



INDIAN TECHNICAL TEXTILE ASSOCIATION

E-BULLETIN

*e-magazine for members*

Issue No.88

Jan-Feb, 2024

## BHARAT TEX 2024 HELD ON 26TH - 29TH FEBRUARY 2024



Bharat  
tex 2024

Global Textile Expo  
New Delhi | Feb 26-29

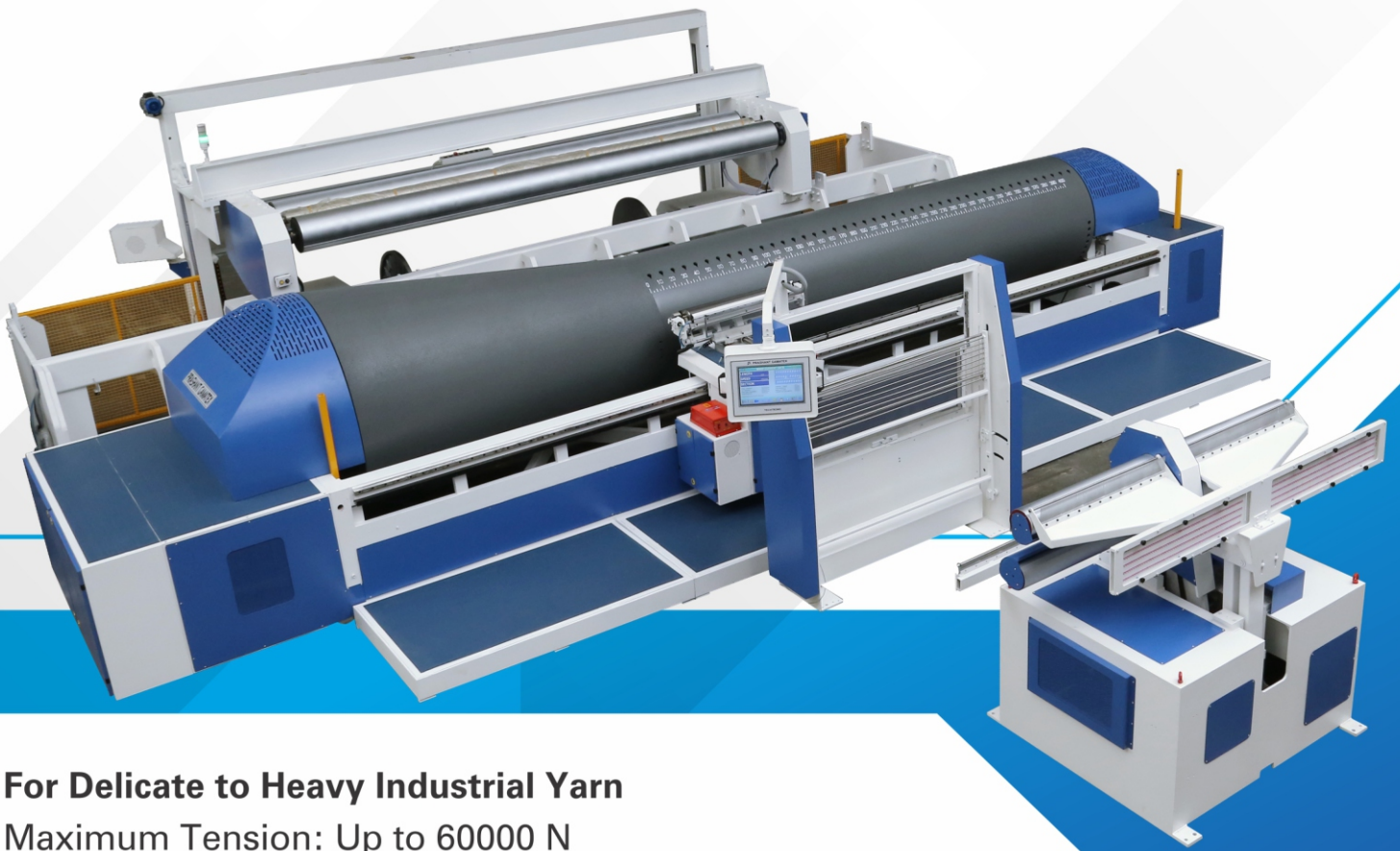
TEXTILES  
FASHION  
SUSTAINABILITY

- Huge number of ITTA Members participated in the Expo
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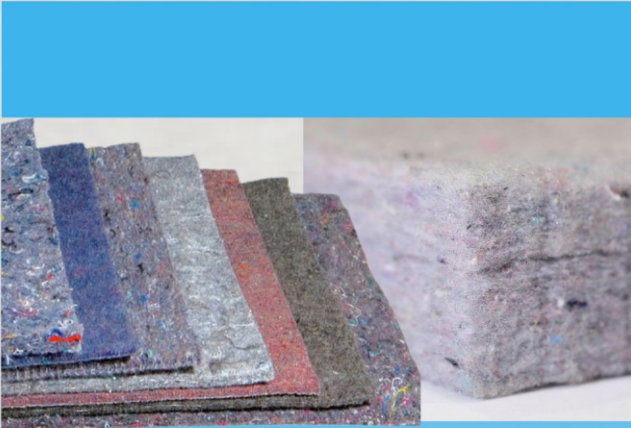
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## **Textile Recycling - Sustainability in Nonwoven Production**

The term „sustainability” is used today to describe necessary savings of resources of all sorts and including technological solutions for the reduction of energy and fibre material consumption. For economic reasons, these goals have been pursued in the past already. In recent years, however, the discussion of the importance of sustainability is usually very much influenced by the ecological importance in order to stop climate change.

In the tradition of further development and innovation in the field of textile machinery for nonwoven production it becomes obvious that in the past the use of textile waste from garment clippings and the use of natural fibre were the primary fields in needling and in the production of insulation material, carpet underlay as well as upholstery for furniture and in bedding. Those applications are still important when we want to reduce virgin fibre consumption and also apply natural fibres in order to allow an environmentally friendly end-of-life for such materials.

In the past, machine development and engineering at Dilo was directly related to the use of reclaimed fibre and natural fibre for needled products and has defined technical development in the years until the mid-60s when man-made organic fibre offered many more applications for needle felts including floor coverings and technical felts.

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Our engineering is thus supported by four demonstration, testing and development centres for the various process stages in order to provide all necessary information before investment decisions.

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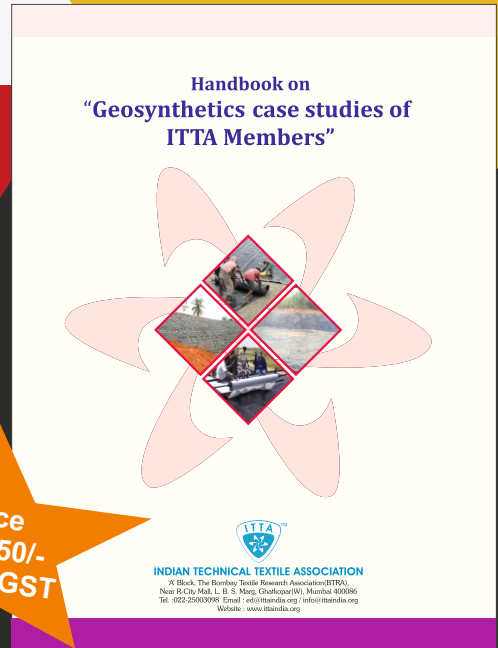
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BRAWNTEX INDUSTRIES LTD.

## Bharat Tex 2024 held in New Delhi

Inspired by the 5F Vision of the Hon'ble Prime Minister, the largest global textile event in India, Bharat Tex 2024 with a unified Farm to Fashion focus was held from 26th - 29th February, 2024 at Bharat Mandapam in New Delhi. The 4-day event which was inaugurated on 26th February, 2024 by Prime Minister, Shri. Narendra Modi witnessed an overwhelming response not just from Indian, but also global players including top brands and retailers. The Prime Minister also took a walkthrough of the exhibition showcased on the occasion. Union Minister for Commerce & Industry and Textiles, Shri. Piyush Goyal and Union



Minister of State for Textiles, Smt. Darshana Jardosh was present on the occasion among others.

The mega event was organised by a consortium of 11 Textile Export Promotion Councils and supported by the Ministry of Textiles. Built on the twin pillars of trade and investment and with an overarching focus on sustainability, the 4-day event attracted besides policymakers and global CEOs, 3,500 Exhibitors, 3,000 Buyers from 111 Countries and over one lakh trade visitors. Leading textile states including Uttar Pradesh, Maharashtra, Gujarat, Madhya Pradesh, Telangana, Tamil Nadu and Karnataka were enthusiastic participants with dedicated pavilions and government representations.

Other highlights of the event included a farm to fibre full value chain expo and included a Retail High Street focusing on India's fashion retail market opportunities, dedicated pavilions on sustainability and recycling showcasing actual work done by individual industry as well as clusters like Panipat, Tirupur and Surat, an Indi-Haat showcasing India's traditional sector of Handicrafts and Handlooms.

A global scale conference with 70 sessions and 112 international speakers saw engaging discussions on key textile issues of the day including Textile Mega Trends, Sustainability, resilient global supply chains and Manufacturing 4.0. Pressing issues of the global value chain such as green financing, resilient supply chains, waterless dyeing, and innovation were among the other topics. In total, there were over 70 knowledge sessions including 14 marque sessions on ESG, sustainability, circularity and recycling and Green Financing, Country and State Sessions, over 25 capacity building masterclasses on various topics such as ESG, Skilling, Finance, Smart Factories, New applications in Geotech, etc.

Bharat Tex also emerged as Launch Pad for various initiatives and Projects such as IndiaTEX, Launch of Textile Grand Innovation Challenge, Announcement of 63 MoUs including with international institutions focusing on collaboration in research, innovation, entrepreneurship, new product development, skilling and sustainability. The event also saw release of UNEP Report for Sustainable Textile Hub in India and 8 books on various technical topics and a Documentary on Women Empowerment in Silk sector. Winners of the hackathon held on "Fostering Innovation in Technical Textiles" were announced and awarded during Bharat Tex.

Speaking at the event, Shri. Modi promised his full support to the textiles sector, stressing its crucial role in India's development as a nation by 2047, when India will complete hundred years of Independence. He



further stated that Govt. is working in a very wide scope to further increase contribution to building a developed India. He elaborated on the ambit in which the govt. is working to expand the role of the textiles sector in the journey of Viksit Bharat. “We are focussing on tradition, technology, talent and training”, he said. In order to help the MSME sector, he mentioned the change in the definition of MSME to ensure continued benefits even after growth in size. Commenting on the impact of positive, stable and far-sighted government policies, he highlighted that the valuation of the Indian textiles market has crossed 12 lakh crore rupees from less than 7 lakh crore in 2014. There is a 25% increase in yarn, fabric and apparel

production. 380 new BIS standards are ensuring quality control in the sector. This has led to doubling of FDI in the sector in the last 10 years, he informed. Concluding the address, he underlined that the Govt. is readily available to function as a catalyst and work towards fulfilling the dreams of the people, as he urged the industries to come forward with a new vision that caters to the world's needs and diversifies their markets.

## ITTA PLAYED A SIGNAFICANT ROLE IN KNOWLEDGE SESSIONS & MASTER CLASSES

### Panel Discussions -

#### 1. “Standards and Regulations in the Field of Textiles” on 28th February 2024 --

Indian Technical Textile Association (ITTA) was invited for this panel discussion session by Bureau of Indian Standards (BIS). The session was chaired by Shri. H. J. S. Pasricha, DDG (Certification), BIS and moderated by Shri. Mohit Basin, KPMG. Eminent panelists were Smt. Roop Rashi, Textile Commissioner, MoT; Shri. J. K. Gupta, Head (Textiles), BIS; Shri. Pinaki Gupta, Head (CMD-II), BIS; Shri. Ajay Sardana, Executive Member, CPMA, New Delhi &



Shri. Anup Rakshit, Executive Director, ITTA, Mumbai. This session disseminated the information on the important standards formulated and under development in the field of textile including technical textiles by the BIS (e.g. medical textiles, geotextiles, protective textiles, cotton, wool, silk, jute, khadi and textile machinery etc.). Additionally, it also helps in understanding the BIS conformity assessment scheme, and regulatory landscape in the field of textiles and industry perspective for the same. Many of the ITTA members attended the session.



Dr. Rakshit appreciated BIS for forming ten new sub-committees on technical textiles in recent years and developed huge number of Indian standards, making the total standards on technical textiles to approx. 550, which includes product standards, test methods, code of practice, etc. BIS is able to significantly reduce the timeline on developing the new standards. The Quality Control Order is an urgent need by the industry for decreasing the use of sub-standard products being imported to India and in the domestic market through imports. Mapping of HSN codes of Technical Textile items with Indian Standards under Quality Control Order is currently in progress. There are two technical committees, formed by the Office of textile commissioner and Textile Committee, have recently started working on this with the direction from MoT.

During the analysis, it was found that many technical textile items do not have HSN CODES and are falling under others category. The industry is facing a few problems, such as, one certificate for a product used for multiple applications to reduce financial burden to industry, availability of limited number of accredited Labs and because of this testing charges are very high wherein SME & MSME industries cannot afford it, use of different HSN Codes for the same product for various commercial reasons. BIS is requested to look into them.



Shri. Mahesh Kudav, Vice Chairman, ITTA also expressed concern that the Indian testing Labs are not recognised by the importing countries and due to this our exporters have to get the products tested in Labs abroad before export which costs a lot of money. He requested BIS to take up this matter to the appropriate authority.

## **2. "Maharashtra as an attractive global destination for the textiles sector" on 28th February 2024 --**

Panel discussion was organised by the Department of Textiles, Govt. of Maharashtra. The session chairman was Shri. Virendra Singh, IAS - Secretary, Maharashtra Govt. and moderator was Shri. Shравan Shetty, MD, Promus Partners. Eminent panelists were Dr. Anup Rakshit, ED, ITTA; Shri. Mahesh Kudav, Venus Health & Safety Pvt. Ltd.; Dr. Sri Kumar, Director, BTRA; Shri. Milind Ashtaputre, Century Enka and Dr. Asim Tiwari, Prof IIT-Mumbai. The discussion centered around future investment opportunities in Maharashtra's Textile sector and ensuring further collaboration to create a fostering environment for the industries, with a special focus on the way forward towards Maharashtra's Textile sector contribution in Viksit Bharat.

Shri. Virendra Sindh, IAS in his opening remark said that Maharashtra Govt. is coming out with an upgraded Textile policy with main focus on the Technical Textiles, which will be published soon. The policy will focus on formation of a Technical Textile mission with various funding provisions, textile Parks with plug-and-play facilities and other attractive subsidies to attract large investments in this sector.

Dr. Rakshit spoke on the Technical Textile sector in Maharashtra. He said that Maharashtra is leading the Technical Textile sector with a huge growth during the last 10 years or so. ITTA itself has more than 100 industry members in Maharashtra state covering all the 13 Technical Textile segments. It has good R&D institutions, Testing Labs, academic institutions, skilled man-power, etc. The new policy will boost growth further. The state can play a significant role in the growth of the Technical Textile industry to reach the country's goal of 40 \$ Billion market size from the current level of 23 \$ Billion. He said that ITTA, as the only association on Technical Textile and a knowledge repository, can collaborate with the Govt of Maharashtra to successfully implement the Technical Textile policy in the state. Shri. Mahesh Kudav, Vice Chairman of ITTA also spoke on the growth opportunities of technical textile sector; especially on medical textiles in the state.

### **KNOWLEDGE SESSION- MASTER CLASS**

Ministry of Textiles (MoT) organised number of Knowledge Sessions- Master Classes during Bharat Tex. Two important Master Classes on "Indutech and Mobiltech" were conducted by Dr. Anup Rakshit, Executive Director, ITTA on 28th February 2024. The master class focused on exploring the seamless integration of Indutech across diverse industrial applications and development of secure and scalable Mobiltech applications in the future.

Dr. Rakshit highlighted the definition, market size, growth for last 3 years and yearly trend of export-import performance for last 4 years of Industrial Textile (Indutech) and Automotive Textiles (Mobiltech). He further elaborated the products of Indutech and Mobiltech with the industrial sectors where these products are used. He also emphasised about the standardization, important Indian standards published, major testing instruments, HS codes on technical textiles and overview of Quality Control Orders (QCO).

### **EXHIBITION**

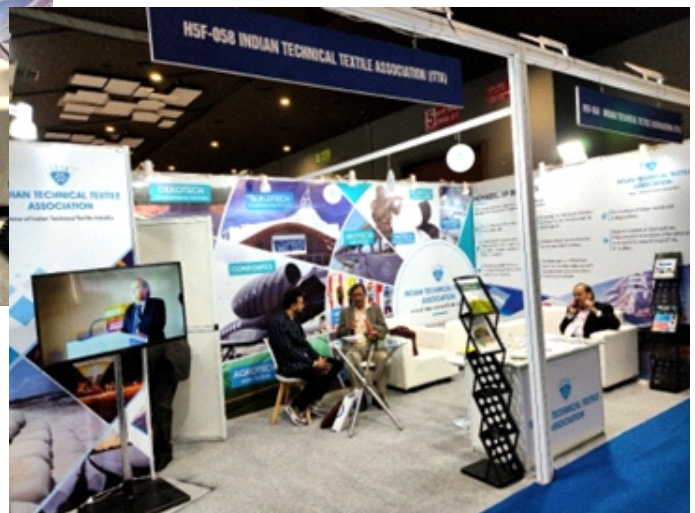
An exhibition spread across nearly 2 million sq. ft. of area and encompassing the entire textile value chain, including manufacturers, exporters and importers showcasing their capabilities, innovation, latest

collections and generating momentum throughout the entire Indian Textiles ecosystem i.e., Fibres & Yarns, Fabrics, Apparel & Fashion, Home Textiles, Handlooms, Technical Textiles, Intelligent Manufacturing and Handicrafts & Carpets. National Technical Textile Mission (NTTM), MoT also displayed the information on the R&D Projects which were approved and sanctioned to IITs, COEs, Institutes, etc.

90+ Technical Textile companies participated in the Bharat Tex expo wherein more than 55+ ITTA members participated to display products especially on Technical Textiles in the exhibition and efficiently met the targets. More than 1000+ delegates visited the ITTA members stall and shown interest in different products those were displayed and generated business.

ITTA also had a Booth in the exhibition, displaying our activities and services where more than 300+ delegates visited the booth, enquired about activities of ITTA, future technical textile courses, collaboration with ITTA for future conference & exhibition and showed interest to become a member.

### ***EMINENT INDUSTRY PERSONNEL GRACING THE ITTA BOOTH***



## Technical Textiles for protection against Arc-flash fire: SAVESPLASH

*Dr. Nandan Kumar*

*High Performance Textiles Pvt. Ltd, Sonipat, Haryana, 131001, India*

*Indian Patent Number - 495294, 05/01/2024*

### Introduction:

Electric arc flash fire is a critical safety concern in electrical systems, with significant importance in industrial and commercial settings. This is one of the major risks for electrician/technician involved in the maintenance, installation of electrical panels. It occurs when an electric current passes through the air between conductors or from a conductor to the ground, creating a high-intensity flash of light and immense heat. This could also happen due to dust, corrosion or due to rodents touching the surface of the conductor. The high temperature and high intensity flash produced over a fraction of second can severely burn human skin as well as damage eyesight. The importance of understanding and mitigating electric arc flash fire lies in its potential dangers:

- **Intense Heat and Light:** An arc flash can generate temperatures up to 35,000°F, much hotter than the surface of the sun. This extreme heat can vaporize metal conductors and ignite clothing, causing severe burns to human skin.
- **Explosive Force:** Arc flashes can produce a powerful explosion, resulting in a blast wave that can throw workers across rooms and cause serious physical injuries like broken bones or concussions.
- **Sound Blast:** The sudden release of energy can create a loud noise, potentially leading to temporary or permanent hearing loss.
- **Electrical Hazard:** The event is a reminder of the inherent dangers in working with electrical systems and underscores the need for proper safety procedures and equipment.

Due to these risks, arc flash fire is a key focus in occupational health and safety. Standards and regulations, such as the National Fire Protection Association's NFPA 70E, provide guidelines for arc flash risk assessment and the implementation of safety measures like personal protective equipment

(PPE), proper training, and safe work practices. Recognizing and addressing the hazards associated with electric arc flash fire is essential for protecting workers and maintaining a safe working environment. In India, electrical arc-flash fire is generally confused with flash fire which is defined as per NFPA 2112 as a fire that spreads rapidly through a diffuse fuel, such as combustible dust (e.g. fine metal powders, coal dust, saw dust, grain, sugar or carbon dust), gas and vapour of an ignitable liquid (e.g. natural gas, gasoline, diesel, organic solvents or industrial gases) in a very short span of time (less than 3 seconds), whereas most arc flashes are less than 0.5 seconds in duration. Also, the range of heat flux in case of flash fire and arc flash fire is 0.5-3.0 cal/cm<sup>2</sup>/sec and 2-600 cal/cm<sup>2</sup>/sec respectively[1]. Currently available garments are manufactured using two or three layers of woven/nonwoven combinations to achieve higher Hazard Risk Category (HRC) rating (level 3 and above). However, they are heavy and not comfortable to the end users.

The recently patented HPT Savesplash fabric is a single layer inherent flame-retardant in nature and uniquely designed for protection against arc-flash fire hazard. The Savesplash fabric can be cut and sewn into workwear as well as hand gloves (Figure 1). Both fabric and gloves were tested as per ASTM F1959/F1959M-14 and ASTM F2675/F2675M-13 (newer published version ASTM F2675/F2675M-19) at Kinectrics Inc, Canada and the arc rating was determined using ASTM standards. The fabric achieved arc thermal performance value (ATPV) of 41 cal/cm<sup>2</sup>, breakopen threshold energy ( $E_{BT}$ ) of 42 cal/cm<sup>2</sup> and heat attenuation factor (HAF) of 94% which translated into an arc rating of 41 cal/cm<sup>2</sup>. This is equivalent to HRC level 4 ratings as per National Fire Protection Association's NFPA 70E standard (USA). Further, cut and sewn gloves (HM-100) developed using Savesplash fabric reinforced with leather on palm area achieved ATPV of 63 cal/cm<sup>2</sup> and HAF of 94.5% when tested in the gloves form (Figure 1). This fabric concept is a unique combination of inherent flame-retardant fibres such

as FR-viscose & para-aramid alongwith innovative flame-retardant high shrink fibres blended in a specific combination to achieve higher bulk per unit area (400-450 gsm). The yarn, therefore, the fabric is designed to shrink after dyeing and finishing which reduces the holes within courses and wales, hence 'blinds' the fabric. This 'blinding' of fabric dramatically improves the resistance to infra-red, convective heat and arc flashes. Further, the fabric is coated with neoprene on back side to provide oil and chemical repellency. Additionally, a lower gsm version of this fabric in the range of 200-220 is being developed to be used as balaclava, undershirts for firefighters.



Figure 1 : Savesplash fabric and gloves

## 1. Materials and Methods

### 1.1 Materials

The Savesplash yarn is a unique combination of 'Inherent' flame-retardant FR-viscose (1.7 dtex, 51 mm) and para-aramid fibers (1.7 dtex, 51 mm), along with innovative flame-retardant high shrink fibers blended in a specific combination. The blended fibres were spun into yarn and knitted, dyed, finished and neoprene coated to achieve 450 gsm. Manufacturing was carried out as per flowchart shown in Figure 2.

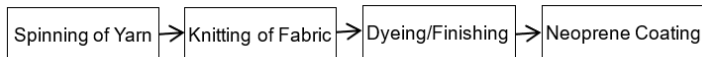


Figure 2 : Flowchart of manufacturing process of Savesplash

### 1.2 Methods

Arc Flash Standards: The standards ASTM 1959, ASTM F2675, IEC 61482-1-1 demonstrate the method for determination of arc ratings for textiles (hand gloves in case of ASTM F2675) which is a statistical calculation of a probability as electric arc explosion varies during each experiment. These test methods are not valid for electrical contact or shock hazards. As per ASTM F2675, the arc rating is defined as a value attributed to textiles that describes their performance to exposure when an electrical arc discharge created by applying 8000 A current for a duration from 0.05 s up to 2.5 s (incident energy range 12-80 cal/cm<sup>2</sup>) is applied to the test specimen. Further, the arc rating is either reported as the amount of incident energy (also known as Arc thermal performance value, ATPV) on

the sample under testing that results in 50% probability that sufficient heat transfer through the tested sample is 'predicted' to cause the 'onset' of 2<sup>nd</sup> degree skin burn injury as per Stoll Curve or as incident energy (also known as Breakopen threshold energy,  $E_{BT}$ ) on the test sample that results in a 50% probability that sufficient heat transfer through the test sample is predicted to cause the sample to breakopen (i.e. formation of one or more cracks of 2.5 cm or 1.6 cm<sup>2</sup> hole). Both ATPV and  $E_{BT}$  are expressed in kJ/m<sup>2</sup> or cal/cm<sup>2</sup>. During testing, Heat Attenuation Factor (HAF) is also reported which is percentage of the incident energy which is blocked by the test sample. It is worthwhile to mention that the 'Stoll Curve' is based on a remarkable work done by Alice M. Stoll and Maria A. Chianta (Figure 3 and Table 1) in 1968 which is a curve plotted between thermal energy and time [3, 4]. They used data on human tissue tolerance to heat and this curve is used to predict the 'onset' of 2<sup>nd</sup> degree burn injury when the test material is exposed to heat energy from an electric arc. This curve is also used for ASTM F1060 (conductive heat test) and ASTM F1939 (Radiant heat test) and NFPA 2112 (Industrial Flash Fire Protective Clothing Standard).

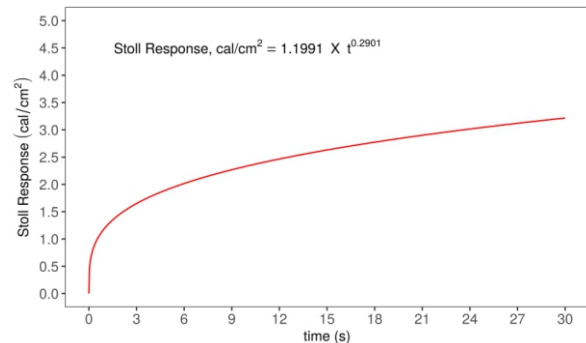


Figure 3: Stoll Response Curve

Table 1: Human Tissue Tolerance to

Exposure Time (s)	Total Heat (cal/cm <sup>2</sup> )	Exposure Time (s)	Total Heat (cal/cm <sup>2</sup> )
1	1.20	16	2.68
2	1.47	17	2.73
3	1.65	18	2.77
4	1.79	19	2.82
5	1.91	20	2.86
6	2.02	21	2.90
7	2.11	22	2.94
8	2.19	23	2.98
9	2.27	24	3.01
10	2.34	25	3.05
11	2.40	26	3.09
12	2.47	27	3.12
13	2.52	28	3.15
14	2.58	29	3.18
15	2.63	30	3.22

**Table 2: Levels of Hazard Risk Category**

Sl. No.	Hazard Risk Category	Minimum Arc Rating (cal/cm <sup>2</sup> )
1	HRC 0	0
2	HRC 1	4
3	HRC 2	8
4	HRC 3	25
5	HRC 4	40

Table 2 shows levels of Hazard Risk Category (HRC) defined as per NFPA 70E which is classification of the risk involved while performing any task and is determined by the minimum number of calories per square centimeter (cal/cm<sup>2</sup>). The 'level 0' represents little or no risk and 'level 4' is extremely high-risk job task.

### 3. Results and Discussion

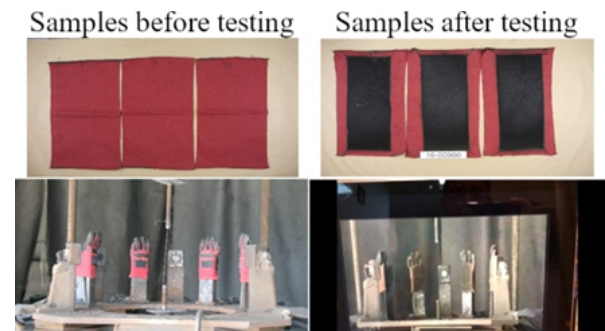
Currently available high rated ATPV suits (HRC level 3 and above) are manufactured using multiple layers of woven, woven/nonwoven or combination of knitted/woven fabrics. In this Indian patent, we have discussed a uniquely designed single layer knitted fabric, *Savesplash* which is a combination of 'Inherent' flame-retardant FR-viscose and para-aramid fibres along with high shrink flame-retardant fibres blended in a specific combination to achieve higher bulk per unit area (450 gsm). The yarn used for knitting is designed to shrink after dyeing and finishing which reduces holes within courses and wales, hence 'blinds' the fabric. Owing to the presence of FR-viscose/para-aramid in the blend, the finished fabric is very comfortable to the end user. Moreover, there is no shrinkage and breakopen observed in a flame. This may be due to polymerization of phosphoric acid which is the main decomposition product of FR-viscose after exposure to flame. The char formed after exposure is very stable; providing continuous protection the

end user during fire exposure. This fabric passed the basic requirements for flame resistance as per ASTM D6413. A cut and sewn gloves (reinforced with FR leather on palm area as shown in Figure 1) designed to provide protection against flash fire, as well as impact and abrasion without compromising comfort and dexterity. Both ASTM tests were conducted at *Kinectrics Inc*, Canada as per parameters mentioned in Table 3.

**Table 3: Test Parameters for Savesplash fabrics and gloves**

Sl. No.	Parameters	<i>Savesplash</i> <sup>®</sup> fabrics	<i>Savesplash</i> <sup>®</sup> gloves
1	Test current	8 kA	8kA
2	Arc Gap	30 cm	30 cm
3	Number of samples analysed	21	27
4	Distance to fabric	30 cm	30 cm
5	Incident Energy Range	18-50 cal/cm <sup>2</sup>	12-80 cal/cm <sup>2</sup>

Table 4 and Table 5 show measured energy and observations for tests performed by *Kinectrics Inc*. for both *Savesplash* fabrics and gloves. This data was used to calculate respective Arc Thermal Performance Value (ATPV), Material Breakopen (E<sub>BT</sub>) and Heat Attenuation Factor (HAF). Three panels were used for testing of *Savesplash* fabric whereas four panels were used in case of gloves as per ASTM standards.



**Figure 4: Samples prior and after performing the tests and their conditions after the tests**

**Table 4: Measured energy and observations for test performed as per ASTM F1959/F1959M-14 for *Savesplash* fabric**

Test #	Panel	Ei Cal/cm <sup>2</sup>	HAF %	> Stoll Y/N	Break Open Y/N	Test #	Panel	Ei Cal/cm <sup>2</sup>	HAF %	> Stoll Y/N	Break Open Y/N
1	A	18.5	90.9	N	N	4	C	48.1	95.0	Y	Y
1	B	19.4	91.5	N	N	5	A	39.9	94.3	N	N
1	C	24.2	93.1	N	N	5	B	39.8	94.3	N	N
2	A	38.2	94.2	N	N	5	C	43.2	94.1	Y	Y
2	B	38.4	94.4	N	N	6	A	40.0	94.0	Y	N
2	C	39.2	94.5	N	N	6	B	45.9	94.8	Y	Y
3	A	46.4	92.8	Y	Y	6	C	48.6	95.2	Y	Y
3	B	42.8	94.3	Y	N	7	A	36.8	94.1	N	N
3	C	49.6	93.7	Y	Y	7	B	39.5	94.6	N	N
4	A	45.0	94.7	Y	Y	7	C	41.1	94.7	N	Y
4	B	38.9	94.0	N	N						

**Table 5: Measured energy and observations for test performed as per ASTM F2675 / F2675M-13 for Savesplash gloves**

Test #	Panel	Ei Cal/cm <sup>2</sup>	HAF %	> Stoll Y/N	Test #	Panel	Ei Cal/cm <sup>2</sup>	HAF %	> Stoll Y/N
1	A	18.5	93.0	N	4	C	51.0	95.5	N
1	B	15.7	92.7	N	4	D	49.2	94.1	Y
1	C	12.9	90.3	N	5	A	69.7	93.2	Y
1	D	12.5	87.9	N	5	B	54.9	97.8	N
2	A	28.0	94.0	N	5	C	51.4	95.8	N
2	B	26.7	93.9	N	5	D	56.6	97.2	N
2	C	24.9	93.7	N	6	A	79.9	95.8	Y
2	D	23.9	92.2	N	6	B	66.7	95.4	Y
3	A	40.4	95.3	N	6	C	58.5	95.7	N
3	B	34.7	94.2	N	6	D	78.0	95.7	Y
3	C	35.9	94.6	N	7	A	68.7	96.8	N
3	D	37.0	93.3	Y	7	B	55.7	96.0	N
4	A	53.3	96.3	N	7	C	49.3	96.2	N
4	B	50.3	95.3	Y					

Figure 6 (top) shows the logistic regression curve fitted to the experimental data for Savesplash fabric and the probability values are tabulated in Error! Not a valid bookmark self-reference. (left). The ATPV value for this fabric was found to be 41 cal/cm<sup>2</sup>. Figure 6 (bottom) shows the logistic curve

fitted to the experimental data for Savesplash glove and the probability values are tabulated in Error! Not a valid bookmark self-reference. (right). The ATPV value for stitched gloves was found to be 63 cal/cm<sup>2</sup>.

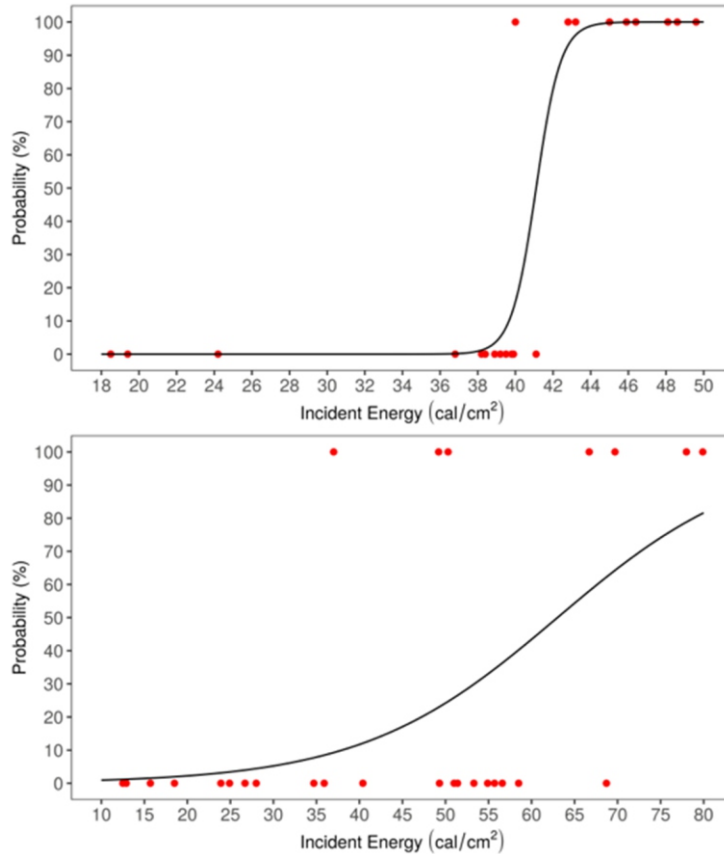
**Table 6 :: Savesplash fabric and Savesplash gloves with probability and corresponding incident energy values for Stoll Criteria**

P* (%)	Ei**	P* (%)	Ei**	P* (%)	Ei**	P* (%)	Ei**
5	39.2	55	41.2	5	29.5	55	65.3
10	39.7	60	41.4	10	38.0	60	67.6
15	40.0	65	41.5	15	43.2	65	70.1
20	40.2	70	41.7	20	47.2	70	72.7
25	40.4	75	41.8	25	50.5	75	75.5
30	40.5	80	42.0	30	53.4	80	78.8
35	40.7	85	42.2	35	56.0		
40	40.8	90	42.5	40	58.4		
45	41.0	95	43.0	45	60.7		
<b>50</b>	<b>41.1</b>			<b>50</b>	<b>63.0</b>		

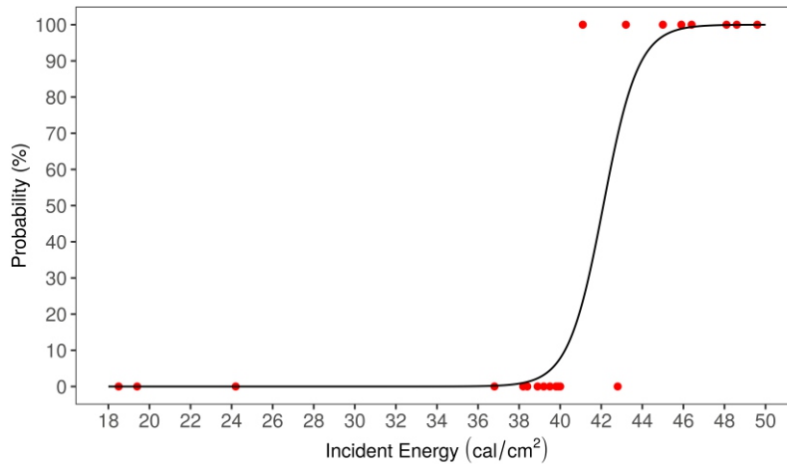
\* P - Probability  
\*\* Ei - in cal/cm<sup>2</sup>

**Table 7 : E<sub>BT</sub> (42 cal/cm<sup>2</sup>) with Probability and corresponding Incident Energy Values for Breakopen Response for Savesplash fabric**

Probability (%)	Ei (cal/cm <sup>2</sup> )	Probability (%)	Ei (cal/cm <sup>2</sup> )
5	39.6	55	42.3
10	40.2	60	42.4
15	40.6	65	42.6
20	40.9	70	42.8
25	41.2	75	43.0
30	41.4	80	43.3
35	41.6	85	43.6
40	41.8	90	44.0
45	41.9	95	44.6
<b>50</b>	<b>42.1</b>		



**Figure : Determination of ATPV of Savesplash fabric (top) and Savesplash gloves (bottom) by Logistic Regression**



**Figure 6 : Determination of  $E_{BT}$  of Savesplash fabric by Logistic Regression**

The Breakopen Threshold Energy ( $E_{BT}$ ) is calculated in a similar manner as explained for ATPV. Here, 50% probability will give the incident energy value that will just predict specimen breakopen during electric arc-flash fire. This incident energy is called breakopen threshold energy or  $E_{BT}$  (Figure 6 and Figure 7). The question from the practical standpoint is which of the two values (ATPV or  $E_{BT}$ ) is the actual arc rating of the product. Is ATPV better than  $E_{BT}$  as is often claimed and which one should be used? As per ASTM F1959 and ASTM F2675, the ATPV value is reported as arc rating if no breakopen occurs below or within the mix zone [5,6] during the determination

of ATPV otherwise perform additional tests (if required) to determine  $E_{BT}$  value. Once  $E_{BT}$  is determined and if it is found to be equal or below ATPV, then this  $E_{BT}$  is reported as arc rating. However, if  $E_{BT}$  is above ATPV, then the latter is reported as the arc rating. Table 8 gives summary of results for both Savesplash fabric and gloves. The higher ATPV value for gloves is attributed to the presence of leather stitched on the palm area and FR treated cotton fabric used as the inner layer. As there was no evidence of breakopen or after flame observed in the gloves sample,  $E_{BT}$  test was not performed.

**Table 8 :: Summary of results for Savesplash fabric and gloves**

	<b>ATPV (cal/cm<sup>2</sup>)</b>	<b>EBT (cal/cm<sup>2</sup>)</b>	<b>HAF (%)</b>
<i>Savesplash?</i> fabric	41	42	94
<i>Savesplash?</i> gloves (HM-100)	63	-	94.5

#### 4. Conclusions

A single layer Savesplash fabric was developed to provide high level (HRC level 4) protection against

electric arc-flash fire hazards. Due to presence of FR viscose in the blend, Savesplash can be easily dyed in many colours, such as black, orange, maroon, blue, yellow as per end customer requirements. The ATPV of 41 cal/cm<sup>2</sup>,  $E_{BT}$  of 42 cal/cm<sup>2</sup> and HAF of 94% were observed for Savesplash fabric which is equivalent to HRC level 4 ratings as per NFPA 70E. Cut & sewn gloves developed using Savesplash fabric reinforced with leather on palm area achieved ATPV of 63 cal/cm<sup>2</sup> and HAF of 94.5%. Further work is being done on development of a lower gsm version of Savesplash fabric in the range of 200-220 to be used as balaclava, undershirts for firefighters.

#### Reference :

1. Hoagland, H.: Flame Resistant Textiles for Electric Arc Flash Hazards. In: Handbook of Fire Resistant Textiles. pp. 549580 (2013)
2. Kumar, N.: Innovative Textiles for Personal Protection, Indian Patent Number - 495294, 05/01/2024
3. Stoll, A.M., Chianta, M.A.: A Method and Rating System for Evaluation of Thermal Protection. U.S. Naval Air Development Center (1968)
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5. Standard Test Method for Determining the Arc Rating of Materials for Clothing (ASTM F1959/F1959M - 14).
6. Standard Test Method for Determining Arc Ratings of Hand Protective Products Developed and Used for Electric Arc Flash Protection (ASTM F2675/F2675M - 19).
7. R Core Team: R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria (2020)

## NEW MEMBERS



### **BRAWNTEX INDUSTRIES PVT. LTD., GUJARAT**

Brawntex Industries based in Surat is a manufacturer of woven and knitted fabrics from synthetic yarns for various segments like Outdoor, Defense and Athleisure with production capacity of 20 lakh mtr/year (FY 2022-23). Their wide range of fabrics are used for applications like jackets, t-shirts, tracksuits, sleeping bags, backpacks, rucksacks, rainwear, etc. These fabrics are made from specialized polyester and nylon yarns with various finishes, coatings and laminations as per customer requirement. They have machinery such as waterjet looms, rapier looms and circular knitting. They are ISO 9001:2015 certified company and also authorized partner of Headway Advance Materials, Inc. Taiwan for the sales and distribution of polyurethane systems across in India.

### **AJY TECH INDIA PVT. LTD., GUJARAT**

Established in 2013, AJY Tech India located in Surat traces its roots back to 1986 when its founders ventured into the textile industry as traders. They are mainly into Packtech and serving Bag and Luggage industries. They have integrated plant with waterjet m/c, jet dyeing, Airjet m/c, stenters, coating m/c, warping m/c, etc. They manufacture PU coated fabrics for Bag and Luggage industry with a production capacity of 1 Cr. mtrs/year. They have ISO 9001 and 14001 certifications.

# BRAWNTEX INDUSTRIES PVT LTD

An ISO 9001: 2015 certified company

Driven by passion,  
Powered by performance



## BRAWNTEX

### ABOUT OUR BUSINESS

- ✓ Woven fabrics made from multifilament synthetic yarns
- ✓ Circular knit fabrics made from Polyesters, Polyamides and Spandex
- ✓ Polyurethane chemicals for coatings and laminations



### OUR MARKETS

#### Athleisure

Fabrics for t-shirts, tracksuits, swimwear, sportswear, gymwear

#### Defense

Fabrics for high altitude clothing, combat uniform, personal protection equipment

#### Outdoor

Fabrics for rucksack, sleeping bag, tents, jackets, mattress



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## 1. ENGAGEMENTS WITH CENTRAL & STATE GOVERNMENTS

### 1.1. Meeting of Working Group for Development of Technical Regulations for Man Made Fibre Textiles

The 3<sup>rd</sup> meeting of the Working Group on Development of Technical Regulation for Man Made Fibre Textiles was held on 17.01.2024 through virtual mode under the Chairperson of Shri. Satya Prakash Verma, Secretary, Textile Committee and Chairman of Working Group. The BIS Standard discussed and deliberated in the Working Group was on IS 3566: 2023 Viscose Rayon Cut Staple (Spun) Yarn. Dr. Anup Rakshit, ED, ITTA attended the meeting as the member of the committee.

After detailed deliberation, the working group unanimously decided the following –

a. All the requirements of Viscose Staple yarn standard including stipulations in Table 1 and

Table 2 of IS 3566: 2023 were discussed and finalised.

b. Stakeholders urged to implement the QCO as soon as possible due drastic surge in import of VSY and rationalisation of the quality.

c. Parameters have been incorporated for the products manufactured through Vortex and Air jet spinning technologically. The scope of the standard shall be expanded/amended by incorporating other technologies, if available, as per requirement of the industry.

d. Textile Committee to be included as a certification and enforcement agency for QCO implementation.

### 1.2. Meeting of Mission Steering Group (MSG) under NTTM

The 8<sup>th</sup> meeting of Mission Steering Group (MSG) of National Technical Textiles Mission (NTTM) under the Chairmanship of Shri. Piyush Goyal, Hon'ble Minister of Textiles was held on 18.01.2024 at Udyog Bhawan, New Delhi. Shri. Anilkumar Vasupillai, AED, ITTA attended the meeting.

Following Key points were discussed and decided in the meeting -

1. MSG approved 11 Research Projects along with a total fund allocation of Rs. 103 Cr. Key research projects are given below - Development of intermediate modulus grade carbon fibre, Design and development of CFRP composites slotted waveguide antenna for space and ground applications, Electroconductive Fabric for Health and Safety, Development of material for Flame Retarding Textile applications, Development of glass filament wound type-4 pressure vessels, Conductive yarns embroidered e-textile wearable systems for health and sports application, Development of Seaweed-derived Cellulose and Phytochemicals as Cost-efficient Additive Composite for Medical-grade Textiles, Development of Spunlace Natural Fibre based Fabrics for Technical Textile Applications and Development of Nonwoven Composite with Metal-Organic Frameworks (MOFs) for Efficient

Automotive Cabin Air Filtration. So, far NTTM has approved Total 138 Research Projects with a fund allocation of Rs. 474.63 Crs.

2. MSG approved 02 proposals for development of indigenous machinery & Instrument along with their cost and funding pattern i.e., Development of a Wide-Format Digital Printer to Print the Build-Tech Applications and Development of Indigenous State-of-the-art Instruments to test Convective, Radiant and Conductive properties of Protective Textiles.

3. Committee deliberated and instructed to frame Intellectual Property Rights (IPR) policy on urgent basis by inviting suggestions from stakeholders.

4. Application portal for Grant for Research & Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) - startup has been launched. A total of 18 applications have been received till date which are under evaluation/process.

5. In phase II of the General Guidelines for Enabling of Academic Institutions in Technical Textiles, 18 applications have been received and the initial scrutiny has been done for the same.

### 1.3. Meeting of TAMC under ATUFS

The 37th TAMC meeting under ATUFS was held through audio-video conferencing on 24.01.2024 under the Chairpersonship of Ms. Roop Rashi, Textile Commissioner. Dr. Anup Rakshit, ED, ITTA attended the meeting. MOM was circulated to all ITTA members.

#### Major Decisions Taken in TAMC -

a) Since the open house VC is being conducted by OTxC, 1017 participants have attended with various issues like rejection of claim, OTC related issues, UID and JIT request related issues, status

of claim, etc. Issues of 853 participants have been resolved which also include guidance in complying the documental requirements. Further OTxC has settled 200 cases with subsidy value Rs. 77 Cr.

b) Segment wise details of UIDs issued & Subsidy released under ATUFS as on 01.01.2024: Garmenting (15% CIS) = 87.62 Cr., Multi activity (10%/ 15% CIS) = 524.45 Cr., Processing (10% CIS) = 166.61 Cr., Technical Textile (15% CIS) = 138.46 Cr., Weaving (10% CIS) = 1068.43 Cr. and Other (10% CIS) = 0.38 Cr.

## 2. EVENTS SUPPORTED & CONTRIBUTED BY ITTA

### 2.1. Consultative Webinar with Industry Associations and BIS Licensees for Framing Rolling Annual Action Plan 2024-25 in the Field of Textiles

To strategize the standards development in the textiles including technical textiles sector, identify the needs and priorities of the industry, BIS is in process of developing the Rolling Annual Action Plan for the period 2024-25, for the identification of new subject areas for standardization and to prioritize review of existing standards in an effort to draw a comprehensive strategy to address the emerging standardization needs aligned with the national priorities.

Rolling Annual Action Plan for standardization will be prepared after extensive consultation with standardization cells of industry associations, BIS licensees and taking into consideration annual program of standardization of relevant ministries. In this regard, a meeting with the eminent industry associations and BIS licensees in the field of textiles including technical textiles was held on 18th January 2024 through video conferencing. Shri.

Avinash Misar, Chairman, ITTA was invited as an eminent speaker in the webinar.

During the webinar, Shri. Avinash Misar informed that mapping of HSN codes of Technical Textile items with Indian Standards under Quality Control Order is an urgent need for decreasing the imports of the products. For TT industry most of the high-performance fibres/ yarns are imported. There are two technical committees headed by the OTxC and Textile Committee have recently started working on this with the direction of MoT. During the meetings of these committees, it was found that many TT items do not have HSN CODES or fall under others category. Industry used different HSN Codes for the same product for various commercial reasons. He also mentioned that limited no. of accredited Labs is available because of this testing charges are very high wherein SME & MSME industries cannot afford it.

### 2.2. Technical Textile Conference held in Andhra Pradesh

The Government of Andhra Pradesh (AP), Department of Handlooms & Textiles in collaboration with the Ministry of Textiles under the National Technical Textile Mission organised a one-day conference on Technical Textiles was scheduled on 24th January 2024 at Hotel Novotel Vijayawada for Advancing Policy Pathways in Technical Textile. The event was supported by the Indian Technical Textile Association.

The event was inaugurated by Shri. Gudivada Amarnath, Hon'ble Minister for Industries,



Infrastructure, Investment & Commerce, Information Technology and Handlooms & Textiles, Govt. of AP. He said the government is prepared to provide necessary incentives for the development of the technical textiles sector in the State, while asserting that Andhra Pradesh has land and other resources and a conducive business environment needed for the flow of foreign investments. He stated that the Central govt. should be more flexible in attracting foreign investments and make certain changes in the EXIM policy in order to realise India's potential as a global investment destination. He also informed the AP govt. was giving approvals through a single window system, like no other State in the country has been able to do, to give a fillip to the State's industrial sector, and that there was abundant land that was well-connected for the establishment of industrial units.

Shri. Rajiv Saxena, Joint Secretary, MoT said efforts were being made to spread awareness on the technical textiles sector and encourage entrepreneurs, and stressed the need for skilled manpower. A sum of ₹1,000 crore was allocated for R&D in the area of technical textiles that have a wide range of applications, he said, adding that special attention was paid to the development of markets and promotion of exports and start-ups.

Smt. K Sunitha, Principal Secretary to the Government of Andhra Pradesh for Handlooms & Textiles, Industries & Commerce Department, shared details of the state government's initiatives aimed at the development of the Micro, Small and Medium Enterprise (MSME) sector in Handlooms & Textiles. She also highlighted that there was tremendous scope for the promotion of agrotexiles in the State and there were proven means to increase the production of crops, reduce water consumption by up to 45%, and fertilizer use by at least 25%.

Shri. Avinash Misar, Chairman, Indian Technical Textile Association spoke about the ITTA, its membership categories, its members in different states in India & Abroad and its global connections with technical textile organizations'. He highlighted the



13 segments of technical textiles and its market size - Global vs. India & growth rate and the various activities that ITTA is doing for the rapid growth of the industry, such as, policy reforms, focused investment in this sector, standard development, introduction of new HSN code, skilled man-power developments, etc. He highlighted the current scenario and future potential of the Technical Textile industry in India. He further said there was no dearth of marketing if technical textile products were brought out in accordance with national and international regulations and laws.

Dr. Anup Rakshit, Executive Director, ITTA and many of its members were the eminent speakers in the conference. There were four panel discussions on various topics viz. i) Circular economy strategies in Technical Textiles: Devising a framework for a sustainable future - Dr. Anup Rakshit- ITTA, Shri. Ranjit Sasi- Director (Business Operations), Reverse Resources, Shri. Narendra Kajale- Vice President, Texport Syndicate India Pvt. Ltd., Shri. Rajiv Sajdeh- Director, Indo German Yarn & Fiber and Shri. Md. Zaidi Associate Director, Grant Thornton Bharath LLP; ii) Agrotech solutions with advanced textile materials: Upscaling the solutions and addressing challenges - Shri. Ravi Prakash Singh- Asst. Director, COE- Agrotech, SASMIRA, Dr. VB Patel- ADG - Horticulture, ICAR, Shri. Rajendra Ghadge- Asst. GM (QA), Garware Technical Fibres Ltd., Dr. G.T.V. Prabhu- Senior Scientist (Textile Manufacture), ICAR-CIRCOT, Shri. Gopi Krishna- Managing Director, Mitan Handicrafts Dev. Pvt Ltd.; iii) Geotech Textiles in engineering applications: Building sustainable infrastructure, in the light of looming climate change with a focus on AP - Dr. Sireesh Saride- Professor (Department of Civil Eng.), IIT, Hyderabad, Shri. Prasanta K Panda- Senior Scientist, BTRA, Smt. Lopamudra Dutta- Sr. Manager & Head- Technical Marketing (Geo), Garware Technical Fibres Ltd., Shri. Saurabh Rajpoot- Dy. Manager (Techno-commercial), Maccaferri Environmental Solutions Pvt. Ltd., Shri. Mohit Anand- Manager (Sales), Geostrata Systems and iv) Future trends of



Technical Textiles: Existing ecosystem and identifying challenges & opportunities for AP - Shri. N. Yuvaraj, IAS- Sec. to Govt, Industries & Commerce Department, Shri. Ravi Kumar- Executive Director,

SRTEPC, Dr. Anup Rakshit- ITTA, Dr. Behara- Professor, IIT Delhi, Dr. Priya Darshini- Professor, NIFT, Dr. Mohit Raina - Managing Director, Raina consulting.

### 2.3. CII Technical Textiles Conference in Ludhiana

Conference on Technical Textiles with the theme of "Advancing Technical Textiles: Innovation, Integration, and Impact" was organised by CII on 02nd February 2024 in Ludhiana, Punjab. ITTA supported the event as the Institutional Partner. Shri. Avinash Misar, Chairman, ITTA was invited as a guest in the inaugural session.

The Future of Sportswear, Innovations in Medical Textiles, Textile Implants and Advanced Wound Healing, E-Textiles for Healthcare: The Convergence of Electronics and Textiles and Nanotechnology in Medical Textiles.

The Conference provided an opportunity for industry executives, experts, and stakeholders to discuss the challenges, innovations, and opportunities in the technical textiles market. In this conference, there were Two sessions on Sportech and Meditech covering various topics such as Impact of Technical Textiles in Sports Equipment, Wearable Technology for Athletes & Sports Textiles for Injury Prevention, Textile Innovations in Protective Gear for Industrial Sports Applications,

During a two-day conference in Ludhiana, experts highlighted the local industry's immense potential to contribute to the rapidly advancing technical textile sector. Stakeholders and experts expressed confidence in the existing infrastructure and local skilled workforce, positioning them as competent to facilitate the transition into the technical textile sector. They did, however, highlight a few difficulties with the raw material. Technical textiles, characterised by engineered products with specific functionalities beyond basic clothing needs, are seen as the pathway to rejuvenate the textile sector.

### 2.4. 17th Edition of Fibres & Yarns Exhibition held in Mumbai

The 17th Edition of Fibres & Yarns Exhibition, organised by the Tecoya Trend was held from 22nd to 24th February 2024 at the Jio World Convention Centre, BKC, Mumbai.

capabilities and explore new businesses in India & abroad.

The aim of the exhibition was to bring different types of fiber and yarn manufacturers on one platform where weavers, knitters and garment brand managers get an opportunity to have a look at the latest and specialty yarn collections for conversion into innovative fabrics and garments. An ideal platform for companies to showcase their

ITTA participated in the exhibition along with two ITTA members - Pragati Enterprises and Indo German Yarn & Fibre LLP. Number of delegates visited the ITTA members booth and shown interest in different products those were displayed and generated business. There were about 200+ exhibitors from the fibre & yarn manufacturing industry, including some of ITTA members.

### GLIMPSES OF THE EVENT





## ITTA SIGNED MOU WITH SAFETY APPLIANCES MANUFACTURERS ASSOCIATION (SAMA)

Safety Appliances Manufacturers Association (SAMA) is an Association of Occupational Safety Appliances & Services – Providers, Manufacturers, Distributors & Dealers. Enhancing safety awareness and guiding the end-user for optimum usage of Safety Appliances & services, technologies, and equipment. Organizes events & campaigns for the members that boost workplace safety awareness across industries. The objective of MOU is:-

1. To promote Technical Textiles in India and abroad.
2. It will create a common platform to share knowledge and help each other to resolve various industry issues.

# ITTA'S ENGAGEMENT WITH BIS DEVELOPMENT OF INDIAN STANDARDS ON TECHNICAL TEXTILES

## 1. BIS SECTIONAL COMMITTEE MEETINGS -

### 1.1 Technical Textiles for Clothtech Applications including Narrow Fabrics and Braids Sectional Committee (TXD 39)

The 8th Meeting of Technical Textiles for Clothtech Applications including Narrow Fabrics and Braids Sectional Committee, TXD 39 was held through video conferencing on 10.11.2023. The meeting was attended by ITTA members from Universal Yarns & Tex Pvt. Ltd.

Following points were discussed & decided in the meeting -

**1. Research and Development Project** - The committee scrutinized the ToR for the proposed R&D Project on generation of empirical data for revision of IS 9686 :1980 Specification for Elastic Tapes and approved the ToR.

### 1.2 Textiles Protective Clothing Sectional Committee, TXD 32

The 18th Meeting of Textiles Protective Clothing Sectional Committee, TXD 32 was held through video conferencing on 19.12.2023. The meeting was attended by Ms. Ruchita Gupta, Manager- Technical from ITTA Secretariat and ITTA Members from Aeronav Industrial Safety Appliances, E.I. Dupont India Pvt. Ltd., Kusumgar Corporates Pvt. Ltd., Star Safety Hub and System 5S Pvt. Ltd.

Following points were discussed & decided in the meeting --

**1. IS Standards for Publication** - Following Indian Standard & Draft amendment of published stds were finalized for publication- Workwear for Cement Workwear [Doc No.: TXD 32 (22344)], IS 16725:2018 Tactical 3 points sling universal, IS 16874:2018 Protective gloves for firefighters and IS 15768:2008 Resistance to ignition of upholstered composites used for non-domestic furniture.

**2. Wide Circulation** - Following Draft standards will

be issued under wide circulation-IS 11871:1986 Methods for determination of flammability and flame resistance of textile fabrics, IS 12722:1989 Textile floor coverings - Determination of flame resistance by tablet test, IS 13501:1992 Determination of flammability by oxygen index, IS 10054:1996 High density polyethylene (HDPE) monofilament mosquito netting, round mesh (first revision) and IS 16890:2018 for Firefighters' clothing

**3. IS Standards at Draft Preparation Stage** - Preliminary draft to be prepared- i) Extreme Cold Weather Clothing (ECWC), ii) Aluminized Fire Proximity Suits, iii) Wildland Firefighting Clothing and iv) Gloves for Wildland Firefighting Clothing.

**4. Research and Development Project** - The committee scrutinized the draft Term of Reference (ToR) for the proposed R&D Project on 'Study of safety and performance requirements of fire hoods for firefighter and approved the ToR.

### 1.3 Technical Textiles for Medtech Applications Sectional Committee (TXD 36)

The 25th Meeting of Technical Textiles for Medtech Applications Sectional Committee, TXD 36 was held through video conferencing on 05.01.2024. The meeting was attended by Dr. Anup Rakshit, ED from ITTA Secretariat and ITTA Members from Dima Products, Dispoline India Pvt. Ltd., Ginni Filaments Ltd., JNTL Consumer Health (India) Pvt Ltd., Johnson and Johnson, Kimberly Clark Corporation, KOB Medical Textiles Pvt. Ltd., Nobel Hygiene, Procter and Gamble Co., Surya Textech and Venus Safety & Health Pvt. Ltd.

Highlights of the key points discussed & decided in the meeting -

1. IS Standards for Publication - Following Draft Amendments of following Indian Standard were finalized for publication- IS 5405:2019 Sanitary Napkins (second revision) and IS 17514:2021 Reusable Sanitary Pad/ Sanitary Napkin/ Period Panties, IS 17509:2021 Disposable Baby Diaper, IS 17508:2020 Disposable Adult Incontinence Diaper and IS 17354:2020 Dental Bib/ Napkins.

2. Dr. Sabharwals Manufacturing Labs will provide the technical inputs requirement on the IS 863: 2023 Cotton bandage cloth (third revision). On this basis, BIS will prepare the draft amendment on above standard and the same shall be issued in wide circulation.

## Maharashtra govt to set up new corporation to boost textile industry



In order to give the state's textile industry a boost, the Maharashtra Govt. has decided to set up a new corporation for the textile industry on the lines of Maharashtra Industrial Development Corporation (MIDC). The corporation will be called Maharashtra State Textile Development Corporation (MSTDC) which will be set up after the merger of three existing textile corporations of the state - Maharashtra State Handloom Corporation, Maharashtra State Powerloom Corporation Ltd and Maharashtra State Textile Corporation into the MSTDC.

The Govt. has formed a committee to prepare a draft for the law to set up MSTDC, which is aimed at developing a sustainable and fertile environment for the textile industry's growth. Principal secretaries of the textiles, finance, planning, industries and law & judiciary departments and other officials are part of the committee that will prepare a draft to enact the law.

According to the officials, the MSTDC will be setup under the state's new Integrated and Sustainable Textile Industry Policy 2023-28, which was approved by the state cabinet in May last year. The new textile policy is aimed to attract investment of

Rs 25,000 crore in the sector in the near future and boost investment in the state's cotton production industry. As per the new policy, the Textile Commissionerate and the Silk Directorate will be merged to form the Textile and Silk Commissionerate, and the office at the regional level will be known as the Regional Deputy Commissioner - Textile and Silk. The government also aims to establish six technical textile parks across the state under the new policy and Maharashtra Technical Textiles Mission will also be undertaken to ensure "aggressive growth" of the sector.

The MSTDC will be statutorily setup on the lines of MIDC as announced in the Integrated and Sustainable Textile Policy 2023-28. All the corporations under the department of textiles will be merged into the MSTDC and all the assets of the existing corporations will be transferred to the MSTDC and all payments will be restructured as per the government directives.

[Source - <https://indianexpress.com/article/cities/mumbai/maharashtra-govt-to-set-up-new-corporation-to-boost-textile-industry-9092501/>]

## Indigenous Equipment Developed for Mechanical Recycling of Waste Thermoplastic Polymers to Composites

Indigenous equipment called single screw extruder developed for mechanical recycling through melt-mixing of waste thermoplastic polymers and inorganic particulate fillers can help manufacture and characterize polymer composites that can be molded to the required shape for making paver blocks, tiles, and bricks. At present, commercially available melt-mixing equipment are not designed for handling waste

thermoplastic polymers that are often adhered by contaminants, as the barrel and screw system are not robust enough.

IIT Bombay has developed an instrument named GoldN (pronounced as Golden) for melt-mixing of waste thermoplastic polymers and inorganic particulate fillers to manufacture polymer composites.



Fig. 1a. GoldN



Fig. 1b. TGeosA

It can carry out melt mixing as a continuous process, particularly in laboratory conditions, to replicate the real-life conditions as compared to other conventionally available instruments. The researchers at the institute considered some key parameters such as compression ratio and clearance depth to facilitate efficient mixing of waste polymers and fillers.

The above technology, developed with the support of Department of Science and Technology (DST) through Waste Management Technologies, is now ready for commercialization for carrying out melt-mixing operations in a laboratory environment. It can bring down the cost of this instrument to INR 5 lakhs (by 6-8 times at least) by avoiding the complex design and operating tools and including the indigenous fabrication that are required.

The researchers have also developed a TGeosA for obtaining thermogravimetric analyses of the

polymer composites obtained from the melt mixing instrument. The setup facilitates a sample size as high as 200 g that can incorporate the heterogeneity aspect of the materials being tested.

Further, a pilot-scale setup for manufacturing polymer composites has been indigenously fabricated. This setup consists of a shredder, a mixer cum preheater, and an extruder to obtain the fresh binder filler composite to shred the plastic waste, mix and preheat plastic waste and IBPs, and melt plastic waste along with IBPs followed by conveying at the end, respectively. The technology developed by IIT Bombay in collaboration with Belagavi works of M/s. Hindalco Industries Ltd. (Industry collaborator) is at the TRL-09 and a field-scale plant has been set up.

[Source - <https://pib.gov.in/PressReleaseIframe.aspx?PRID=1993084>]



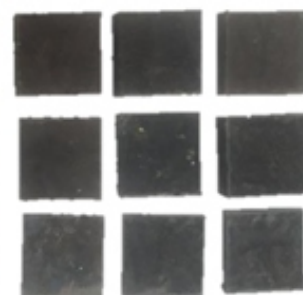
(a)



(b)



(c)



(d)

Figure. (a) shredder, (b) mixer cum preheater, (c) extruder and (d) final product

## Cabinet approves continuation of RoSCTL Scheme

The Union Cabinet chaired by Prime Minister Shri. Narendra Modi approved the continuation of Scheme for Rebate of State and Central Taxes and Levies (RoSCTL) for export of Apparel/Garments and Made ups upto 31st March 2026.

Continuation of Scheme for proposed duration of 2 years will provide stable policy regime which is essential for long term trade planning, more so in the textiles sector where orders can be placed in advance for long term delivery.

The continuation of RoSCTL will ensure predictability and stability in policy regime, help remove the burden of taxes and levies and provide level playing field on the principle that “goods are exported and not domestic taxes”.

The Union Cabinet had given approval of the scheme up to 31.03.2020 and further approval was given for continuation of RoSCTL till 31st March 2024. The present extension upto 31st March 2026 helps in enhancing export competitiveness of garments and made-ups sectors. It makes apparel/garments and Made ups products cost competitive and adopt the

principle of zero-rated export. The other textile products (excluding Chapter 61, 62 and 63) not covered under the RoSCTL, are eligible to avail the benefits under RoDTEP along with other products.

RoSCTL has been an important policy measure and has helped in enhancing competitiveness of Indian exports of apparel and made ups which are value added and labour-intensive segments of the Textile Value Chain.

[Source - <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2001049>]

## Ministry of Textiles approves 11 R&D projects valuing INR 103 Crores across different areas of Technical Textiles



The Union Minister for Textiles, Commerce and Industry and Consumer Affairs, Food and Public Distribution, Shri. Piyush Goyal, while chairing the 8th Meeting of the Mission Steering Group (MSG) of National Technical Textiles Mission (NTTM), emphasized on the need for enhancement of collaborative efforts among the Government and industry to enhance indigenous development of technical textiles products.

The Ministry of Textiles approved 11 project proposals, including 9 R&D projects, 1 project on machine development and 1 project on equipment development, worth approx. INR 103 crores. One of the projects focused on development of high-strength carbon fibre for strategic applications to make India self-reliant in the field of Technical Textiles. The projects cover different application areas of technical textiles including 2 projects of Protech, 2 Meditech, 2 Mobiltech, 1 Buildtech, 2 Smart Textiles and 1 project of Sustainable Textiles.

Amongst the approved projects, research projects were led by institutes and research bodies including CSIR-NAL, ATIRA, NITRA, IIT Delhi, ICT- Mumbai, NIT-Jalandhar, Colorjet India Ltd. among others.

The Union Minister reviewed the progress of different components of National Technical Textiles Mission including review of sanctioned R&D products, status of applications under General Guidelines for Enabling of Academic Institutes in Technical Textiles Education in India (Round- II), implementation of Quality Control Orders issued by Ministry of Textiles, patents guidelines of R&D, Outreach activities and events under NTTM, amongst others.

The Minister of State for Textiles Smt. Darshana Jardosh and Senior officials from Ministry of Commerce and Industry, Ministry of Road Transport and Highways, Ministry of Heavy Industries, Ministry of Railways, Ministry of Jal Shakti, Department of Expenditure, Ministry of Skill Development & Entrepreneurship, Department of Science & Technology, Department of Higher Education, Department for Promotion of Industry and Internal Trade and members from other Ministries, and eminent members from the industry attended the meeting.

[Source - <https://pib.gov.in/PressReleasePage.aspx?PRID=1997530>]

# MoT organizing hackathon on “Fostering Innovations in Technical Textiles - Hackathon” under “BHARAT TEX 2024”



The Ministry of Textiles under National Technical Textiles Mission (NTTM) is organizing a hackathon titled “Fostering Innovations in Technical Textiles - Hackathon for unleashing creativity in technical textiles” under “BHARAT TEX 2024” scheduled to be held on 26-29 Feb, 2024.

The primary goal of the hackathon is to create a platform that brings together students, researchers, entrepreneurs, and industry professionals. This platform aims to raise awareness, stimulate innovation, encourage collaboration, and address real-world challenges in the field of technical textiles. National Technical Textiles Mission (NTTM), Ministry of Textiles, Government of India shall be the sponsor and partner for the hackathon.

The textiles industry is undergoing a revolutionary shift, integrating advanced materials and innovations into traditional textiles, giving rise to the dynamic field of Technical Textiles. Recognizing the transformative potential of this sector, NTTM is a flagship scheme of Government of India. NTTM primarily focusses on research, development, and innovation (RD &I) along with education, skill, and market promotion for the technical textiles. NTTM has funded several projects in the form of ideation, prototype grants along with applied projects of national importance. Ministry of Textiles wants to show case the progress and achievements of prominent projects in the “BHARAT TEX 2024”.

By participating in the hackathon, aspirants will have the opportunity to enhance their knowledge, build valuable connections, gain recognition for their contributions, and work on practical applications within the realm of technical textiles. The event seeks to foster an environment where participants can not only learn but also actively

contribute to finding solutions for the challenges faced by the technical textiles industry.

The hackathon will consist of 3 phases namely Ideation Phase; Development Phase & Presentation and Judging Phase with 10 thematic areas: Smart Textiles; Sustainable Textile; Medical Textile; Protective Textiles; Composites; Functional Fabrics; Development of Specialty Fibres and high-performance fibers; Development of Indigenous Machinery/Equipment/Instruments; Integration of Technical Textiles with applied sciences and Engineering and any other areas in the domain of technical textiles.

The top 3 winners may be considered for funding under the Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) for a grant amounting up to INR 50 lakhs for a period of maximum 18 Months subject to fulfilment of other eligibility criteria of the GREAT scheme.

The top 3 winners may be considered for funding under the Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) for a grant amounting up to INR 50 lakhs for a period of maximum 18 Months subject to fulfilment of other eligibility criteria of the GREAT scheme.

The proposals can be submitted by 5th February 2024 through mail at [nttm-textiles@gov.in](mailto:nttm-textiles@gov.in) with subject line “Hackathon - (Title of the proposal) Bharat-Tex 2024. For further information and enquires please visit <https://bharat-tex.com/>.

[Source - <https://pib.gov.in/PressReleasePage.aspx?PRID=1994773>]

# India Plans 'Bharat Park' Trade Zone in UAE for Global Showcase



The Indian Government plans to establish 'Bharat Park', a dedicated trade zone in the United Arab Emirates (UAE), featuring showrooms and warehouses to display and store Indian-made goods for a global audience. Union Minister of Textiles & Commerce Shri. Piyush Goyal emphasizes the zone's role in facilitating international purchases of Indian products, with secure transactions in the UAE. He spoke about this during Export Awards function of the SRTEPC on 4th January, 2024 held in Mumbai.

Bharat Park is a project to establish a mall showroom and warehouse specifically for Indian goods in the UAE. This facility is anticipated to be operational by 2025. The key idea here is to offer Indian exporters a dedicated and significant space in a strategic international market.

The location selected for Bharat Park is in the Jebel Ali Free Zone, an important part of the UAE's business hub, situated near Dubai and Abu Dhabi. This area is a key strategic location that will facilitate the distribution of Indian goods not just in the Middle East, but also in Africa, Europe, and the

Americas. This park is expected to become a global distribution hub, enhancing trade relations and reducing the costs and time associated with transporting goods.

In addition to Bharat Park, the Indian government, through the Bureau of Indian Standards (BIS), plans to set up 21 testing laboratories across India with an investment of Rs. 40 crores. This is part of a broader effort to boost the quality and standard of Indian products, ensuring they meet international standards. The Bharat Park initiative is a major leap for India's presence in international markets, providing a dedicated platform for our products and enhancing the visibility and accessibility of Indian goods globally.

*[Source - <https://indiaobservers.com/bharat-park-in-uae-to-fulfill-global-demands-for-indian-products/> O R <https://currentaffairs.adda247.com/india-plans-bharat-park-trade-zone-in-uae-for-global-showcase/>]*

## Tamil Nadu to launch procurement policy for technical textiles



The Tamil Nadu Government is considering the implementation of a procurement policy to source its technical textile needs from local industries, as disclosed by Shri. Dharmendra Pratap Yadav, the Secretary of the Department of Handlooms, Handicrafts, Textiles, and Khadi on 2nd February, 2024.

The State's textile policy is expected to incorporate

this procurement policy, with a focus on obtaining technical textile items locally, which may include both new and replacement products for current government use. Efforts are underway in the Department of Textiles and Handlooms to explore funding options for research and development in technical textiles, both independently and through collaborations between academic institutions and industry.

Shri. M. Vallalar, the Textiles Commissioner for Tamil Nadu, emphasizes that specialized cotton-based textile businesses in Coimbatore and Tirupur should be key players in the production of technical textiles. Shri. K. Vivekanandan, Commissioner of Handlooms, anticipates that achieving the state's goal of a US \$1 trillion economy will positively impact the textile and handloom industries. The Department is actively engaging with institutions offering engineering and textile technology courses to support industry expansion.

Highlighting the potential, Prakash Vasudevan, Director of the South India Textile Research Association, notes that despite Maharashtra and

Gujarat leading currently, Tamil Nadu is poised for a surge in technical textile production, given the industry's annual growth rate of 10%, compared to 4% in the conventional textile sector.

[Source - <https://www.thehindu.com/news/cities/Coimbatore/tamil-nadu-to-promote-technical-textile-production/article67803966.ece>

OR

<https://www.yarnsandfibers.com/news/textile-news/tamil-nadu-to-launch-procurement-policy-for-technical-textiles/>

## Arvind plans Rs 3,000 crore investment in Ahmedabad



Arvind, a textile conglomerate, has entered into a memorandum of understanding (MoU) valued at Rs 3,000 crore with the Gujarat Government, spanning across the conglomerate's various business verticals. The allocated funds will be directed towards the company's textiles, engineering, and real estate divisions in Ahmedabad.

Shri. Kulin Lalbhai, Executive Director at Arvind, revealed, "These investments will be implemented over the next four years while maintaining our manufacturing operations in Ahmedabad. We aim to expand our technical textiles segment within Arvind and concentrate on real estate development in Ahmedabad."

Commending Gujarat's industrial policy, Shri. Kulin asserted that it serves as a benchmark for other

states to potentially emulate, particularly in terms of policy consistency. "MOUs in renewables or conventional manufacturing are a testament to the state's policy stability," he added.

Indicating that private capital expenditure could be an imminent opportunity, Kulin expressed unwavering confidence in growth prospects surpassing 7%. "The time is ripe for various elements to align and attract investments," he asserted. "There's no reason why India cannot achieve growth rates greater than 7%."

[Source-<https://www.cnbctv18.com/business/arvind-ltd-to-invest-3000-crore-in-ahmedabad-stays-bullish-on-indian-growth-story-18775341.htm>]

## UP government proposes 400 cr. for Lucknow PM MITRA Park

The Uttar Pradesh Government has earmarked ₹400 crore for the Pradhan Mantri Mega Integrated Textile Region and Apparel (PM MITRA) park in its budget for fiscal 2024-25. The annual budget was

presented by the state finance minister, Shri. Suresh Khanna, on 05th February 2024 in Lucknow. The Yogi Adityanath Government in UP has made several announcements for the state's textile industry in the annual budget.

UP was one of the selected states granted PM MITRA parks. The central government had approved seven PM MITRA parks across India. UP's park will be located in the Lucknow-Hardoi region and will cover approximately 1,000 acres of land. Shri. Khanna stated in his budget speech that the park is expected to attract an investment of ₹10,000-15,000 crore and will create one lakh direct and two lakh indirect employment opportunities.

The UP government has also announced ₹400 crore for the Atal Bihari Vajpayee Power Loom Vidyut Flat Rate Yojana. The scheme aims to provide electricity subsidies to the lakhs of power looms operating in the state. Many workers depend on textile-related production activities for their livelihood, and this scheme will boost textile production in the power loom sector. The Yogi government has also approved ₹150 crore for the National Institute of Fashion Technology (NIFT) in Prime Minister Narendra Modi's constituency, Varanasi.

UP's budget will also allocate ₹14 crore for the Pandit Deendayal Gramodyog Rojgar Yojana, which

will provide beneficiaries with interest subvention facilities for three years. The government has proposed ₹15.75 crore for the Khadi and Gramodyog Vikas Satat Rojgaar Protsahan Neeti, which aims to create a conducive environment for youth to establish village industries.

The labour-intensive textile sector is receiving prime focus from several state governments. Indian states are competing to attract investments by implementing attractive textile policies and allocating more resources to remain competitive. UP is one of India's major textile-focused states, and in the current highly competitive environment, it faces challenges in maintaining its position as a major player in the country.

[Source-<https://www.fibre2fashion.com/news/textile-news/up-government-proposes-400-cr-for-lucknow-pm-mitra-park-in-budget-292830-newsdetails.htm>]

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IFSC Code - BARB0CHAKAL

# EXPORT-IMPORT TREND OF TECHNICAL TEXTILE PRODUCTS OF NOVEMBER 2023

(ITTA Analysis on Ministry of Commerce and Industry Data)

The data on export and import of 247\* technical textile products/items is published as an indicator of foreign trade performance of technical textile industry in India.

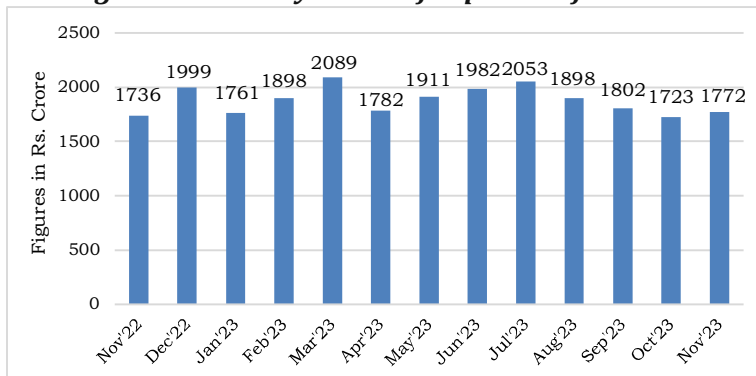
## A. EXPORT PERFORMANCE

(Value in INR Cr.)

Sr. No	Segments	Nov 2022	Nov 2023	% Growth	Apr'22-Nov'22	Apr'23-Nov'23	% Growth
1	Agrotech	56	57	2%	527	583	11%
2	Buildtech	70	86	22%	601	721	20%
3	Clothtech	26	25	-2%	204	190	-7%
4	Geotech	94	148	57%	908	1374	51%
5	Hometech	25	12	-51%	154	101	-35%
6	Indutech	217	192	-11%	1700	1896	12%
7	Meditech	216	226	4%	1812	1919	6%
8	Mobiltech	196	224	15%	1607	2015	25%
9	Packtech	577	525	-9%	5272	4639	-12%
10	Protech	45	43	-5%	506	511	1%
11	Sportech	83	86	4%	724	777	7%
12	Nonwovens	91	109	20%	760	921	21%
13	Speciality Fibres	28	24	-13%	251	319	27%
14	Composites	12	15	21%	110	170	55%
<b>GRAND TOTAL</b>		<b>1736</b>	<b>1772</b>	<b>2%</b>	<b>15136</b>	<b>16136</b>	<b>7%</b>

Data Source: ITTA Analysis on Ministry of Commerce and Industry (at 8 digit level of HSN Codes)

Figure 1 - Monthly Trend of Export Performance



There was a dip in the above export figures from August 2023 to October 2023, then the export had shown a slight increase in November 2023.

### Top Ten Exported Products in Month of Nov'23 -

SR. NO.	HSN CODES	PRODUCT NAMES	VALUES (IN CR.)
1	63053200	Flexible Intermediate Bulk Containers (FIBC)	474
2	59039090	Other fabric plated, laminated, coated, impregnated with other plastics	96
3	56074900	Other cordage of Polyethylene/ Polypropylene	67
4	84212300	Oil or petrol-filters for internal combustion engines	60
5	87089500	Safety airbags with inflater system	60
6	56031200	Nonwovens of MMF: Weighing > 25 gsm but not > 70 gsm	56
7	40093100	Tubes, Pipes and Hoses of Vulcanised Rubber Reinforced/ Otherwise combined only with Textile Materials without fittings	55
8	59031090	Other Fabrics impregnated, laminated, plated, and coated with PVC	53
9	61152990	Panty Hose and Tights of other fibres	50
10	53101013	Jute Hessian Fabrics	48

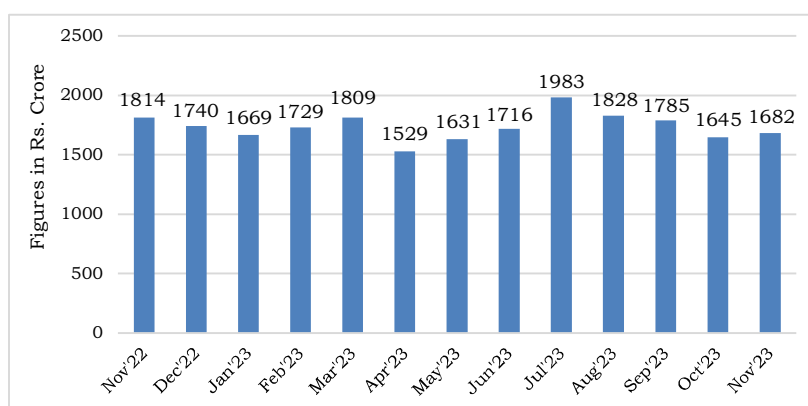
## B. IMPORT PERFORMANCE

(Value in INR Cr.)

Sr. No	Segments	Nov 2022	Nov 2023	% Growth	Apr'22-Nov'22	Apr'23-Nov'23	% Growth
1	Agrotech	33	31	-6%	263	315	20%
2	Buildtech	190	148	-22%	1516	1355	-11%
3	Clothtech	29	20	-32%	230	156	-32%
4	Geotech	121	118	-3%	918	963	5%
5	Hometech	28	31	8%	262	240	-8%
6	Indutech	294	271	-8%	2325	2153	-7%
7	Meditech	119	112	-5%	982	904	-8%
8	Mobiltech	497	460	-7%	4155	3981	-4%
9	Packtech	60	68	14%	400	555	39%
10	Protech	60	52	-14%	432	406	-6%
11	Sportech	48	45	-7%	398	401	1%
12	Nonwovens	105	117	12%	982	935	-5%
13	Speciality Fibres	213	198	-7%	1494	1351	-10%
14	Composites	17	11	-36%	120	148	23%
	<b>GRAND TOTAL</b>	<b>1814</b>	<b>1682</b>	<b>-7%</b>	<b>14477</b>	<b>13863</b>	<b>-4%</b>

Data Source: ITTA Analysis on Ministry of Commerce and Industry (at 8 digit level of HSN Codes)

Figure 2 - Monthly Trend of Import Performance



India's import of TT products has registered a decrease from August 2023 to October 2023, then the import had shown a marginally increase in the month of November 2023.

Top Ten Imported Products in Month of Nov'23 -

SR. NO.	HSN CODES	PRODUCT NAMES	VALUES (IN CR.)
1	87089500	Safety airbags with inflater system	141
2	59039090	Other fabric plated, laminated, coated & impregnated with other Plastics	85
3	59021010	Tyre cord fabric of high tenacity yarn of nylon or other polyamides impregnated with rubber	72
4	68151100	Carbon fibres	69
5	59031090	Other Fabrics impregnated, laminated, plated, and coated with PVC	65
6	84212300	Oil or petrol-filters for internal combustion engines	61
7	59032090	Other fabrics impregnated, laminated, plated, and coated with Polyurethane	54
8	54021990	Other high tenacity yarn of Nylon or other Polyester (Less than 840 Denier)	52
9	59021090	Other Tyre cord fabric of nylon or other polyamides	50
10	53101012	Jute Sacking fabrics	43

**\*NOTE -**

12 HSN Codes from the 207 list have been removed from the CUSTOMS TARIFF OF INDIA-2022 effective from 01.05.2022.

## Antimicrobial Textile Market Size & Share Analysis - Growth Trends & Forecasts (2024 - 2029)

The Antimicrobial Textile Market size is estimated at USD 13.27 billion in 2024, and is expected to reach USD 15.95 billion by 2029, growing at a CAGR of 3.75% during the forecast period (2024-2029). In the year 2020, due to the breakdown of Covid-19, the demand for microbial textiles increased. Since then, the demand for hygienic and protective textiles is increasing for various applications all over the globe.

- Factors such as growing demand from the healthcare industry and increasing application in sportswear are driving market growth.
- However, stringent environmental regulations are hindering the market growth.
- The development of non-toxic and bio-compatible products will act as an opportunity for the growth of the market during the forecast period.
- North America dominated the market across the globe with the largest consumption from the United States.
- Increasing Application in Medical Textiles
- Antimicrobial agents are used to kill microorganisms or to inhibit their growth. Antimicrobial fibers are textiles to which antimicrobial agents have been applied, either at the surface or within the fibers.
- Antimicrobial agents are introduced to the fiber during spinning or extrusion, combined with dyes or pigments, or applied as a finishing process. The chosen method is determined by a variety of factors including the final use of the fabric, the capability of the manufacturer, and the budget.
- The healthcare industry leads in the usage of antimicrobial textiles. These textiles are used in making medical curtains, bed sheets, and pillow coverings, mattress covers and linens, hospital gowns which help to check microbe's growth on the substrate.

- Asia-Pacific Region to be the Fastest Growing Region
- The Asia-Pacific region is expected to be the fastest-growing market for antimicrobial textiles during the forecast period. In countries like China, India, and Japan because of growing public health awareness, the demand and utilization of antimicrobial textiles has been increasing the scope of the Antimicrobial Textile Market during the forecast period.
- The largest producers of antimicrobial textiles are located in the Asia-Pacific region. Some of the leading companies in the production of antimicrobial textiles are Unitika Trading Co. Ltd, Birlacril, Jinda Nano Tech (Xiamen) Co., Ltd, Surgicotfab Textiles Pvt. Ltd, and Sanitized AG among others.
- In August 2022, in Faridabad, India, a 2,600-bed private hospital was inaugurated which is equipped with cutting-edge technology, including a centralized fully-automated technology.
- Further, in September 2022, the Armed Forces of the Philippines (AFP) started the construction of a new three-storey hospital building in Lucena, Quezon. This hospital will feature 25 beds and offers in-patient, outpatient, emergency, and additional services.
- Such trends in the region will increase the demand for antimicrobial textiles in the region over the forecast period.

***[ For More Details visit - <https://www.mordorintelligence.com/industry-reports/antimicrobial-textile-market#:~:text=The%20Antimicrobial%20Textile%20Market%20size%20is%20expected%20to%20reach%20USD,USD%2015.95%20billion%20by%202029.> ]***

# Global Healthcare Fabrics Market Forecast 2024-2033

## Market Size, Drivers, Trends, And Competitors

The Business Research Company's "Healthcare Fabrics Global Market Report 2024" is a comprehensive source of information that covers every facet of the market. As per TBRC's market forecast, the healthcare fabrics market size is predicted to reach \$35.64 billion in 2028 at a compound annual growth rate (CAGR) of 11.7%.

The growth in the healthcare fabrics market is due to increasing government initiatives towards hygiene. Europe region is expected to hold the largest healthcare fabrics market share. Major players in the healthcare fabrics market include Knoll Inc., Brentano Inc., Kimberly-Clark Corporation, Avgol Industries 1953 Ltd., Paramount Tech Fab Industries, Advanced Fabrics. Healthcare Fabrics Market Segments --

- By Raw Material: Polypropylene, Cotton, Polyester, Viscose, Polyamide
- By Fabric Type: Non-woven, Woven, Knitted
- By Application: Dressing Products, Clothing, Hygiene Products, Wall Coverings, Privacy Curtains, Bedding and Blankets, Other Applications
- By Geography: The global healthcare fabrics market is segmented into North America, South America, Asia-Pacific, Eastern Europe, Western Europe, Middle East and Africa.

Healthcare fabrics refer to a technical textile with a focus on fiber-based goods used in healthcare settings for hygiene, prevention, and care that may also be antimicrobial, which guards against bacterial growth on the fabric. Healthcare fabrics are made from versatile fibrous fabrics and structures and are utilized in a medical environment either for the medication of an injury or for the arranging of an appropriate condition in clinical treatment.

The main healthcare fabrics' raw materials include polypropylene, cotton, polyester, viscose and polyamide. Polypropylene is a flexible resin polymer and is used in absorbable dressings, as absorbents, and in the packaging of medical liquids. The different healthcare fabrics types include non-woven, woven, and knitted, which are used for applications such as dressing products, clothing, hygiene products, wall coverings, privacy curtains, bedding, blankets, and other applications.

*[ For More Details visit - <https://menafn.com/1107714051/Global-Healthcare-Fabrics-Market-Forecast-2024-2033-Market-Size-Drivers-Trends-And-Competitors> ]*



### ITTA SIGNED MOU WITH TAIWAN TECHNICAL TEXTILE ASSOCIATION (TTTA)

Taiwan Technical Textiles association (TTTA) is the leading technical textile association in Taiwan, having membership consists of cross field manufacturers, distributors, industry groups, R&D units and academic experts. At present TTTA have over 200 members. The objective of MOU is:-

1. To jointly organise International workshop, seminar or symposium for technical textile companies of both the countries.
2. To jointly promote development of product/testing standards.
3. To support major events of Technical Textiles/ Nonwovens and related Industries organized by ITTA and TTTA.

# UPCOMING EVENTS

DATES	EVENTS NAME	PLACE	WEBSITE
<b>DOMESTIC EVENTS</b>			
24 January 2024	<b>CONFERENCE ON TECHNICAL TEXTILES</b>	Andhra Pradesh, India	
15-17 February 2024	<b>ACREX INDIA 2024 (South Asia's Largest Exhibition on Air Conditioning, Heating, Ventilation and Intelligent Buildings)</b>	Delhi NCR, India	<a href="https://www.acrex.in/">https://www.acrex.in/</a>
21-24 February 2024	<b>4<sup>TH</sup> ITMACH INDIA 2024 (International Textile Machinery &amp; Accessories Exhibition)</b>	Gujarat, India	<a href="https://www.kdclglobal.com/itmach-india.html">https://www.kdclglobal.com/itmach-india.html</a>
22-24 February 2024	<b>17<sup>TH</sup> EDITION OF FIBERS &amp; YARNS EXPO 2024</b>	Mumbai, India	<a href="https://fibersnyarns.com">https://fibersnyarns.com</a>
26-29 February 2024	<b>BHARAT TEX 2024 (Global Textile Expo) &amp; 11<sup>TH</sup> EDITION OF TECHNO TEX 2024</b>	New Delhi, India	<a href="https://bharat-tex.com/">https://bharat-tex.com/</a>
04-07 March 2024	<b>CHEMTECH WORLD EXPO 2024 (31<sup>ST</sup> International Exhibition &amp; Conference)</b>	Mumbai, India	<a href="https://chemtechie.com/home-chemtech/">https://chemtechie.com/home-chemtech/</a>
13-15 March 2024	<b>MEDICAL FAIR INDIA (29<sup>TH</sup> International Exhibition and Conference)</b>	Mumbai, India	<a href="https://www.medicalfair-india.com/">https://www.medicalfair-india.com/</a>
20-21 March 2024	<b>6<sup>TH</sup> EDITION OF 'RIGHT' HYGIENE Conference &amp; Exhibition on absorbent hygiene products</b>	New Delhi, India	<a href="https://bch.in/right-hygiene-2024">https://bch.in/right-hygiene-2024</a>
27-28 June 2024	<b>OSH INDIA SOUTH</b>	Bangalore, India	<a href="https://www.oshindia.com/south-india/">https://www.oshindia.com/south-india/</a>
02-05 July 2024	<b>HGH INDIA 2024 (15<sup>TH</sup> Edition of Home Décor, Gifts &amp; Houseware)</b>	Mumbai, India	<a href="https://hghindia.com/">https://hghindia.com/</a>
22-24 August 2024	<b>10<sup>TH</sup> EDITION NONWOVEN TECH ASIA (Exclusive Exhibition on Nonwoven &amp; Hygiene Technology)</b>	Mumbai, India	<a href="https://nonwoventechasia.com/">https://nonwoventechasia.com/</a>
29-31 August 2024	<b>SPORT INDIA 2024 - 12<sup>TH</sup> India International Sporting Goods Show</b>	New Delhi, India	<a href="https://iisgs.com/">https://iisgs.com/</a>
19-21 November 2025	<b>TECHTEXTIL INDIA 2025</b>	Mumbai, India	<a href="https://techtexsil-india.in.messefrankfurt.com/mumbai/en.html">https://techtexsil-india.in.messefrankfurt.com/mumbai/en.html</a>
<b>INTERNATIONAL EVENTS</b>			
09-12 January 2024	<b>HEIMTEXTIL FRANKFURT</b>	Frankfurt, Germany	<a href="https://heimtextil.messefrankfurt.com/frankfurt/en.html">https://heimtextil.messefrankfurt.com/frankfurt/en.html</a>
11-14 January 2024	<b>DOMOTEX (Flooring Exhibition)</b>	Hannover, Germany	<a href="https://www.domotex.de/en/">https://www.domotex.de/en/</a>
21-25 January 2024	<b>CMS 2024 (The 47<sup>TH</sup> Annual Composites, Materials &amp; Structures Conference)</b>	Florida, USA	<a href="https://cms-conference.com/">https://cms-conference.com/</a>
24-25 January 2024	<b>MENA NONWOVENS CONFERENCE</b>	Dubai, UAE	<a href="https://edana.idloom.events/mena-nonwovens">https://edana.idloom.events/mena-nonwovens</a>
24-26 January 2024	<b>AGROS 2024 EXPO</b>	Moscow, Russia	<a href="https://en.agros-expo.com/preimushestva">https://en.agros-expo.com/preimushestva</a>
24-26 January 2024	<b>10<sup>TH</sup> WEARABLE EXPO (Wearable Device &amp; Technology Expo)</b>	Tokyo, Japan	<a href="https://www.wearable-expo.jp/en-gb/about.html">https://www.wearable-expo.jp/en-gb/about.html</a>
24-27 January 2024	<b>IPF BANGLADESH 2023 (The 16<sup>TH</sup> Bangladesh International Plastics, Printing &amp; Packaging Industry Fair)</b>	Dhaka, Bangladesh	<a href="https://www.chanchao.com.tw/ipf/">https://www.chanchao.com.tw/ipf/</a>
28 February-01 March 2024	<b>VIETNAM INTERNATIONAL TRADE FAIR FOR APPAREL, TEXTILES AND TEXTILE TECHNOLOGIES (VIATT)</b>	Ho Chi Minh City, Vietnam	<a href="https://viatt.hk.messefrankfurt.com/hochiminhcity/en.html#">https://viatt.hk.messefrankfurt.com/hochiminhcity/en.html#</a>
29 February-03 March 2024	<b>IWA OUTDOOR CLASSICS 2024</b>	Nuremberg, Germany	<a href="https://www.iwa.info/en">https://www.iwa.info/en</a>

05-07 March 2024	<b>JEC WORLD 2024 (International Composites Show)</b>	Paris, France	<a href="https://www.jec-world.events/">https://www.jec-world.events/</a>
06-08 March 2024	<b>COMPOSITES 2024 INTERNATIONAL CONFERENCE</b>	Seville, Spain	<a href="https://www.setcor.org/conferences/composites-2024">https://www.setcor.org/conferences/composites-2024</a>
06-08 March 2024	<b>INTERTEXTILE SHANGHAI HOME TEXTILES SPRING EDITION</b>	Shanghai, China	<a href="https://intertextile-shanghai-hometextiles-spring.hk.messefrankfurt.com/shanghai/en.html">https://intertextile-shanghai-hometextiles-spring.hk.messefrankfurt.com/shanghai/en.html</a>
19-20 March 2024	<b>WORLD AGRI-TECH INNOVATION SUMMIT</b>	San Francisco, USA	<a href="https://worldagritechusa.com/">https://worldagritechusa.com/</a>
22-25 April 2024	<b>IDEA 2024</b>	Florida, USA	<a href="https://www.ideashow.org">https://www.ideashow.org</a>
23-26 April 2024	<b>TECHTEXTIL 2024</b>	Frankfurt, Germany	<a href="https://techtexsil.messefrankfurt.com/frankfurt/en.html">https://techtexsil.messefrankfurt.com/frankfurt/en.html</a>
23-26 April 2024	<b>TEXPROCESS 2024</b>	Frankfurt, Germany	<a href="https://texprocess.messefrankfurt.com/frankfurt/en.html">https://texprocess.messefrankfurt.com/frankfurt/en.html</a>
April 28-May 1 2024	<b>GEOAMERICAS 2024 (5<sup>th</sup> Pan-American Conference on Geosynthetics)</b>	Toronto, Canada	<a href="https://www.geoamericas2024.org/">https://www.geoamericas2024.org/</a>
09-11 May 2024	<b>7<sup>TH</sup> AGRO BANGLADESH INTERNATIONAL EXPO 2024</b>	Dhaka, Bangladesh	<a href="https://www.cems-agroexpo.com/">https://www.cems-agroexpo.com/</a>
22-24 May 2024	<b>ANEX 2024 (Asia Nonwovens Exhibition and Conference)</b>	Taipei, Taiwan	<a href="https://www.anex2024.com">https://www.anex2024.com</a>
03-05 June 2024	<b>OUTDOOR BY ISPO 2024</b>	Munich, Germany	<a href="https://www.ispo.com/en/munich">https://www.ispo.com/en/munich</a>
04-08 June 2024	<b>ITM 2024 (International Textile Machinery Exhibition)</b>	Istanbul, Turkey	<a href="https://www.itmexhibition.com/itm2024">https://www.itmexhibition.com/itm2024</a>
17-20 June 2024	<b>WORLD OF WIPES 2024 (WOW) (International Conference)</b>	Minneapolis, USA	<a href="https://www.worldofwipes.org/">https://www.worldofwipes.org/</a>
29 June-06 July 2024	<b>NANOTECHNOLOGY 2024 (International Conferences &amp; Exhibition on Nanotechnologies, Organic Electronics &amp; Nanomedicine)</b>	Thessaloniki, Greece	<a href="https://www.nanotechnology.com/">https://www.nanotechnology.com/</a>
14-16 August 2024	<b>INTERTEXTILE SHANGHAI HOME TEXTILES AUTUMN EDITION</b>	Shanghai, China	<a href="https://intertextile-shanghai-hometextiles-autumn.hk.messefrankfurt.com/shanghai/en.html">https://intertextile-shanghai-hometextiles-autumn.hk.messefrankfurt.com/shanghai/en.html</a>
20-22 August 2024	<b>TECHTEXTIL NORTH AMERICA</b>	North Carolina, USA	<a href="https://techtexsil-north-america.us.messefrankfurt.com/">https://techtexsil-north-america.us.messefrankfurt.com/</a>
21-24 August 2024	<b>ICACM 2024 (7<sup>th</sup> International Conference on Advanced Composite Materials)</b>	Tokyo, Japan	<a href="http://icacm.org/">http://icacm.org/</a>
04-05 September 2024	<b>INTERNATIONAL COMPOSITES SUMMIT (ICS)</b>	Milton Keynes, UK	<a href="https://www.internationalcompositessummit.com/">https://www.internationalcompositessummit.com/</a>
19-21 September 2024	<b>CINTE TECHTEXTIL CHINA</b>	Shanghai, China	<a href="https://cinte-techtexsil-china.hk.messefrankfurt.com/shanghai/en.html#">https://cinte-techtexsil-china.hk.messefrankfurt.com/shanghai/en.html#</a>
24-26 September 2024	<b>OUTLOOK 2024</b>	Rome, Italy	<a href="https://www.edana.org/events/outlook/outlook-2024">https://www.edana.org/events/outlook/outlook-2024</a>
24-26 September 2024	<b>ADVANCED TEXTILES EXPO 2024</b>	California, USA	<a href="https://advancedtextilesexpo.com/">https://advancedtextilesexpo.com/</a>
01-02 October 2024	<b>RISE 2024 (Research, Innovation and Science for Engineered Fabrics Conference)</b>	North Carolina, USA	<a href="https://www.riseconf.net/">https://www.riseconf.net/</a>
14-18 October 2024	<b>ITMA ASIA + CITME</b>	Shanghai, China	<a href="https://www.itmaasia.com/shanghai2024/index.html">https://www.itmaasia.com/shanghai2024/index.html</a>
05-07 November 2024	<b>WATERPROOF MEMBRANES 2024</b>	Düsseldorf, Germany	<a href="https://www.ami-events.com/event/F622673">https://www.ami-events.com/event/F622673</a>
19-22 May 2026	<b>INDEX 2026 (Nonwoven Exhibition)</b>	Palexpo, Geneva	<a href="https://www.indexnonwovens.com/en/">https://www.indexnonwovens.com/en/</a>