



Cover Story

How can I Earn More with My Existing Resources



"In the textile sector, besides aesthetics functionality is the driver for growth"

Technology has become an indispensable part of everyone's life, and the consumer is demanding better products that offer him better quality of life.

Think about an outdoor clothing treated with natural insect repellent that can only be activated when you wear the garment...a baby garment pre coated with natural moisturizers released slowly when worn and the list goes on...

Anti Slip Coatings

Microencapsulated Textile Coatings

Breathable Textile Coatings

Water Proof Textile Coatings

Stain Proof Textile Coatings

Nano Coatings

Flame Retardant Coatings

Biodegradable Textile Coatings



Indian Textile Industry Gears up for Coating and Lamination Boom

The maintenance and improvement of current properties and the creation of new material properties are the most important factors for the functionalisation of textiles. The market for new products, i.e. textiles with special properties, is an enormously expanding market. There is always the target to give the product additional properties, which only can be realised by respective surface modifications using coating technologies. The coating of textiles enables the manifold alteration of their physico-mechanical, optical, electrical and biological properties.

Understanding Coatings:

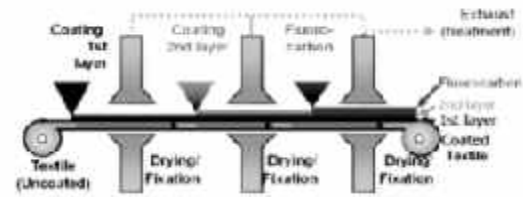
A coated textile is a textile covered with some polymeric resin in a varying quantity, from a fraction of the weight of the textile to several times its own weight. Potentially all the textile materials can be used, but compatibility between fibre and coating must be maximized. The various coating formulations are based on polyvinyl chloride, polyurethane, acrylic, and either natural or synthetic elastomers. The addition of plasticizers, mineral fillers or other auxiliaries, then qualifies the material for some specific process and/or end usage.

Coated fabrics may be constructed using woven, knitted or nonwoven fabric. Non woven fabric treated with special coatings or films is common in medical applications. Layered coated fibers can be used as an alternative to stitches

Cover Story

or staples. Specially-treated coated fabric can provide a sterile barrier to protect wounds. Coated woven fabric is used to provide a flame retardant barrier, or protection from ultraviolet (UV) rays. Fire resistant coated fabrics are useful in public buildings such as sports and recreation arenas, event and exhibition halls, and industrial and agricultural buildings.

Coated fabrics are also used to make protective clothing. Polyvinyl chloride (PVC) or polymer-coated fabrics are used to make waterproof garments; to make industrial clothing that is resistant to oil, grease and chemicals; and to make bags or backpacks that are sturdy and water repellent. Teflon coated fabric is a very high strength material used to make gaskets and seals in the automotive industry and conveyor belts in manufacturing or processing environments. Rubber coated fabric is used to make water repellent bags and luggage. Rubber coated fabric also includes neoprene, which is used in wet suits and silicone rubber for conveyor belting and heat curtains. Coated fabrics also include vinyl coated fabric, which is frequently used to water and mildew-proof fabrics used in outdoor applications, such as tents and tarps.



Textile coating (lamination) procedure

Why Coatings:

Like many other businesses, the textile industry is torn between trying to reduce costs on the one hand and, on the other, to enhance business competitiveness by adopting performance-enhancing technologies. Companies are enhancing their business competitiveness by substantially reducing or ceasing mass production of simple products, and concentrating instead on a wider variety of products with a higher value-addition. Until recently, textile industry considered the use of coatings a luxury but now it is being adopted at a faster pace. The resulting benefits have made the industry aware of how the right coating can radically transform a textile product. Coating and lamination is gaining ground worldwide as a means for value addition and the factors that drive their usage are:

- Surface Engineering (coating & lamination) allows a base material to be chosen for a particular set of attributes (weight, cost, corrosion resistance, thermal capability) while the surface has a different set of properties (hardness, electrical resistance or conductivity, mating characteristics, thermal transfer or shielding).
- Coatings have also facilitated the development of entirely new products and have led to innovations in the area of “smart” materials. Coating and lamination cuts across virtually every product group in the textile industry, including composites, where the potential is especially broad.
- Coatings enable significant cost savings when compared with solid materials of like composition.
- Coatings can be tailored to application specific requirements quite readily and usually at low cost.
- Approximately 100 material types of various grades and strengths are used as core materials for coated fabrics: silk, cotton, polyamide, polyester, polyaramid, glass fabric, carbon fabric and metal.
- Coated fabrics have wide applications in fields such as medical substrates, protective clothing, flexible membranes for civil structures, airbags, geotextiles, industrial fabrics, defense, transportation, healthcare, architecture, space, sports, environmental pollution control, and many other diverse end-product uses. Extensive research is being done on a global basis, and many new products, such as breathable fabrics, thermochromic fabrics, and charcoal fabrics, are entering the market.

“Competitiveness in Business could be achieved by innovative products, processes and technologies. As the textile industry worldwide is recognizing the importance of coatings, there is a greater need that industry experts should come together to give the latest information about the textile coating and lamination industry, one that plays a role in every facet of our lives” - Mr. Jacques Fritsch, Huntsman International India Pvt. Ltd.

As the market for coated fabric expands to applications with more complex geometries and loading conditions, there is a greater need to optimize the selection and design of fabric substrate and coating materials. The supply of coating technologies with a strong economic and ecological performance plays an increasingly important role in India. To meet this demand there is a strong need to guarantee compliance, with the standards, without compromising functionality, quality or design.

Contd...

Government Interface

To conclude:

Indian textile industry has performed remarkably well during the last few years, but it still needs to carve a competitive edge through quality output and high value addition especially when today India is on the fast track of globalization. Textile companies in India are recognising the importance of value added performance textiles & are ready to accept the fact that modernisation of manufacturing technologies coupled with the usage of emerging functional fibres and finishes can only make them capable of emerging profitably out of the industry competition.

Textile manufacturers must understand that coatings are both a science and an art. Manufacturers may be able to understand the science fairly, but it's an artistic effort to reliably & repeatably apply a coating to any number of substrates. Therefore it is essential to not only know what coatings are, but also how they are applied. For this Business Co-ordination House would be holding a mega workshop on "Textile Coatings and Lamination" in mid 2007 and bring forth the global experts of the industry to enrich your expertise with experienced inputs.

For more information kindly contact us at info@bch.in

These trends towards higher value-added products need to be continued and accelerated, if the textile and clothing sector in India is to remain competitive. Coating technology will help the Indian textile industry to ensure value addition and compete successfully. It will not only give a sustainable competitive advantage to the players in the long run but at the same time will prepare the local players to compete with their global counterparts. ■

India: Reorienting Textile Industry to Technical Textiles

The Year 2006 departed, eventually opening up new horizons for the non-conventional hi-performance application of textiles known as 'Technical Textiles'. The term buzzed the entire country with its wide array of applications in Transport, Geo, Medical, Protective, Home and other potential segments. The impact was effectual enough for immediate mobilization amongst the business houses involved in conventional textiles and those who are yet to venture into this segment. The government is actively focusing on promotion of Technical Textiles in India for which they have recently set up a special department aiming at the up-gradation of Technical Textiles headed by Mr. Bhupendra Singh, Joint Secretary, Ministry of Textiles.



Mr. Bhupendra Singh, Joint Secretary, Ministry of Textiles

BCH interacted with him and herewith presents the government's vision for Technical Textiles.

Q: How does the government view Technical Textiles & their applications in India?

In India, Technical Textiles have been in use since many years as tents, parachutes, tarpaulins etc, but have gained momentum recently. We are realizing their importance over conventional textiles and promptly adopting them for performance improvisation. This segment of textile represents a multi-disciplinary field with enormous applications in segments like Sports, Agro, Packaging, Industrial, Construction etc. They can precisely be referred to as '**Textiles of the Future**'.

Q: What in your view are the reasons behind Technical Textiles gaining sudden thrust in India?

Globally, Technical Textiles have been used widely, so much so that now the advanced countries are attaining levels of saturation in terms of market penetration. They are now eyeing emerging markets like India, which have unexplored potential. Additionally, these textiles have benefits of quality & costs which enhance their usage and production. Technical Textiles are hence, expected to attract higher margins due to niche market orientation from the manufacturer's point of view and their functional benefits will increase their demand.

Q: What have been the government's initiatives to promote sector?

Indian government has taken various steps in this regard such as:

- An Expert Committee on Technical Textiles was constituted to assess the market size and potential areas, to formulate action plans for promotion
- Inclusion of non-indigenous machinery for production of Technical Textiles under the concessional list of 5% custom duty
- Reduction of excise duty on man-made fibre/yarns from 16% to 8% and import duty from 15% to 10%
- Dereservation of sanitary napkins & baby diapers from SSI sector
- Allocation & extension of TUFs covering fresh or second hand machinery for manufacturing nonwovens & Technical Textiles thereby benefitting related projects

Government Interface

Q: Do you think there is a need for adopting promotional activities for Technical Textiles?

Promotion of Technical Textiles is important for public interest, in terms of public security, hygiene, protection of environment, quality infrastructure and an overall better world delivering a better life. Only when the consumer is aware of the benefits of specialised materials, he will be ready to spend more. Consequently, this would bring economic growth, generate employment and also help in disaster management.

Q: Which are the key growth sectors under Technical Textiles?

Growth of different sectors under the umbrella of Technical Textiles depends on their respective growth drivers. However, growth for some of them will depend on the regulatory framework in the forthcoming 11th Five Year Plan. Geo, Protective, Transport and Medical Textiles hold bright prospects along with the extensive usage of nonwovens.

Q: How is the government planning to handle the momentum gained by this potential sector in future?

With a large untapped market potential, growth of Technical Textiles would certainly have an important bearing on the overall growth of the textile industry and hence on the Indian economy. This vision has made the government to consider this segment as a propelling industry. Therefore, during the 11th Plan period, creation of awareness & a conducive policy environment to promote the growth of this sector would be highly considered. Some of the recommendations under consideration are:

- Preparation of a comprehensive database of Technical Textile units
- Inclusion of specialised fibres/yarns under concessional custom duty list and exemption from CVD
- Coverage of more Technical Textile machinery under the concessional custom duty list with reduced CVD
- Modification of TUFs to encourage indigenous production of Technical Textiles
- Setting up of centres of excellence to provide infrastructural support & testing facilities at one place
- Constitution of a committee to set up stringent performance parameter
- Mandating the use of Technical Textiles and suggesting regulatory framework for the same
- Inclusion of Technical Textiles in the curriculum of various branches of engineering to generate skilled manpower

Q: What are your suggestions to the entrepreneurs of the Technical Textile Industry?

All elements of the manufacturing chain need to be re-engineered: product development, raw materials, machinery, manufacturing processes, marketing and sales techniques, testing and quality control, and certification; from finding new suppliers to targeting new customers. Moreover, awareness needs to be created to the consumer and knowledge needs to be upgraded for the manufacturer. The entrepreneurs should therefore have a macro approach to not only sell their products but also to develop the Indian market through product awareness.

Q: What do you think are the roadblocks faced by the industry?

Unlike conventional textiles, Technical Textiles do not have any identified clusters resulting in limited and fragmented production. There is lack of investments from the industry due to their inadequate risk taking attitude as well as lack of skilled workforce. Non-availability of market database and adequate legislative measures for ensuring their usage at par with developed countries. The above situations are further being worsened by the poor R & D facilities and lack of innovative technologies in India. This is giving birth to pessimism and uncertainty in the minds of domestic industry because of absence of level playing field vis-à-vis global players.

Q: What is your message to BCH- an organisation promoting Technical Textiles and Nonwovens in India?

BCH is putting in commendable efforts for the promotion of Technical Textiles in India. I appreciate their sense of timely recognising the market requirements and coming out with the vision of opening up of this interactive platform designed to service all the stakeholders of the value chain across the globe, specifically in India. The approach with which they are moving forward is surely going to benefit interested business houses, nationally and internationally. Furthermore, it is very important for all stakeholders of this upcoming industry to come together on a common platform and synergise each others efforts. BCH has taken this initiative in India and I wish them luck for their future endeavours. ■

*Water soaks you if your clothes aren't waterproof, while sweat soaks you if they are ...
 ...You need a **Waterproof Breathable Fabric***

Waterproof fabrics completely prevent the penetration and absorption of liquid water. Traditionally, fabric was made waterproof by coating it with a continuous layer of impervious flexible material. However, coated fabrics are considered to be uncomfortable to wear as they are relatively stiff and do not allow the escape of water vapour due to perspiration. Consequently they are now used for 'emergency' rainwear. Water repellent fabric is more comfortable to wear but its water resistance properties are short lived.

Thus, textiles that are waterproof and breathable, along with new clothing designs, have gone a long way to deal with this problem during the past two decades. Waterproof breathable fabrics are designed in a way that they will withstand water pressure without leaking, whilst allowing water vapour to pass through them thus ultimately making the wearer comfortable and protecting him from the outside weather.

Production of water vapour by the skin is essential for maintenance of body temperature. During physical activity, the body provides cooling partly by producing insensible perspiration. If the water vapour cannot escape to the surrounding atmosphere the relative humidity of the microclimate inside the clothing increases causing a corresponding increased thermal conductivity of the insulating air & the clothing becomes uncomfortable. If perspiration cannot evaporate & liquid sweat (sensible perspiration) is produced, the body is prevented from cooling at the same rate as heat is produced. If the body is to remain at the physiologically required temperature, clothing has to permit the passage of water vapour from perspiration. This ability of fabric to allow water vapour to penetrate is commonly known as breathability.

Probably the first effective waterproof breathable fabric was developed in the 1940s for military purposes known as Ventile. The Ventile fabric was carefully engineered to make it effective by using densely woven technique. But with the advent of technology, now fabrics can be made waterproof & breathable through the use of membranes & coatings. Membranes are extremely thin films made from polymeric material and engineered in such a way that they have a very high resistance to liquid water penetration, yet allow the passage of water vapour. A typical membrane is only about 10 micrometer thick & therefore, is laminated to a conventional textile fabric to provide the necessary mechanical strength. They are of two types, microporous and hydrophilic. Microporous membranes have holes which are smaller than the smallest raindrops, yet very much larger than a water vapour molecule. Hydrophilic membranes are very thin films of chemically modified polyester or polyurethane containing no holes which, sometimes are referred to as non-poromeric.

Coatings consist of a layer of polymeric material applied to one surface of the fabric. Polyurethane is used as the coating material. These coatings are much thicker than membranes. Like membranes, the coatings are of two types; microporous and hydrophilic. The difference between microporous materials and hydrophilic materials is that with the former, water vapour passes through the permanent air-permeable structure whereas the latter transmit vapour by a molecular mechanism involving adsorption-diffusion and

desorption. Due to their unique functional properties and great usability in different spheres of life, breathable fabrics are gaining popularity day by day. People are using breathable fabrics for great performances in extreme-weather for their great insulation and protection against intense cold weather conditions. The diverse applications of these breathable fabrics are listed in the Table I. The breathable fabrics are very much better than fabric coated with conventional water proof materials, which have a higher resistance to vapour transport than ordinary woven and knitted apparel fabric. The water proof breathable fabric is highly breathable, keeping you dry and comfortable whatever your activity. ■

Table I: Application areas of waterproof breathable fabrics

Leisure	Work
<p>Heavy Duty Foul Weather Clothing Anoraks, Cagoules, Packs, Gaiters Over-trousers, Hats and Gloves</p> <p>Fashionable Weather Protection Rainwear, Skiwear, Panels & Inserts Walking boot linings, Golf suits, Sport footwear lining, Fishing apparels & equipments</p> <p>Sleeping Bag Covers</p> <p>Tents</p>	<p>Foul Weather Clothing Survival suits, Special military protective clothing, Clean room garments, surgical garments, Hospital drapes, Mattress & Seat covers, Specialised Tarpaulins, Packaging & Wound dressings</p> <p>Domestic and Transport Non allergic bedding, Car covers, Fire smoke curtains in ship, Cargo wraps in aircraft, Horticulture ground cover blanket</p>

nsc nonwoven

Nonwoven lines & processes

Systems supplier for:

- Needlepunching
- Spunlacing
- Thermobonding
- Through-air bonding
- Chemical bonding

Opening & blending equipment

Cards

Airway cards

Crosslappers

ProDyn®

Drafters

Needlelooms

Profit making winders
and off-line slitter-rewinders

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News and Events

India: Textile Firms go Global in 2006

Indian textile firms unwrapped big investment plans and acquired companies overseas during 2006 as they geared up to tap the emerging retail sector at home and consolidate their position in global export markets.

The huge potential of organised retail, of which textiles and clothing comprises 40%, encouraged domestic and foreign firms to eye a bigger slice of the increasing disposable income of the middle class. Global brands such as Calvin Klein, Lacoste and Sara Lee penetrated further into the high-end apparel market, while domestic firms bought firms in Europe and the US. Spentex Industries acquired Tashkent-To'yetpa Tekstil Ltd. in Uzbekistan, while Banswara Syntex Ltd. forged a JV with French firm Carreman Michel Thierry. GHCL acquired US-based Dan River, one of the largest suppliers of home textiles, and Orient Craft acquired a Spanish firm for \$13.66 million. GHCL also acquired UK's home textile chain Rosebys for about \$50 million and is in talks with four companies in England, Germany, France and Italy, which could be worth a total of \$200 million. Similarly, B. K. Goenka-run Welspun acquired 85% stake in CHT Holdings Ltd. the holding company of Britain's leading towel brand Christy. Raymond forged a joint venture with Belgium's largest maker of high-end denim, United Cotton, and is targeting a turnover of \$269 million in the first year. Further, Indo Rama merged with yarn manufacturer Spentex Industries Ltd.

Besides acquisitions, domestic companies also invested a substantial amount during the year for expanding capacities.

Honda Develops Bio-Fabric for Use in Automobile Interiors

Honda Motor Co. Ltd. has succeeded in developing bio-fabric, a plant-based fabric with excellent durability and resistance to sunlight, for use as a surface material in automobile interiors. Bio-fabric offers the benefit of offsetting CO₂ emissions produced during incineration in the disposal stage with CO₂ absorption that occurs during the growth stage of the plants that are used as raw materials. Despite this benefit, plant-based fabric has not been used commercially for automobile interiors due to concerns about limited durability and aesthetic issues.

After overcoming such issues, they achieved a soft and smooth material appropriate for the surface of automobile interiors, with high durability and excellent resistance to sunlight to prevent color fading after prolonged use. In addition to seat surfaces, this bio-fabric can be used for the interior surface of the doors and roof and for floor mats. Honda will install these bio-fabric interiors to the company's all-new fuel cell vehicle which will be introduced to the market within next three years.

India: 1st Integrated Municipal Solid Waste to Energy Project with Scientific Landfill using Geosynthetics

S.G.R.R. Ltd., a Bangalore based company entered into agreement for Waste to Energy Project with Bangalore Mahagara Palike (Municipal Corporation) for Municipal Solid Waste (MSW) Processing facility, Power Generation & Landfill Activity as per MSW Rules 2000 at Mandur.

The Municipal Solid Waste Processing plant is based on the technology developed by TIFAC, Department of Science and Technology, Govt. of India. This technology converts MSW to fuel pellets, as well as fuel fluff which find use in the industry for heating purposes and generating electrical power through the route of combustion in a traveling grate boiler. The rejects are disposed off in scientific landfill for safe disposal thus, preventing ground water & soil contamination.

The Geosynthetics namely, Geotextiles, Geomembranes & Geopipes, will be used for their Scientific Landfill Activity. Gorantla Geosynthetics Pvt Ltd. is awarded for supply & installation of various Geosynthetics products for the Landfill activity.

UK: Adidas Launches TechFit Apparel to Enhance Sporting Performance

The Adidas group launches a new range of apparel, TechFit to enhance sporting performance, giving more strength, power and endurance. TechFit is a multi-sport garment and is scientifically proven as technology supports key muscle groups and stores elastic energy to deliver explosive performance throughout athletic movement.

The boffins at adidas claim that the power of TechFit apparel can enable an athlete who could sprint 100 metres in 10 seconds to run the same distance almost a metre quicker. However, Adidas claims that TechFit can add an average of 5.3% total body power output, increase maximum jump height by 4%, and accelerate faster sprint times (1.1%). The compression of TechFit improves metabolic efficiency by lowering the oxygen level the body requires to perform by 1.3% offering a longer sustained performance.

News and Events

USA: Copper Textiles can be used as HealingAids

Medical Textiles

Gabbay's company, Cupron Inc., based in Greensboro, N.C., says it is the first textile manufacturer to produce fibres "impregnated" with copper oxide, an agent that kills bacteria and odor on contact. The socks, which he says can heal and prevent athlete's foot, are one of his company's best-selling products.

Cupron's self-sterilizing goods - including hypoallergenic makeup brushes and bed sheets - are part of the burgeoning market of "performance" textiles, which are enjoying strong sales at major retail stores throughout the U.S. and Europe. Cupron counts the U.S. military and one of the world's biggest sock makers among its customers. Its next goal is for the medical world to take notice. Gabbay, who has a background in textile engineering and biochemistry, believes textiles containing tiny copper particles can heal diabetic ulcers, prevent the spread of diseases in hospitals, and cure a host of other ailments.

USA: Body Faders Launches Unique Color-ChangingApparel

Clothing Textiles

Body Faders has launched unique color changing t-shirts which start out as a smooth color such as orange and when heated it changes to another color at that point of heat.

If one place his hands on the t-shirt it will leave a hand print until the t-shirt cools down and then it returns back to the original color.

The apparel is made with water-based, non-toxic inks that are environment friendly and clothing line includes long- and short-sleeve T-shirts, sweatshirts and sweatpants, center zip and zip less hoodies, halters and tank tops, polos and other specialty clothing.

The clothing works by changing color based on the body's temperature and one can rub the shirt and get it to change colors as well.

One popular use for the clothing is for group outings like reunions, where people can design their own clothing and give it a unique touch and the price begin at \$16.95.

Body Faders is the only worldwide manufacturer of heat activated and solar activated clothing and also provides wholesale shirts for resellers to sell in retail environments and custom to shirt fashions that can be screen printed.

Did U Know

- A Footwear called Dustmate made of nylon, flexible rubber sole and elastic sock are vacuum shoes that ease the hectic chore of cleaning the floor or carpet by just walking on it.
- The super-absorbent polymer (SAP) was first introduced into the diaper in 1982 by Unicharm in Japan, following its use in the sanitary napkins.
- Berlin's Olympic Stadium has been covered with a total of 62,000 sq.m. of PTFE-coated, translucent glass fibre fabric-based membranes, to protect the spectators from sun and rain.
- With microfiber products you rarely need to use chemicals for cleaning your products. Microfiber products are extremely soft; they never scratch any surface, but at the same time they are sturdy and tough on dirt.
- Specialised textiles can be used as a roof liner in the construction of a building to provide insulation from extreme cold and hot temperatures.
- Embroidery technology can be used to develop scaffolds for developing different human organs.

News & Events

Forthcoming Events, 2007

3rd International Congress on Innovations in Textiles & Fabrics; www.textile-trends.de
13 - 15 February; Berlin, Germany

Middle East Nonwovens Symposium; www.edana.org
20 - 21 February; Dubai, UAE

Texworld 2007; www.interstoff.messefrankfurt.com
20 - 23 February; Paris, France

How to Enter Technical Textiles- The 4th Symposium; www.technical-textiles.net
22 - 23 March; Porto, Portugal

IDEA 07; www.inda.org
24 - 26 April; Florida, USA

Techtextil Rossija; www.techtextil.com
29 - 31 May; Moscow, Russia

International Nonwovens Symposium; www.edana.org
30 - 31 May; Berlin, Germany

Techtextil and Avantex; www.avantex.messefrankfurt.com
12 - 14 June; Frankfurt, Germany

11th European Meeting on Fire Retardant Polymers; www.frpm07.com
04 - 06 July; Manchester, UK

Medtex 2007; www.bolton.ac.uk/uni/research/medtex07
16 - 18 July; Bolton, UK

World of Wipes; www.inda.org
23 - 25 July; Atlanta, USA

ITMA 2007; www.itma.com
13 - 20 September; Munich, Germany

Techtextil INDIA; www.techtextil.com
10 - 12 October; Mumbai, India

HIGHTEX 2007- 2nd International Technical Textiles & Nonwovens Trade Fair; www.hightex2007.com
30 November - 02 December; Istanbul Expo Center, Turkey

BCH's Forthcoming Events for 2007

- Training Workshop on Textiles used in Automotives
- Training Workshop on Sports Textiles
- International Symposium on Geotextiles
- International Symposium cum Workshop on Coatings & Lamination
- EDANA Training Courses on Nonwovens and Absorbent Hygiene Products

For further details contact us at info@bch.in



HIGHTEX 2007
II. Technical Textiles & Nonwoven Trade Fair
2. Teknik Tekstiller ve Nonwoven Fuarı
ISTANBUL / TURKEY

30 NOVEMBER - 2 DECEMBER 2007
ISTANBUL EXPO CENTER

3rd INTERNATIONAL TECHNICAL TEXTILES CONGRESS
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BCH Paving Way Towards Restructuring the Technical Textile & Nonwoven Industry in India

“The training courses were very comprehensive, exhaustive, informative and useful, excellent overall!! The right mix of theoretical and practical knowledge.”

Is the Indian textile landscape ready for a shake out?

The textile industry in India is undergoing radical transformation wherein much interest is in expanding & growing with newer products & technologies in this era of globalisation. BCH, the conduit for boosting the nascent Technical Textile and Nonwoven industry has been involved in awareness generation activities and dissemination of information, through organising Training Workshops & participating in national & international events, besides showcasing and promoting the products of its members.

EDANA, in co-operation with BCH, had organised its two highly-acclaimed nonwovens and absorbent hygiene products training courses, for the first time in India in November 2006. These 2-day training courses, attended by a record number of participants, have given a unique opportunity to Indian players, to quickly gain a complete understanding of the various technologies, processes, raw materials and market aspects. Similarly, seeing the vast untapped potential of the Medical Textiles industry, BCH organized the first ever & specific 'Training

Workshop on Medical Textiles, with special emphasis on Products & Devices for Bandaging & Pressure Garments'. The training workshop was conducted by the experts of the industry, namely, Professor Subhash Anand, University of Bolton, UK & Professor V. K. Kothari, IIT, Delhi. These training courses marked the beginning of a series of workshops that BCH would be organising to satisfy the ever growing needs of educating the budding & the existing entrepreneurs. Furthermore, BCH & its members participated in the **International Conference on Technical Textiles, IIT Delhi** & presented an interactive platform to the entrepreneurs from all across the globe, to explore the opportunities in all the application areas of the Technical Textiles.

New Direction to Indian Entrepreneurs- Training Workshop on Medical Textiles: 21 & 22 Dec, '06

“The training workshop has given a whole new objective and exposed us to various possible solutions that could be helpful in improving the business. Information provided on Indian as well as global market was really helpful.”

Training Courses on Nonwovens & Absorbent Hygiene Products: 13- 16 Nov, '06

An Overwhelming Response at International Conference on Technical Textiles , IIT Delhi: 11 & 12, Nov, '06

“I am impressed with the immense turnout of enquiries and it seems that this is a time for big expansion and progression in the field of Technical Textiles in India. We need to get into full swing and produce more and more products to meet the ever-growing enquiries”, said Mr. Dave Hill, TAL, BCH member.



Protective Textiles: A Safer Bet



Safety & protective textiles refer to garments and other fabric-related items designed to protect the wearer from harsh environmental effect and dangerous or hazardous materials or processes that may result in injury or death. Protective clothing is emerging as one of the interesting & vital segments of the Technical Textile market. In India the armed forces are the largest end user segment of protective clothing, followed by public utilities personnel like fire service and industrial security forces etc.

The eventuality of hazards in various spheres of life has given rise to the development of clothing which can offer protection and at the same time maintain comfort thus ensuring efficiency during work. Major industrial and service sectors of the world have made the usage of such textiles mandatory as they offer safety of life. Human protection requires various specially designed protective concepts to provide work safety. This includes production of high performance fabrics for clothing that offer protection from environmental hazards and objects that otherwise might cause injury to human being.

Protective textiles are used to protect from one or more of the following:

- Extreme heat and fire
- Extreme cold
- Harmful chemicals and gases
- Bacterial/ viral environment
- Contamination
- Electrical & mechanical hazards
- Radiation
- Vacuum & pressure fluctuations

This kind of clothing serve functions such as fire retardancy, ballistic protection, high visibility, water and wind proofing and many others.

Fire Retardant Textiles: Protection from heat and flame is the prime requirement of fire retardant clothing. Other prerequisites of fire retardant textiles are breathability, insulation, high abrasion resistance and ease of handling and wearing comfort. These fabrics are mostly available in woven and knitted forms. These textiles are used mainly in



fire fighting suits, industrial workwear and all those applications where exposure to molten substance splash, radiant heat or flame is likely. The world demand for thermally stable inherently flame-retardant synthetic fibers has risen sharply over the last few years, because of the increasing public safety consciousness and legislation in USA and European countries.

Ballistic Protective Clothing: The aim of ballistic clothing is to prevent bullets or any other projectiles or bomb

from piercing the body. Ballistic protective clothing has two major user segments, viz. Military and Police for vests and bulletproof jackets. Ballistic protective clothing needs to have a combination of functions such as high strength, non-flammability, high temperature resistance, light weight etc.



High Visibility Clothing: High visibility clothing is worn by people working in dark or poorly lit environments where there is requirement for the wearer to be highly conspicuous. Examples include: mining, building & construction, traffic police, airport workers or staff working near railway lines. Phosphorescent, fluorescent & retro-reflective materials are used in this type of clothing.

High Altitude Protection Clothing: This kind of clothing is used for protection under severe conditions of high wind velocity, varying temperature, high altitude, snow fall, combat effectiveness etc. Clothing for extreme cold weather comprises of jackets, waistcoats, trousers, caps and gloves etc. This kind of clothing needs to be wind and water proof, breathable and comfortable.

In view of the latest security situation in India owing to a spurt of terrorist activities and also growth in industrial usage, continuing emphasis on safety at work is expected to stimulate the demand of protective clothing in many sectors. In the international technical textile market protective textiles constitute 5-6% of the share while in India, the share is very less. Developments of high performance fibres and fabric formation techniques have contributed in meeting the goals of protective clothing. It is indeed imperative to improve workstation & health protection of people engaged in industrial & service sectors & produce a requirement profile for industrial protective clothing. Understanding the needs of protective clothing will definitely help in designing and development of better protective clothing materials. Indeed, safety should not be taken for granted! ■

Textiles in Construction

Construction Textiles find application in permanent as well as temporary building structures

Of the various areas where textiles have found immense application, one of the most interesting and an upcoming area is building construction. **Construction Textiles**, as they are rightly called, offer desired characteristics such as lightness, strength and resilience as well as resistance to many factors such as defatation, creep, degradation by chemicals and pollutants in the air, rain or other construction material as well as the effects of sunlight and acid. Their scope covers any textile or composite material used in the construction of permanent and temporary buildings as well as structures. Broadly they can be classified as follows: tarpaulins, marquees, tenting, roofs, architectural membranes, awning canopies, roofing felt, woven roofing, roof scrims, hoardings & signages, scaffold nets, housewraps, concrete reinforcement and some other composites. Of all these mentioned products, the textile materials used for temporary buildings and other structures have been discussed below. The products falling in this category are tarpaulins, marquees, tents, awning canopies, scaffolding nets, hoardings & signages and housewraps.

Tarpaulins: Tarpaulins are sheets used for protecting goods from rain, sun,

dust, wind, etc. A variety of fabrics viz. cotton canvas, HDPE, jute and coated or laminated polyester fabrics are used in tarpaulins but cotton canvas and HDPE are the most widely used fabrics. Used in truck/tempo covers, wagon covers, boat covers, industrial/machinery coverings, warehousing, food storage, fumigation covers, etc., they form the largest share in construction textiles in the Indian market.

Hoardings/ Signages: Usage of flexible-face sign fabric for making hoardings (signage) is a new trend in place of rigid acrylic and polycarbonate sheets, which were predominantly used for making hoardings. The fabric signages are becoming popular materials as being light weight, they are easier to handle and transport. The most important benefit of soft signage is its ability to work with a digital printer, which offers flexibility, consistency, and striking photorealistic images hence producing larger than life hoardings.

Scaffolding nets: Scaffolding Nets are used to cover building face during construction so as to prevent debris falling on the pavement and causing any damage to personnel and property. They are also used for concealing a building under construction till the time of inauguration. Scaffolding nets are knitted structures made of HDPE monofilament yarn. These nets are suitable for outdoor applications and a good quality net has a life up to 7-8 years and are used widely all across the globe.

Awnings and Canopies: An awning is an architectural projection that provides weather protection and can be used for the purpose of decoration. They are completely supported by the building to which they are attached. A canopy is also an architectural projection for a similar purpose but its skeleton structure is supported by at least two stanchions at the outer end. Awnings offer endless possibilities for enhancing a buildings beauty and décor. Awnings made out of polyester offer all advantages you would like an awning material to possess - high strength, quick-drying, wrinkle resistance and crease retention properties and are therefore being used in vivid ways.

Time to take off...

The development in the real estate sector in India and the growing hunger to try new, innovative yet aesthetically appealing products has made it the right time to join the brigade with a big bang. The real estate industry had been projected to become a \$ 34-45 billion industry by 2015 growing 14% annually. Retail industry will grow at a rate of 5% annually. Tourism industry too is likely to grow at 8.8% CAGR. The rapid acceleration in the growth of these industries is showing a bright future for the construction textile segment. This can be seen by the increase in the number of queries that BCH is receiving for buying and selling of these products. The need of the hour is to boost the awareness about the functionality of these multifaceted textile materials for their use in the construction industry... *The time is now!!* ■



Use of Polymeric Geotextiles in Rural and Command Area Roads

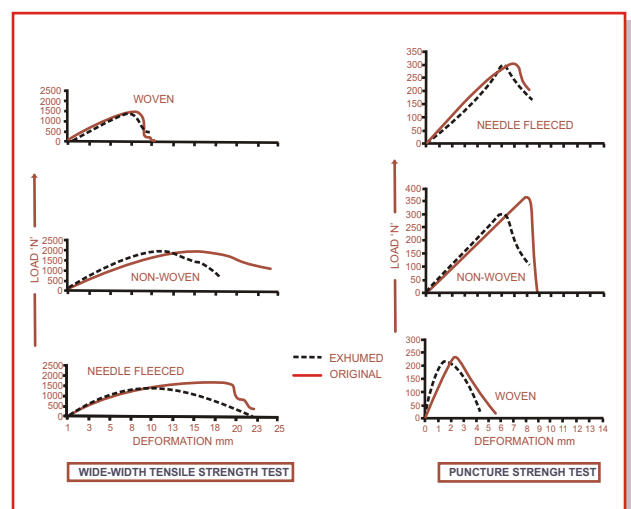
In the past 25 years many applications of *geosynthetics* have proved their value in civil engineering projects and this new class of material has added entirely a new dimension to the world of geotechnical engineering. Geosynthetic materials like *Geotextiles*, *Geogrids*, *Geonets*, and *Geomembranes* are used in various civil engineering activities to facilitate construction, ensure better performance of the structure and reduce maintenance. In spite of its good track record in western countries as well as in India too, the geosynthetics could not become popular or utilised on large scale in India due to non-availability of proper guidelines on design and construction standards, lack of testing facility for geosynthetics, absence of information/data regarding the long term behaviour of such structures and higher initial costs. Our previous issues have briefed about the geotextile materials, their functions and their advantages in road construction. In this issue below, we bring to you a field experiment for application of geotextiles in India which has proven to be a success, as elaborated by **Mr. Sudhir Mathur, Head, Geotechnical Engineering Division Central Road Research Institute** and **Mr. U. K. Guru Vittal, Scientist, Geotechnical Engineering Division Central Road Research Institute**.



Geotextile laying

Large sections of our road network are in areas having clayey subgrade soil which are also subjected to waterlogging. Roads built on soft and expansive subgrade soils suffer from many problems and deteriorate easily. Investigation of such road failures reveal that one of the major causes of failure is due to the presence of fine grained soils intermixed with the aggregate base. As little as 10 to 20% of fines can completely destroy the structural strength of aggregates by interfering with a strong stone to stone contact. To overcome such problems, a thick blanket of (20 to 25 cm) coarse sand is normally recommended. However, such blanket courses prove to be very expensive when sand is not available within economic leads. Geotextiles can act as effective long term separator by resisting the migration of coarse aggregates into soft subgrade soil and also

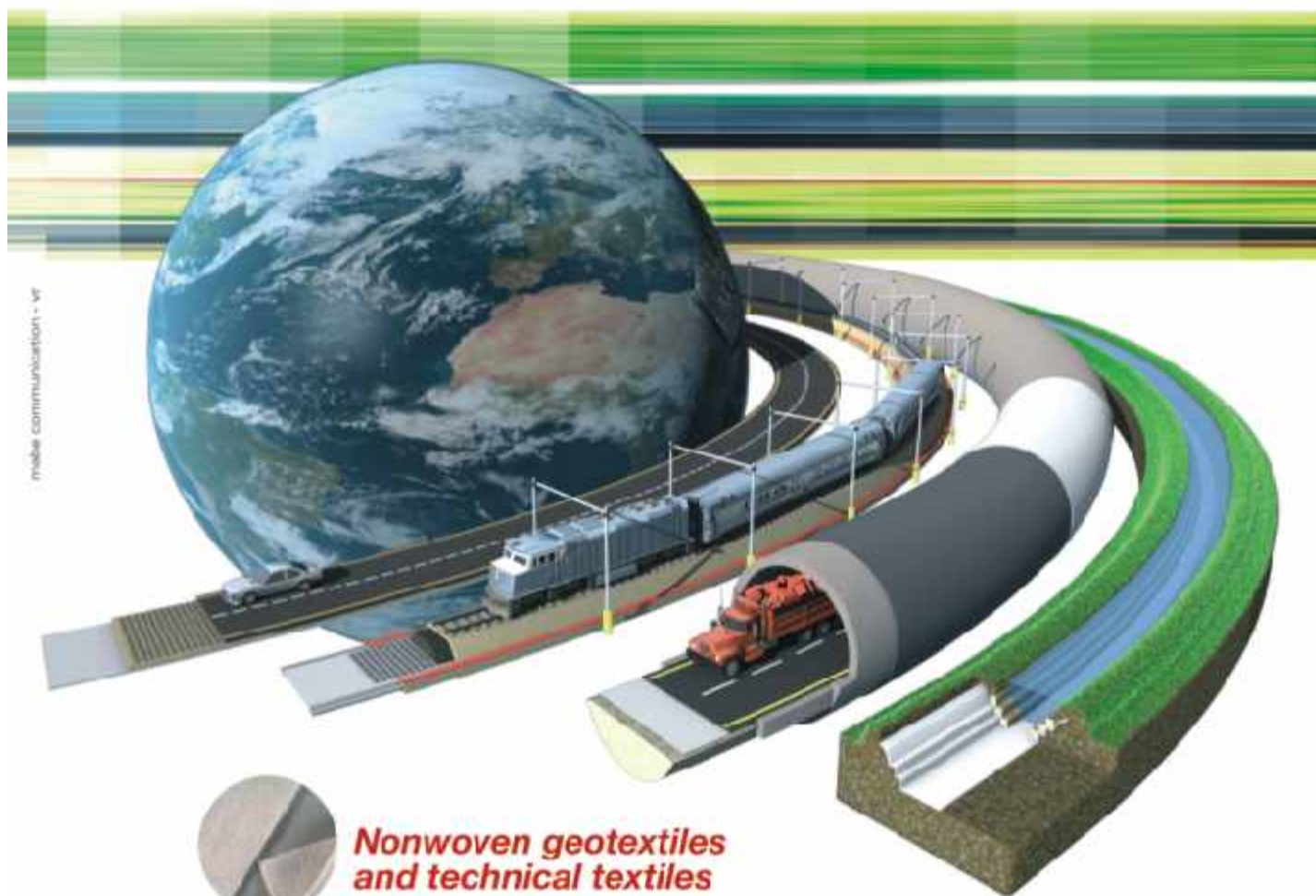
prevent pumping of fine soil particles into the aggregate base, while still allowing pore water pressures to dissipate. Hence, geotextile is an effective long term substitute for sand blanket course as they also ensure more efficient subsurface drainage of pavements compared to conventional sand blanket course. To study the efficacy of usage of polymeric (Nylon and polypropylene based) geotextiles as separator/filter in road pavement, five roads in BC soil areas of Maharashtra and Gujarat were selected for test track construction by CRRI in a pioneering study carried out in 1980s. Respective state Public Works Departments/research laboratories were also involved right from the beginning. Of these five roads, two roads had water logging problem (due to irrigation) while other three had shallow water table during monsoon. All these roads were in rural areas, single lane carriage way (3.75 m) and had HTV traffic varying from 50 to 90 vehicles per day. In order to assess the performance of different road sections with and with out polymeric geotextiles, different pavement sections were designed. These included test stretches constructed using woven, non-woven thermally bonded and non-woven needle fleeced geotextiles placed between subgrade and sub-base, control section of conventional pavement without any geotextile, test sections using sand blanket, moorum and lime stabilized BC soil and one stretch with a reduced crust thickness to check the reinforcing effect of geotextile in road pavement. The construction of pavement layers was carried out as per IRC specifications. The performance of the pavement was monitored for a period of three years by recording Benkelman beam deflection, unevenness index, transverse rut measurements and pavement distress in terms of cracking and potholes. From the results of the performance observation, it was concluded that geotextiles are an effective substitute for conventional blanket courses. Based on the field observations, it was also concluded that nonwoven geotextiles performed better for filtration applications and woven geotextiles are better suited for separation applications. ■



Strength of geotextiles after 3 years



Edilfloor



media communication - vr



**Nonwoven geotextiles
and technical textiles**



Woven geogrids



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Interior Car Seat Fabrics: A Technical Interface of Man & the Machine



Mobility is a fundamental requirement of all human activities & cars embody personal freedom expressing individuality. Of special relevance, car interiors have become more important lately. Textiles provide comfort and better appearance to the car interiors while still meeting the performance and consistency in technical requirements.

The automobile industry is the largest user of Technical Textiles with about 20 kgs or approximately 30 sq. mtrs. of fabric used in each of 65 Mn cars produced worldwide. The car seat is perhaps the most important & familiar automotive textile interior trim to the layman, who may not appreciate the considerable technical input necessary to develop a fabric, which must stand up to rigorous use and still last the life of the car. Hence, the seat has become the main interface of man and the machine endowing both physical comfort & visual appeal. Approximately 3.5kg of fabric is used in the car seat thus representing about 30% to 40% of the cost of the total automotive interior fabric requirement.

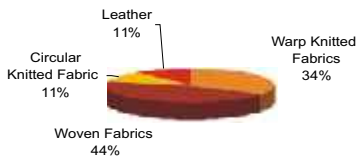


Fig. 1: Relative volume of different seating fabrics being used worldwide

Over 90% of all modern day cars use Polyester as the fibre for seats which is subjected to weaving or knitting technologies. As per Mr. Saggi, VP, Shamken Multifab Ltd. (the company manufacturing high end woven fabrics for car seats), weaving is a highly adaptable technology in terms of choice of yarns, patterning potential & variety in colours whereas knits are more versatile offering enormous flexibility & stretch potential. In this regard significant differences are apparent in three major car production areas of USA, Western Europe, & Japan. Flat wovens account

for about half of car seat fabrics in Europe but only about a quarter in USA & Japan. On the other hand woven velours are most important in USA & Tricot knit the most important in Japan. Circular knits are increasing in Europe and woven velours increasing further in USA.

In India, around 70% of woven fabrics are used in car seat fabrics (Fig. 2). "The weaving technology is quiet sound and proves to be cost effective when it comes to design variety and rich aesthetic appeal", said Ms. Rieta Juneja, Jt. GM, Aunde Faze Three Autofab Ltd. (the company manufacturing variety of wovens & knits for seats) Knits till date are restricted to apparel sector & for automotives more technological advancements are required. However, knits are gaining grounds as their application in automotive seats are increasing rapidly.

The seat fabric is usually made into a trilaminate consisting of face fabric and polyurethane foam with a scrim lining on the back, thereby conforming to the following technical requirements:

- | | |
|------------------------------|-----------------------|
| Resistance to sunlight | Abrasion resistance |
| Non-flammability | Soil resistance |
| Resistance to mildew | High tearing strength |
| Easy cleanability | Wrinkle resistance |
| High tensile & seam strength | Crumpling strength |
| Pilling resistance | High durability |

The Indian passenger car industry is currently producing close to 1.3 million cars annually & is all set to grow at a CAGR of 19%, selling more than 2.5 million by 2010. Presently, India is the 11th largest passenger car market in the world, and expected to be 7th largest by 2016. The future is emerging in automotive industry with growth drivers like , increasing road development & disposable income, easy finance schemes, low cost manufacturing base, etc. Today

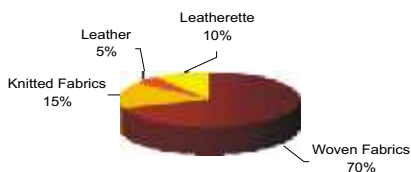


Fig. 2: Relative volume of different seating fabrics being used in India

cars produced in India are using around 5.8 Mn mtrs of textile fabrics for seats. According to Mr. Sanjay Sharma, VP (Marketing), BMD, (the company currently pioneering warp knitting technology for car seats) "the global players believe that India would become a major supplier of original equipment components to Japan, U.S. & Europe at much lower costs in the coming years. With the forecasted growth in the car production, the automotive textile market is expected to get almost double in next 5 years, thus, the usage reaching to 11.7 Mn mtrs of fabric a year by 2010." European & U.S. components manufacturers are eyeing India's domestic

Global Scenario

market vehicle growth & export potential very keenly, which has resulted in their rush into India in order to organize joint ventures or wholly-owned subsidiaries. There is a long list of foreign companies that are forging alliances with Indian counterparts, for instance Mahindra-Renault is the recent one. Consequently, it has enhanced capacity creation in the vehicle sector along with which the segment of interior car seating fabrics is also expected to witness immense growth.

India has become a preferred destination for American, European and Japanese automotive companies because they realize that in the future, auto manufacturing will require world-class, cost effective IT and engineering expertise, which India has in abundance. Furthermore, the low cost of manufacturing and a supportive government have been the key drivers for companies shifting focus to India.

Seeing the spurt in enquires & demand in automotive textile market, BCH will be holding a workshop on this potential sector of Technical Textiles in 3rd quarter of 2007. Subjects of interest like fibres used, their properties, specific fabric structures, product development, equipment used, processing techniques and various areas of application will be on the discussion panel. The workshop will focus on disseminating technological know-how considering the precise requirements of the industry and most importantly as an area of diversification for other applications of Technical Textiles using the same infrastructure. OEMs and other Tier - I, II & III suppliers apart from the raw material manufacturers, from all across the globe, would be the attendees for this workshop. ■

Globalisation is termed as the growing economic interdependence of countries worldwide through increasing volume and variety of cross-border transactions in goods and services, free international capital flows, and more rapid and widespread diffusion of technology.

Where is Globalisation Leading Us...

This phenomenon has recently struck the global textile industry. After more than forty years of import quotas, the textile and clothing sector has become liberalized subject to the general rules of the General Agreement on Tariffs and Trade from 1 January 2005.

The first year of quota free trade has witnessed significant positive changes throughout the supply chain all across the globe. Major predictions have come true. The global trade in textiles and clothing has increased from US\$ 342 billion in 2001 to over US\$ 450 billion in 2005 and is expected to reach around US\$ 655 billion by 2010, implying a growth rate of more than 9% per annum.

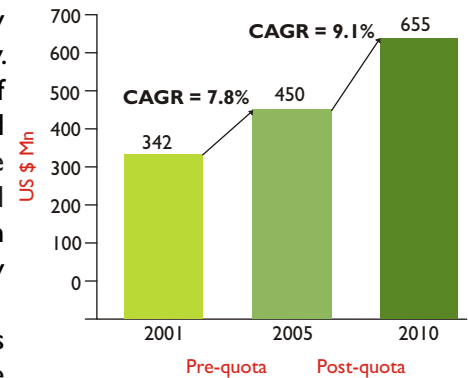


Fig. 1: World textiles and apparel trade

...Globalisation is certainly leading us towards positive developments and new trends that are shaping up

In the globalized era, there are certain factors that are directly affecting the country's market share in the world economy. These have become a major deciding criteria for the prosperity of a country's textile economy. Some of the deciding factors which are setting new trends for different countries are: price and supply of raw material- machinery- processes and finished products; quality of products; technology adopted by manufacturers and traders; market potential; production pattern and product mix; marketing efforts; nearness to market; labour- cost, availability, efficiency; infrastructure and IT development; government policies and political, economical and social stability.

Lifting of quotas has brought about significant changes in both export as well as the import market. But what is the future likely to be? Will the leading countries continue to lead? Will globalization of the industry prove to be positive or negative? Many questions may have struck you when you were still preparing for quota abolition. And many still prevail. The biggest question that tingled one's mind was the continuation of China's dominance in the world textile economy.

Competing countries had fears of getting crushed by this global giant. According to the pre quota hypothesis, China-the global giant, was expected to hold a major share in the export market. This hypothesis has come true owing to the various advantages China enjoys. Quota free era

Global Scenario

has witnessed increase in China's exports: 54% increase in US and 41% increase to EU.

But time has witnessed new trends. The sudden rush of exports from China has been slowed down by leading markets of the textiles economy- US and EU, by imposing anti-dumping duties on Chinese goods. This in turn has forced China to adopt different trade routes as well as look for newer manufacturing hubs. South Asian countries are major beneficiaries of safeguards and quotas on China. Restriction on China has given an opportunity to other South Asian countries to show their strengths and meet the upcoming demand of the western market.

South Asia's exports to US have increased by 19% and to EU by 1%. South East Asia has 27% of the world's spinning capacity, 15% of the world's weaving capacity and 18% of the world's knitting capacity.

India has emerged as the second largest gainer in both US and EU after China. Due to inherent advantages and disadvantages, these countries are emerging as category specialist due to developed capabilities in raw materials and manufacturing capabilities for these categories. For instance, Pakistan is a competitive supplier for cotton goods such as men's apparel, bed linens and fabrics. Pakistan has emerged as a strong supply base for home textiles, due to advantage it has in availability of coarse cotton and well developed home textiles industry. The textile & clothing industry in India is in small scale sector. This provides India an advantage of supplying small orders in short period of time. Bangladesh has emerged as a supply hub for cotton knit garments because of the advantage it enjoys; knit fabric capacity and low conversion cost. Turkey is enjoying its core competency in high fashion garments. Sri Lanka has developed a reputation as a niche supplier of intimate apparel. There will be more category specialists in the future as countries build core competencies. Countries like Honduras, Guatemala, Dominican Republic and Mexico had their own reasons to smile. Their geographical proximity to the US has given them the advantage of continuing production for this market.

Globalisation has opened up channels for equal opportunities for all the countries which has led to healthy competition & production of quality products thus enabling all to capitalise on their own strengths instead of looking at other gateways. There has been improvement of capital and labour, resources are being utilised to the maximum benefit. Globalisation has brought about supply chain integration for cost effective production.

The negative side of globalisation has witnessed unequal distribution of benefit. Increasing trade frictions and anti-dumping duty cases on Chinese textile industry have compelled the domestic industry to find new tricks to remain afloat in international markets, especially in US and EU. China has found Egypt as conduit to re-export its

product to the two major destinations. In the absence of quota restrictions buyers are changing their sourcing plans in a very large way. Buyers will enjoy their monopoly which will adversely affect the supplier. Excess production is likely to take place due to increasing competition though eventually the dust shall settle down.

But how will this impact the other developing nations who had been trying aggressively to catch up with the rat race? Will countries like India be the next one to catch up as predicted? Some chapters of globalization are yet to be opened. Lot many ambiguities will soon unfold and will lead the industrialist to adopt a newer way of thinking and analyzing. To strike the deal, newer code of conducts will have to be adopted. Collaborations, mergers and acquisitions will prove beneficial in staying competitive. New areas like technical textiles will become the most explored ones. Professional management practices need to be followed. Government will also have to pursue labour reforms and develop port infrastructure to facilitate trade. Training and upgradation will become the key to success.

If you have any views or experiences which you feel need to be discussed regarding globalization of the textile industry, please post your views to info@bch.in ■

Impact of globalisation

- US imports of textiles and apparel have increase by 6.4% while EU imports have increase by 3.7%
- Legislative measures were introduced by the buying countries to safeguard the domestic industry
- China has dominated the 1st year of Quota free era. Exports to US has seen an increase of 54% and 41% to EU
- South Asia has emerged as clear alternative to China in most of the product categories. Exports to US have increased by 19% and to EU by 1%
- Countries surviving mainly due to quotas have been the losers like: Taiwan, Korea, Hong Kong and Russia
- Prices have seen a decline of 3-5% in almost all categories
- Countries and companies are shifting their manufacturing units to countries with low cost bases
- Global fiber production has seen a decline whereas consumption has seen a rise
- Newer markets are being explored

A 365 Day Showcasing in India

New Mantra to Boost the Technical Textile & Nonwoven Industry

Every company has a product line which needs to be put forth to its potential customers. With domestic sales stagnating all companies are eager to ply their wares in other countries, too. Suppose a company wants to approach those potential customers which are beyond its reach...all that company needs is an extended arm. In emerging markets like India the situation is more or less such that potential customers need to be created more than found. This is mainly due to lack of awareness of hi-tech products.

So the question is how can a company introduce its products and locate potential buyers in foreign markets?

...the simplest answer to this is showcasing but with a difference!!!

What is the difference?? The difference is that you get to display and promote products to the right audience, interact, advertise, gain knowledge on market trends and seek support in India all year round.



Technical Discussions



Delegate get-together

A Showcase with a Difference



Media Center



General Visitors



Visitors during Events



Shop in Shop

“Showcasing your products at BCH will give your company the opportunity to do more than what it was already doing.”



Unique Product Display Industry Wise



Conference Area

A 365 day showcase at BCH in New Delhi, India is aimed to display products related to Technical Textile & Nonwoven to help demonstrate their value to prospective clients. The main points of difference in turn are the benefits offered to its members:

- A BCH showcase offers a comprehensive technical gallery to its member's products across different application areas of technical textiles. It helps buyers find out what the seller has to offer.
- Subsequently the queries are directed to the seller or its representative in India or overseas and a strong follow up with complete back up support is maintained.
- Depending on the needs of the members BCH offers support services by recommending channel partners, organizing customized events, nurturing tie ups and R&D requisites.
- This showcase also provides extra media visibility through newsletters, website, and events
- All you need to do is be a member. ■

From the MD's Desk



Mr. Samir Gupta, MD, BCH

“Technical Textiles is a specialized industry and needs specialized and innovative ways of promotion too. In this context BCH strives to give an innovative and a timely assistance to Indian entrepreneurs and overseas companies to establish themselves in the world markets.”

It is rightly said that 'Change is the only constant' and that time does not stop for anybody. These words strongly apply to the textile industry which needs to constantly upgrade itself with new product technologies and even newer means and ways of promoting them. In the past one year, Technical Textiles have been the most talked about business subject for the textile industry. This sector has emerged as a potential area to venture into for the entrepreneurs either for diversification or for upgradation. With a large untapped domestic market in the country, India is also being looked upon as an apt sourcing and manufacturing base by the global giants from all the sectors of Technical Textiles, who have been experiencing business saturation and cost pressures overseas. Technical Textiles is a specialized industry and needs specialized and innovative ways of promotion too. In this context BCH strives to give an innovative and a timely assistance to Indian entrepreneurs and overseas companies to establish themselves in the world markets.

With the beginning of 2007 BCH is now one year old. The movement in 2006 literally kept us on our toes, all due to the overwhelming response of the industry. Working in the textile industry for over 18 years has given us the confidence to take this initiative. For 2007 we have lined up number of events based on the success of last year's response. These workshops and events will provide hands on experience to the participants about the technology, raw material, processes and markets. Furthermore, there are going to be many interesting activities for the benefit of members which will be focused towards product promotions and media visibility. BCH through its showcase will be showcasing a world of opportunities as rightly put and act as a one stop solution to all in this industry.

The Technical Textile industry with enormous economic opportunity is now attracting big corporate houses to foray into this area. The most promising areas being medical textiles covering health and hygiene applications, transportation textiles covering automobiles-trains and aircrafts, geotextiles, sport textiles and protective clothing. Ideas and opportunities are pouring in to create products as per regional needs. Developing countries have a diverse market for existing and new technologies.

I invite all the stake holders of this industry namely manufacturers, traders, institutes, academia, associations, government, media to come forth and join hands to synergize efforts of all for a healthy movement towards growth. We all need to strategically work together in order to land in a win - win situation. We are extremely thankful to our members and the industry for their response and look forward to suggestions and feedback which is important to move in the right direction. ■

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