

ASIAN

TECHNICAL TEXTILES

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 **Lenzing FR[®]**

HEAD SOURCES:



FIRE



RADIANT
HEAT



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ARCS



METAL
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FLAMMABLE
LIQUIDS

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Lenzing FR[®]
The Heat Protection
Fiber

More comfort less heat stress

Lenzing FR[®] is a specialty high performance fiber. The abbreviation FR stands for "flame resistant". Lenzing FR[®] is a natural fiber derived from wood. It offers protection from heat and flame in a variety of different applications. Unique thermal insulation properties combined with permanent flame resistance make Lenzing FR[®] a "Heat Protection Fiber". Lenzing FR[®] keeps the body cool and dry and prevents heat stress and heat stroke.

World Leader in
Cellulose Fiber Technology

LENZING
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In addition to saving weight, other advantages of the new system include a simpler integration of the airbag into the dashboard of the vehicle since the soft fabric housing can be easily adapted to the dashboard packing space. By using textile material for the housing it is also possible to reduce prototype and production tooling needs and to cut prototype turnaround time from months to days. The result, according to Autoliv, is that the entire development process from inception to production can be reduced sharply.

For more details, log on to www.autoliv.com

Functional nanofibres

A Cornell University fibre scientist, Juan Hinestroza, has started working on two US government-backed projects to create fabrics made of functional nanofibres that would decompose toxic industrial chemicals into harmless byproducts.

Potential applications include safety gear for US soldiers and filtration systems for buildings and vehicles.

The first project, in collaboration with North Carolina State University, is aimed at understanding how very small electrical charges present in fibres and nanofibres can help in capturing nanoparticles, bacteria and viruses.

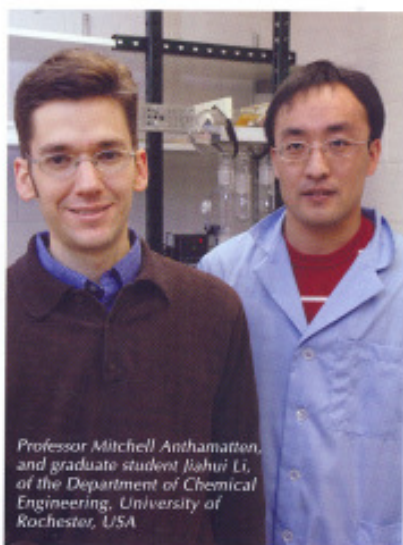
The second project, in collaboration with the University of California Los Angeles (UCLA), will study the incorporation of two new molecules - metal organic polyhedra and metal organic frameworks - onto polymeric nanofibres to trap dangerous gases, then decompose them into substances that are less harmful to humans and capture them for further decontamination.

For more details, log on to www.cornell.edu

Shape-memory polymer

Researchers at the University of Rochester, USA, have developed a new class of shape-memory polymers.

Unlike conventional shape-memory polymers, the new material is transparent, rubbery, and most



Professor Mitchell Anthamatten, and graduate student Jiahui Li, of the Department of Chemical Engineering, University of Rochester, USA

importantly, engineers can control the speed at which it returns to its original shape. Other shape memory polymers use crystallisation to hold a temporary shape, which often makes them opaque, hard and brittle in their frozen states, and this can limit their use, the research team said.

The new polymer functions differently than conventional shape-memory materials by using 'sticker groups' - hydrogen bonding groups that form temporary bonds. These sticker groups break and reform constantly. Varying the number of sticker groups controls the rate at which the material returns to its original shape.

Surgical applications are high

up on the list of possibilities for the new material.

'The pressure at which you hold together a sutured wound determines a lot about how it will heal,' said Mitchell Anthamatten, assistant professor of chemical engineering and inventor of the material. 'This polymer could be made into a thread that responds precisely to body temperature, tightening the sutures to the perfect pressure.'

For further information, log on to www.rochester.edu

Temperature regulated seat covers

Specialist seating cover maker Exmoor Trim, UK, has introduced a

btra

THE BOMBAY TEXTILE RESEARCH ASSOCIATION, MUMBAI

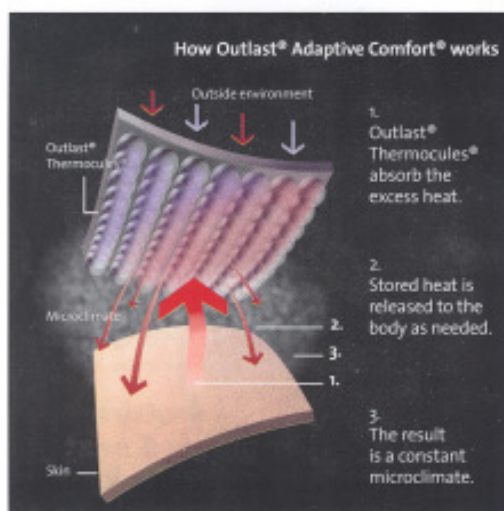
MODERN TEST FACILITIES AT BTRA

BTRA Test Laboratories are well equipped to carry out complete range of textile testing especially in the field of technical textiles including flammability and microbiology. The labs are accredited as per ISO/IEC 17025-2005 standards. In technical textiles, it undertakes testing of geosynthetics such as geotextiles, geonet, genogrid, geomembranes, geocomposite, geocell, etc., filters, coated fabrics, laminated fabrics, automotive carpets, medical textiles, interlinings, pads (absorption type / insulation type), shoe liners, rugs and many more. Tests are undertaken as per INDA, EDANA, ISO, ASTM international standards.

It also undertakes testing for flammability and for various microbiology properties such as antibacterial / antimicrobial / antifungal activities, evaluation of antimicrobial finishing / fungicides, bacterial filtration efficiency of medical textiles, resistance to microorganism/fungi, Bioburden / pyronema tests, soil burial test, sterility testing, etc., Tests are undertaken as per AATCC, ISO, ASTM, BS EN, JIS, DIN EN international standards.

For more details, please contact:

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whole collection of temperature regulating Outlast products for vehicles. Originally developed for NASA,

Thermocules - phase change technology - within Outlast fabrics absorb excess body heat as it warms and releases heat as it cools, creating a personnel comfort zone. The main benefits are greatly reduced sweating and chilling along with increased comfort in all types of seating.

Exmoor Trim offers seat covers in two versions: Temperate and Hot. Temperate is designed to operate between 25°C to 35°C and is ideal for northern Europe and sub zero climates. Hot is designed for temperatures of 35°C to 42°C encountered in Africa, the Middle East and hotter climates.

For more details, log on to www.outlast.com

incorporating the properties of several consumables in one fabric.

Compoflex allows easy release from a laminate without the use of any coatings on the product. It is said to be more than five times easier to release than conventional peel ply even after the FRP (fibreglass-reinforced plastic) part is fully hardened.

Because it is produced without the application of any coatings or additives, the surface of the product is very clean, as are the resulting FRP parts.

The Compoflex microporous peel materials ensure very easy release when peeling while maintaining roughness. The bleeder layer collects any excess bleed material if applicable.

For more details, log on to www.fibertex.com

TECHNOLOGY AND MACHINERY

Texion ProCad

The latest ProCad warpknit 3D software in the ProCad family, which has proved itself time and time again over the years, enables drafted constructions to be displayed three-dimensionally and evaluated for the first time, right from the initial development stage, claims Texion Software Solutions, Aachen (Germany). The company started in 2008 as a spring-off from ALC Computertechnik, Herzogenrath (Germany). According to Texion sophisticated algorithms enable the tension effects to be reproduced realistically in the model. The various lapping arrangements can also be simulated and used to calculate and simulate textiles produced on single- and double-bar warp knitting machines with varying stitch densities, yarn feeds, yarn counts, colours and stretch levels, says Texion.

ProCad warpknit 3D obtains the data for calculating the three-dimensional fabric construction from the ProCad warpknit's product database. As well as the yarn characteristics obtained from the 'yarn atlas', the fabric take-down and yarn feed sequences are also included in the calculation model, so that a physically correct picture can be obtained on the basis of the yarn parameters.

Compoflex fabric

In the composites industry, a fibreglass lay-up consists of the reinforcement stack/laminate and various consumables, which depending on the process and the equipment can include release film, peel-ply fabric, a distribution net and breather/bleeder fabric etc.

In many cases, all of these consumables can be replaced with one layer of Compoflex, offering significant savings.

Compoflex nonwoven fabrics are made from 100% polypropylene and consist of two layers - a micro-porous peel-layer and a bleeder-layer,



THE SOUTH INDIA TEXTILE RESEARCH ASSOCIATION (SITRA), COIMBATORE

Modern Test Facilities for Medical Textiles at SITRA

SITRA test laboratories are well equipped with state of art instruments and carry out complete range of textile testing. Both Mechanical and Chemical laboratories are accredited as per ISO/IEC 17025-2005. As a Centre of Excellence for Medical Textiles it has got facilities for testing of medical/hygiene textile products. Products such as Bed linen for hospital/ operation theatre, Surgical gowns/ aprons, Face mask, Surgical cotton wadding, Bandages, Suture thread, Surgical adhesive tapes, Medical gloves, Artificial ligaments, Baby diaper, Adult incontinences, Sanitary napkins can be tested at SITRA as per AATCC, ASTM, ISO, EDANA/INDA and IS standards. The tests include liquid strike through time, compression, air permeability, hydrostatic head testing, flammability, anti-microbial tests, fastness, knot strength, knot slippage, absorbency, wicking, ecological tests, all kind of tensile tests, fibre identification etc.

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