

Clariant and Cotton Incorporated develop new wrinkle-free technology

Wrinkle-free technology for cotton fabrics has taken a giant leap forward with Clariant's launch of sustainable and innovative Foam Eco Care finishing. The new foam application formula results in increased productivity, improved energy usage as well as improved abrasion resistance and fabric strength, and reduced chemical usage without compromising durable press ratings.

Clariant has been working for the past two years with Cotton Incorporated of America to achieve this breakthrough in advanced resin-based foam finish application that is more resource efficient than current techniques and especially suited to the production of shirt and trouser fabrics, as it also allows for non-iron properties.

Clariant had already achieved good success with its Premium Eco Care finish for an environmentally friendlier wrinkle-free finish, using its Arkofix® ELF product, and crosslinking it with low curing temperatures. Notwithstanding this, under an open innovation program the Business Unit Textile Chemicals believed that further innovation was possible by applying the chemicals by foam. Cotton Incorporated also believed that it was the way forward to more sustainable finishing.

Ken Greeson, Senior Textile Chemist at Cotton Incorporated headquartered in Cary, North Carolina says, "This new process has major advantages over conventional pad application and we are sure it will be welcomed right across the industry. We used the same cotton poplin and denim fabrics throughout the trials and used Gaston CFS (chemical foam system) application technology."

Foam Eco Care, developed under laboratory conditions, has been extensively tested in commercial mills in Italy and the results have been identical. "What we had achieved under ideal lab conditions had to be reproducible within the commercial

environment of ordinary textile mills," says Georg Lang, Head of PG Finishing at Clariant. "Foam application machinery is now generally used within modern textile mills and adapting to Foam Eco Care should not be difficult nor require any serious investment. Where mills need to introduce foam application equipment, which can be used for purposes other than just durable press finishing, the payback time would be very short." The economics of the new system are sound.

The cotton poplin used for the trials was a 130 g/m² fabric and the foam was applied with the Gaston CFS lab unit. Because the foam has less wet uptake, the fabric dried faster using foam and the dwell time was 25% less than using pad application. While tensile and tear strength were equal to pad application, as was the smoothness achieved, the foam application had much superior flex abrasion when compared with pad application. The denim fabric used for testing was 345 g/m², desized and scoured.

Besides faster drying times, the benefits of Foam Eco Care finishing are clear - in particular in the field of Non-Iron finishing. It produces excellent durable press ratings and it is less complicated than traditional moist crosslinking and the simplified system generates excellent performance which is very close to the results known with moist crosslinking.

Crucially in today's environmentally conscious climate, where issues of sustainability are of increasing importance, it uses less energy as a result of its low temperature curing resin chemistry. Less water is required and because of faster drying speeds there are commensurate advantages in terms of overall productivity. With low formaldehyde (substantially less than the 75ppm permitted limit) it means that no afterwash is needed, another saving when compared with moist crosslinking.



Result of insufficient abrasion resistance.



Huntsman Textile Effects: Creative and entertaining story of sustainability "How to Lose Water Weight"

Huntsman Textile Effects has collaborated with the innovative company Source4Style and its Co-founder Summer Rayne Oakes to create a video that tells a story surrounding sustainability in relation to the textile industry. This video, which aired in October 2011, was created in a light and entertaining fashion to sensitize both the industry and consumers to the seriousness of sustainability.

Taking its global leadership role seriously, Huntsman Textile Effects has initiated an innovative and unconventional information campaign on the topic of sustainability which is designed to push the boundaries as well as raise awareness levels amongst brands, retailers and consumers in a simple and entertaining fashion. This includes a video made in collaboration with Summer Rayne Oakes, producer of "The Cutting Edge," short videos about sustainability in textiles. In partnership, we have produced a playful, tongue-in-cheek video to get important sustainable design topics into the public domain.

With water currently hotly debated, as world water demand and chemical loads in our environment continue to increase, the video is appropriately titled: "How to Lose Water Weight". This video was launched in October 2011.

Asia Interdye Touring Exhibition

China Interdye, the world's largest specialized exhibition of the dyeing and chemical industry is now also a touring exhibition called Asia Interdye. The first stop will be during 8 - 10 December 2011 in Ahmedabad, India. Huntsman Textile Effects will be there showcasing futuristic products and processes that highlight its efforts to serve both customers and the environment. With the high demand for digital, they will also present innovative textile inks for all types of digital printing machines and piezo print heads including the new industrial concepts.

According to Huntsman, "Sustainability is still high on our priority list and where we continue to commit significant resources to developing technologies and products with lower environmental impact. This is best exemplified with AVIT-ERA® SE - the new tri-reactive dye range that makes a quantum leap in water and energy reduction of up to 50%." ♦