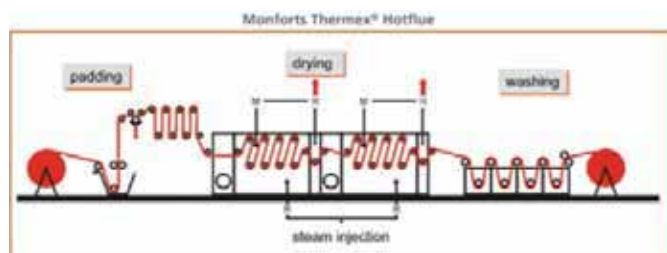
Integrated heating and cooling systems have also been developed to ensure constant temperature in the pad trough regardless of the time of day/season and thus improve the reliability of the process re liquor stability/batching time. For dark shades DyStar has developed the high strength and high fixation value **Remazol® Ultra RGB reactive dye range** which allows deep shades to be achieved with reduced physical quantities of dye to be dissolved and reduced dye hydrolysate to be washed off thereby lowering colour in effluent loading. In addition a concentrated silicate free alkali has been introduced **Sera® Fix C-SF** which simplifies handling and dissolution and prevents deposits on pad rollers and fabric, reduces the electrolytic effect causing increase in substantivity of hydrolysed dye, and facilitates wash-off. For earth-tone shades such as beige, khaki, and grey on emerised woven fabrics with the highest fastness performance requirements, DyStar has developed a dye combination which minimises the face to back shade difference in both hue and depth. The preferred combination is based on **Levafix® Amber CA, Levafix® Fast Red CA, and Levafix® Blue CA** which delivers high light fastness with no photochromism.

As part of the **DyStar ColorXPT®** software programmes, the **Optidye® CR** calculates the optimum conditions for liquor stability and fixation time for **Remazol®** and **Levafix®** dyes taking into account the substrate and production/machinery parameters.

Continuous Dyeing

Econtrol® Process

The Econtrol® process utilises the innovation of the Thermex Hot Flue from MONFORTS combined with reactive dye technology from DyStar. The innovation exploits the thermodynamics of water evaporation from cellulose to provide the optimum temper-

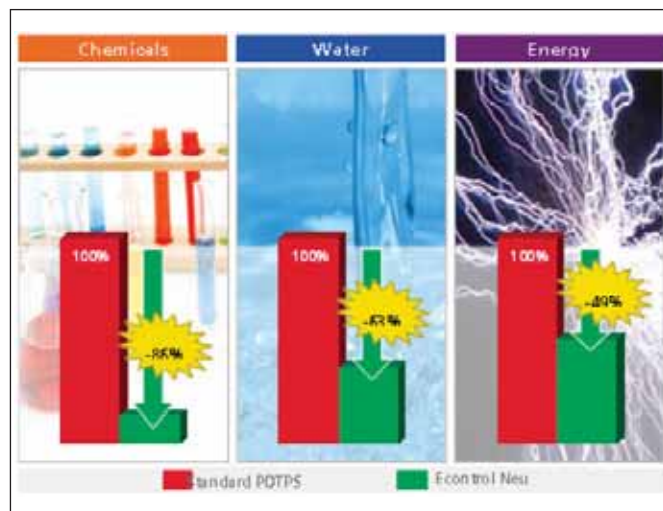


ature and moisture conditions within the Hot Flue dryer ideal for the efficient fixation of the specially selected reactive dyes.

The most recent development from DyStar sees the heterobifunctional **Levafix® CA dyes** introduced into the process. An important feature of these dyes is a very high fixation level in the Econtrol® process which brings added benefits in terms reduced colour load to the effluent and easier wash-off of dye hydrolysate, aided by the fact that there is no salt or silicate to remove when using the Econtrol® process.

MONFORTS have in conjunction with DyStar further developed the successful Econtrol® process and at ITMA Munich in 2007 launched the new Econtrol T-CA process for the coloration of polyester/cellulose blends. This development combines the humidity control for reactive dyes with a Thermosol unit for application of new Dianix® T-CA disperse dyes and a new auxiliary package which obviates the need for an intermediate reduction clear process.

The savings in chemicals, water, and energy are significant as indicated in the following diagram:



Conclusion

Newest machine technology places high demands on modern dye combinations

To maximise the synergy between innovative machinery design and application process to deliver productivity, cost efficiency, and environmental benefits, it is critical to optimise dye selection. For exhaust application of reactive dyes the selected combination should feature similar rates of substantivity in both the neutral exhaust/migration phase and alkaline fixation phase resulting in an on-tone build-up which exhibits minimum sensitivity to small production variables. A further requirement is a high degree of fixation on the fibre with no dye-dye interaction causing so called 'blocking' which is typical in many commodity reactive dye combinations based on a golden yellow, red and black reactive dye ternary.

For pad application the selected combinations should exhibit no tendency towards tailing throughout the entire production run, and for difficult fabrics such as emerised woven fabrics a similar hue on the sanded face and nonemerised reverse.

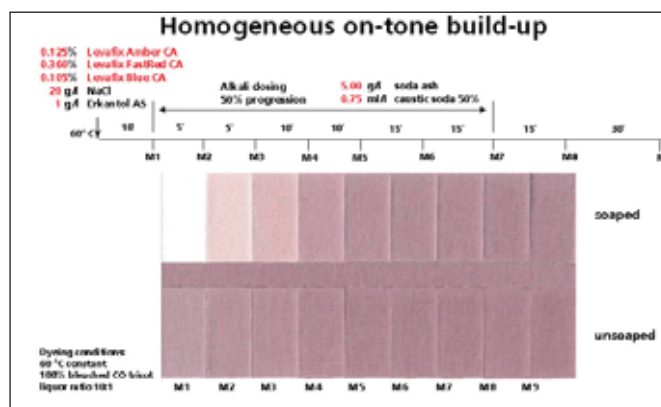
Dye selection is therefore critical for the specific application and substrate using Best Available Technology through the use of higher strength and build-up **Remazol® Ultra RGB** reactive dyes particularly for deep shades, and **Levafix® CA** dyes for pale to medium shades, which will also contribute to reduced effluent loading compared with commodity reactive dyes and represents

the preferred technology in markets where environmental restrictions are required to be met.

An example of such a homogeneous Levafix® CA trichromat with a good on-tone build up by exhaust application is illustrated on the next column:

For all advanced coloration processes to deliver the full synergy of developments in both machinery and dye application processes, DyStar has engineered dye combinations which display such homogeneous dyeing performance to deliver customer benefits in productivity, cost efficiency and minimised environmental impact.

Further information regarding DyStar efforts in this area, can be obtained from its website at www.dystar.com. ♦



Bextex joins hands with Huntsman TE to create a unique strategic partnership

Bextex Limited and Huntsman Textile Effects announced a strategic partnership to provide a consistent and sustainable supply of high-quality textile dyes and chemicals and technical service support to meet the stringent quality requirements of global brands and retailers. The collaboration will see Huntsman Textile Effects as the preferred supplier for all dyes and chemicals requirement for their textile processing plants in Bangladesh.

Speaking on the occasion, Mr. Syed Naved Husain, CEO and Group Director of Bextex Limited said, "We are excited to have the opportunity to partner with such a reliable business. This association will create a new benchmark for productivity and innovation for both of our organizations, which is very important in this competitive market."

Mr. Paul Hulme, President of Huntsman Textile Effects said, "This partnership marks the beginning of a new chapter in this important market, whereby Huntsman is focused on creating a higher standard in textile processing through innovation and technical expertise. In turn, this will fuel the momentum of technical upgrade for the textile industry."

New BASF Product Finder now online

New BASF product finder containing more than 800 product lines with an overview of 25 industries and 19 applications. Exactly what products does BASF produce, and for which industries? Quick answers to those questions are now available for customers and any other interested parties on the BASF company website at <http://www.basf.com/productfinder>. The product finder lists all the main BASF products along with matching market criteria. In addition to searching for selecting products by name, users can also look up products by client industry, basic chemical substance and

availability in different countries. Users define the desired search parameters and a list of product lines is then displayed. Each product line comes with a brief description, links for further information and contact details. A search for vitamins for the food industry for instance will show 21 BASF product lines.

An added benefit of the new online application, which is updated on a continuous basis: it makes BASF products easier to find via popular search engines such as Google and Yahoo.

Clariant increases prices of textile chemicals and textile dyes

Clariant's Business Unit Textile Chemicals from Muttenz has announced global price increases for its entire textile product portfolio

– depending on the specific product group – between 5% and 40%. The price adjustments are necessary to address strong rising feedstock costs in all raw material segments in the first half of 2010, as well as higher transportation and energy costs. During recent months Clariant's Textile Chemicals Business absorbed significant cost increases through production optimization measures, however, recent raw material cost developments leave no other alternative than to increase prices.

Clariant customers will be contacted individually regarding the specifics of the price increases as they apply to their products and regions. The price increases will become effective immediately or as contracts allow.

**Further information: Arnd Wagner,
 Email arnd.wagner@clariant.com,
mark.hengel@clariant.com.**



Huntsman Textile Effects presents Terasil® W-EL Dyes for Synthetics

Today's lifestyle, fashion trends and concern for health and the environment have raised the demand for colorful wear with very high fastness properties. TERASIL®W-EL is an innovative and unique range of disperse dyes which achieves the highest wash fastness on polyester/elastane blends through reliable process and outstanding performance.

This practice proven dye range excels with its brilliant build-up. Already at 125°C, the build-up and exhaustion is outstanding. Small variations in time and temperature do not cause differences in exhaustion, making for excellent reproducibility which equates to right first time. All of this over the full color spectrum. Colors, however are only as good as they last, and one of the latest innovations in the TERASIL®W-EL dye range, based on innovative phthalimide azo chemistry, supports achieving fantastic wash fastness even under severe washing conditions. The process to achieve these results is simple and reliable as dyeing at only 125°C for a minimum time avoids damaging the elastane for better quality and greater comfort.

For the huge sportswear market, where color and fastness demands are enormous, TERASIL®W-EL is the disperse dye range that delivers. With its simple and reliable process dyers now have the ability to ensure that they can offer a wide range of colors in very good quality; fastness that meets the highest requirements; super reproducibility and thanks to excellent build-up and minimal fiber damage there are fewer complaints and higher profits.