



**TECHNICAL TEXTILE
TODAY Magazine was
Launched during
OSH India Expo on
21st Nov 2024**

**Conference on
“Sustainability in
Technical Textiles”
organised by ITTA & PIET
Institute in Panipat on
4th Dec 24 inaugurated
by Shri. Sanjay Bhatia,
Ex. MP, Haryana**



Quarterly Magazine & Weekly Newsletter



www.technicaltextiles.in

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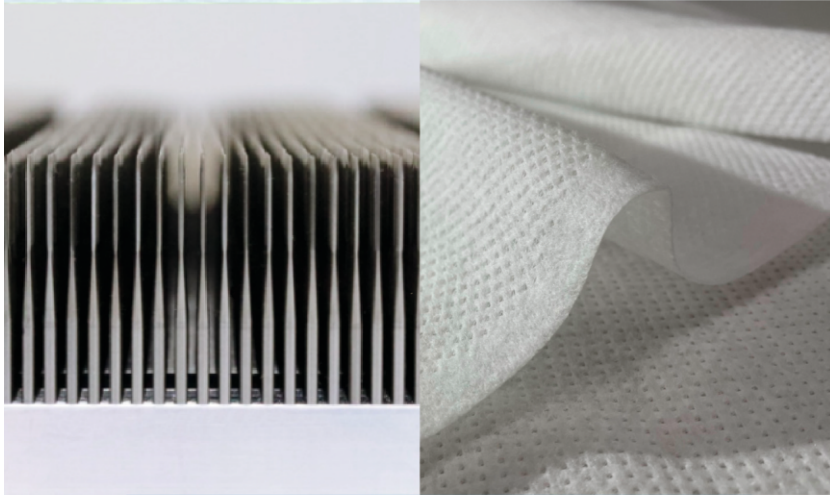
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Dilo India Pvt Ltd
Ground Floor, Vatika Professional Point
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Haryana - India

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.

DiloGroup has started a partnership with specialists Dell'Orco & Villani for modern tearing technology as well as with TechnoPlants as the specialist for aerodynamic web forming of waste fibre. Therefore, Dilo as general contractor provides a complete platform with solutions in the field of recycling fibre material from post-consumer and post production sources. Many different complete line solutions for clean hard waste recycling of garment clippings or nonwoven waste include all different quality and capacity features. An important role is the “controlled” tearing technology which reduces the shortening of staple lengths during tearing. Of course, a natural relation between quality and production plays a role. A tearing technology to retain staple lengths as much as possible does not allow the same throughput rates compared to a standard tearing installation.

Demonstration and Test Centres

Dell'Orco & Villani and Technoplants offer demonstrations as well as product development with their complete installations for trials with different fibre and for different products in Florence, Ancona and Pistoia. Dilo has its demonstration facility for the card/crosslapper webforming and needling in Eberbach, Germany.

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.

DiloGroup · Im Hohenend 11 · 69412 EBERBACH
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ITTA HANDBOOK ON “GEOSYNTHETICS CASE STUDIES OF ITTA MEMBERS”



Handbook covers the details of the successful case studies of all types/ fibre base of geosynthetics in the country. It has been classified under five categories i.e. -

- Soil Stabilization - Pavement & Embankment
- RSW with Block, Panel, Gabion & Wire Cage Facing
- River Bank - Shore Protection & Erosion Control
- Canal Lining & Hydraulic Control
- Landfill

Handbook on
“Geosynthetics case studies of
ITTA Members”



Price
Rs. 750/-
+ 18% GST

INDIAN TECHNICAL TEXTILE ASSOCIATION
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ITTA DEFENCE HANDBOOK INDIAN TECHNICAL TEXTILE PRODUCTS FOR DEFENCE

- A GLOBAL REACH -

Handbook covered major areas of Defence products with Indian Manufacturers' Names, Contact Details and Product Specifications i.e.

- *Protective Clothing & Accessories*
- *Collective Protection*
- *Load Carrying fabric*
- *Geosynthetics*



Price
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DILO GROUP

Conference on “Sustainability in Technical Textiles: A Path Towards Greener Innovations”

The Indian Technical Textile Association (ITTA), jointly with the Department of Textile Engineering, Panipat Institute of Engineering & Technology (PIET), organised the One Day Conference on “**Sustainability in Technical Textiles: A Path Towards Greener Innovations**” in Hybrid Mode on 4th December 2024 at PIET, Panipat.

Panipat Institute of Engineering & Technology (PIET) is an esteemed autonomous institution in Haryana, established by the Vidyapeeth Education Trust and Located in the National Capital Region (NCR) PIET offers a wide array of Undergraduate, Post Graduate, Diploma programs on Textiles and various other engineering disciplines. It focusses on innovation and entrepreneurship is evident through its initiatives like the Startup and Incubation Centre and the Entrepreneur Development Cell.

The Objective of the Conference was to create awareness on the High-Performance fibres, Recycling, Spinning, Weaving, Chemical Processing, enhance knowledge on the Sustainability in Technical Textiles and to understand Standardisation & Testing. The conclave received over whelming response and attended by more than 150 delegates from the Senior Officials & Professionals from Technical Textile Industry, Entrepreneurs and Textile Students online and physically.

The Chief Guest, Shri. Sanjay Bhatia, Former Member of Parliament from Karnal Constituency, Haryana inaugurated the Conference along with the Shri. Avinash Misar, Chairman, ITTA, Prof. (Dr.) Shakti Kumar, Director, PIET, Dr. Anup Rakshit, Executive Director, ITTA and Dr. S Dhamija, Professor & Head, Department of Textile Engineering, PIET. Shri. Sanjay Bhatia, Former Member of Parliament, Karnal Constituency



Shri. Sanjay Bhatia, Former Member of Parliament, Karnal Constituency



Four Technical Session and one Panel Discussion on the following topics were covered in detailed during the conference -

1. Technical Session-1: High Performance fibres

Moderator: Dr. Anup Rakshit, ED, ITTA (Session 1 & 2)

- a. Dr. Nandan Kumar, Managing Director, High Performance Textiles Pvt. Ltd.
- b. Ms. Vaishali Kamble, Asst. General Manager, Grasim Industries Ltd.
- c. Shri. G R Das, Business Head, Polyester Fibrefill & Non-woven, Reliance Corporate Park
- d. Shri. Sumit Banik, Senior Manager - New Business Development, Kaneka India Pvt. Ltd. (ONLINE)

2. Technical Session-2: Recycling - Fabric to Fibre, Spinning, Weaving & Nonwoven

- a. Shri. Ayan Chakraborty, Sr. Vice President & Plant Head, Ginni Filaments Ltd. (ONLINE)
- b. Shri. Parvinder Aadi, GATS, Panipat
- c. Shri. Raman Chhabra, President, Young Entrepreneurs Society, Panipat
- d. Dr. Rajkishore Nayak, RMIT, Vietnam (ONLINE)

3. Technical Session-3: Chemical processing - Zero discharge & Ecofriendly Finishing

Moderator: Shri. Manish Chhabra, Satyam Polyknits (Session 3 & 4)

- a. Dr. Swapneshu Baser, Deven Supercriticals Pvt. Ltd. (ONLINE)
- b. Shri. Umasankar Mahapatra, Managing Director, Pulcra Chemicals India Pvt. Ltd. (ONLINE)
- c. Shri. Vikas Chachra, SOFOCOL, Panipat

4. Technical Session- 4: Standardisation, Testing & Quality Control orders (QCO's)

- a. Dr. Neha Kapil, Principal Scientific Officer, NITRA (ONLINE)
- b. Shri. J. K. Gupta, Head (Textiles), Bureau of Indian Standards (BIS)

5. Panel Discussion

Moderator: Dr. Nandan Kumar, High Performance Textiles Pvt. Ltd.

Panelists:

- a. Shri. Dheeraj Miglani, Rhythm Overseas/Creations
- b. Shri. Nitesh Mittal, Brawntex Industries Pvt. Ltd.
- c. Shri. Manish Chhabra, Satyam Polyknits
- d. Representative of YES, Panipat
- e. Representative of Panipat Exporters Association, Panipat

ITTA is planning to organised many such programs on technical textiles especially with the Academic Institutions located tier 2/3 cities all over India. Opening of ITTA- Student Chapters, certificate courses on various verticals of technical textiles for faculties and students, helping in R&D projects, connecting industry for internships, etc. are the top priority areas of ITTA.

GLIMPSES OF THE EVENT



OSH India 2024 held in Mumbai

The 12th Edition of OSH India - Occupational Safety & Health India 2024 was held from 21st - 23rd November 2024 at Bombay Exhibition Centre, Mumbai which was organised by Informa Markets. The event was supported by Indian Technical Textile Association (ITTA).

The three-day event provided a platform for global experts, industry leaders, key government officials, and enthusiasts to converge, innovate, and address challenges and opportunities in workplace safety. It also served as a hub for exploring cutting-edge innovations and exchanging global best practices. The expo encompassed the entire spectrum of safe and healthy working environments, with companies showcasing their remarkable portfolios of products, services, and solutions, along with innovative industry concepts and themes in the safety and health sector. A highlight of the event was the First-Ever Startup Pavilion, offering a unique opportunity for innovative startups to present their groundbreaking ideas and solutions, further driving innovation and collaboration within the industry.

The inaugural ceremony was marked by the presence of notable dignitaries - Dr. Ajit Salvi, Director, Regional Centre for Urban &

Environmental Studies - All India Institute of Local Self-Govt., Shri. Mahesh Kudav, President - SAMA, Shri. Vipin Venu Varakoth, Dy. Director - Air Safety, Airport Authority of India, Shri. G. S. Baveja, President, Mumbai Chapter - National Federation of Engineers for Electrical Safety, Shri. Avinash Misar, Chairman - ITTA, Dr. Anup Rakshit, Executive Director - ITTA, Shri. Sanjeev Raina, Executive Director - Corp HSSE, Bharat Petroleum Corporation Ltd, Shri. Yogesh Mudras, Managing Director - Informa Markets, Shri. Ram Bhagirathibai Digambarrao Dahiphale, Additional Director - Directorate of Industrial Safety & Health, Govt. of Maharashtra, Shri. Pankaj Jain, Sr. Group Director & Digital Head, Informa Markets.

TECHNICAL TEXTILE TODAY, a magazine powered by the Indian Technical Textiles Association (ITTA) and TVC Media & Promotion Pvt. Ltd., was launched during the inauguration ceremony on 21st November 2024. This magazine provides a comprehensive platform to delve into the dynamic world of technical textiles. It showcases the latest breakthroughs in research, cutting-edge product developments, and emerging trends with in-depth articles, expert insights, and global perspectives.





CONFERENCE ON TECHNICAL TEXTILE POWERED BY ITTA

Conference on Technical Textiles with the Theme: Ensuring Safe & Hazard free workplace Through Use of Advanced Technical Textiles was organised by ITTA on 23th November 2024.

I. Technical Session 1 - Advanced Materials for High-Performance Protective Textiles:

- Workplace Safety & Protective Solutions using Advanced Materials & Technology - Shri. Narendra Kajale, Vice President - Research & Development, Tufropes Pvt. Ltd.
- Advancements in Specialty Fibers for Personal Protective Textiles - Dr. Nandan Kumar, Managing Director, High Performance Textiles Pvt. Ltd.
- Sustainable Solutions in Protective Textiles: Eco-Friendly Fibers and Recyclable Safety Gear - Shri. Rajiv Sajdeh, Partner, Indo German Yarn and Fibre LLP

II. Technical Session 2 - Sustainable and Circular Practices in Medical & Hygiene Textiles - Innovative Solutions:

- Biodegradable Medical Textiles: Reducing Waste in Healthcare Settings - Shri. Puneet Kanodia, Director, Kansons Overseas Ltd.
- Eco-friendly coatings: Innovations for Safety in Protective Textiles - Shri. Raj Varghese, Head of Product Management South Asia (Finishing and Tech Textile), Archroma India Pvt. Ltd.

- The Role of Non-Woven Fabrics in Healthcare Applications - Shri. Aniket Bhute, Head Business Development, Archroma India Pvt. Ltd.

ITTA's BOOTH IN EXHIBITION

The OSH INDIA 2024 exhibition received an overwhelming response this year. Over 110 exhibitors showcased their products and services, including many ITTA members. ITTA had a booth at the exhibition in collaboration with TVC Media. The first issue of Technical Textiles Today was launched during the event. Numerous delegates visited the stall, inquired about ITTA's activities, upcoming technical textile courses, conferences, and exhibitions, and expressed interest in becoming members. Many attendees subscribed to the Technical Textiles Today magazine and showed great enthusiasm for reading it.



1. ENGAGEMENTS WITH CENTRAL & STATE GOVERNMENTS

1.1. Meeting of Evaluation and Monitoring Committee (EMC) for Startup

The 7th of the Evaluation and Monitoring Committee (EMC) for assessment of start-ups proposals under Grant for Research & Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) under National Technical Textiles Mission (NTTM) was held on 14.11.2024 through video conferencing under the Chairmanship of Dr. Renu Swarup, Former Secretary, Department of Biotechnology (DBT), Ministry of Science and Technology. Dr. Anup Rakshit, ED, ITTA, as a member of Evaluation Committee, attended the meeting.

Key discussion points are given below -

1. 4 revised proposals from 5th & 6th EMC meeting were once again considered before EMC for further review & decision and 01 proposals out of 4 proposals i.e., Design and development of

pilot scale innovative Zero Solid Discharge (ZSD) system for resource recovery from final residue in textile and industrial ZLD plants (circularity and sustainability) can be taken in the upcoming EPC meeting.

2. 23 startup proposals were discussed in detail, it was decided that 01 were recommended for revision: Novel E-Textiles Woven with Shape Memory Materials to Design Intelligent Wearables for Healthcare and Wellness Applications and 02 were not recommended: Commercialization of sustainable and reusable menstrual products developed indigenously and Smart Garments: Integrating IoT and Machine Learning for Advanced Bio Sensing Applications.

1.2. Meeting of Empowered Programme Committee (EPC) under NTTM

The 9th meeting of Empowered Programme Committee (EPC) of National Technical Textiles Mission (NTTM) under the Chairmanship of Ms. Rachna Shah, Secretary (Textiles), Minister of Textiles was held on 04.12.2024 at Udyog Bhawan, New Delhi. Shri. Anilkumar Vasupillai, AED, ITTA attended the meeting.

Following Key points were discussed and decided in the meeting --

1. Approved 12 research projects of value INR 13.3 Cr. Total approved research projects now stand at 168 of approx. value INR -509 Cr.
2. 3 start-up proposals were approved i.e., Natural Anti-Microbial Coated Textiles for Hospitals Wears, Production & Scale up of UniClenz - A

Zero Waste, Next Generation, SMART, Self-Sanitizing Personal Protective Medical apparel and Design and development of pilot scale innovative Zero Solid Discharge (ZSD) system for resource recovery from final residue in textile and industrial ZLD plants (circularity and sustainability).

3. Approved the extension of only 03 months for all three projects i.e., Scaling up of electro-spinning process for Nanofibers, Development of biocompatible glass fibre composite for healthcare applications, Biodegradable & bioactive Nanofibrous face mask' under the research topic "Surface modification of Carbon Fibre" from approved end date of project without any cost increase due to time extension.

1.3. Meeting of Mission Steering Group (MSG) under NTTM

The 10th meeting of Mission Steering Group (MSG) of National Technical Textiles Mission (NTTM) under the Chairmanship of Shri. Giriraj Singh, Hon'ble Minister of Textiles was held on 11.11.2024 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 INR 12.41 Crore. Key research projects are given below - Geosynthetic-reinforced infrastructure in

seasonally frozen regions of India, Development of an Ecofriendly Biodegradable 'Natural Prefabricated Vertical Drain (NPVD)' - A Sustainable Solution for Ground Improvement of soft soils, Investigating the viability of Recycled wool fabric as sustainable geosynthetic material, Stearic acid blended polystyrene electrospun nanofibrous membrane embedded with exfoliated graphite for the separation of oil-water emulsions from produced water, Development of Energy-Dense All-Carbon Lithium-ion capacitor from textile waste derived Carbon Materials, Braided fibre reinforced polymeric rebars for concrete structures, Slope Protection and Erosion Control for clean water management & better infrastructure using natural fibre-based Geotextiles for Northeastern region, Alternative use of Iron Ore tailing (IOT's) in Stabilization of

Soft, Expansive Subgrade and base layers of flexible Pavements in Conjunction with Geosynthetics: Transforming waste into engineered material, Development of flexible supercapacitor components from textile wastes, Lotus effect mimicking on cotton: Covalent bond assisted dyeing to obtain self-cleaning super hydrophobic cellulosic fabric and Cellulose nanocrystal/ Deep eutectic solvent based sustainable liquid crystalline nanocomposite fibres.

2. Further MSG approved Development of different extraction techniques for long Bamboo fibre and Approval of Cost Extension for BTRA project 'Development of Flame Retardant Aircraft Interior Fabrics by Plasma Assisted Chemical Treatment'.



ITTA SIGNED MOU WITH ASSOCIATION OF ITALIAN TEXTILE MACHINERY MANUFACTURERS (ACIMIT)

Association of Italian Textile Machinery Manufacturers (ACIMIT) is a private national body that groups most of the Italian textile machinery companies. The main purpose consists in promoting the Italian textile machinery sector and in supporting its activity, mainly organizing exhibitions, technical seminars, missions in Italy and abroad, etc., mostly in collaboration with Italian Trade Agency.

The objective of MOU is:

1. To jointly organize Webinars & Physical events/ exhibitions to promote the technical textiles machinery manufactured in Italy to Indian Market and help producing quality technical textile products through their technologies.
2. To find suitable partners for Italian companies depending on interest of specific member company of ACIMIT to have Joint Ventures to manufacture technical textiles machinery in India, since there are not many such manufacturers in India.

EXPORT-IMPORT TREND OF TECHNICAL TEXTILE PRODUCTS OF SEPTEMBER 2024

(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.

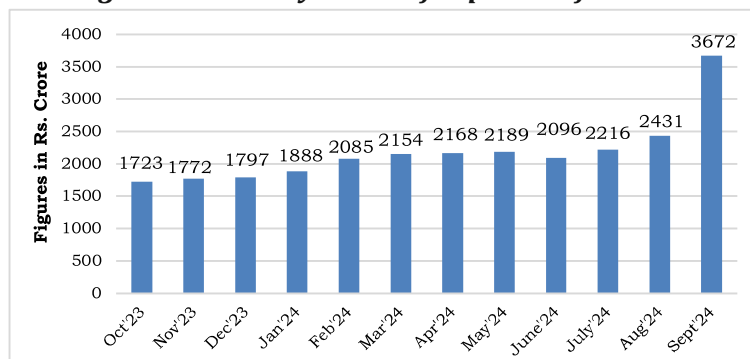
A. EXPORT PERFORMANCE

(Value in INR Cr.)

Sr. No	Segments	Sept 2023	Sept 2024	% Growth	Apr'23-Sept'23	Apr'24-Sept'24	% Growth
1	Agrotech	60	89	47%	445	546	23%
2	Buildtech	61	73	21%	418	424	1%
3	Clothtech	29	36	22%	137	201	47%
4	Geotech	190	185	-3%	1072	1229	15%
5	Homotech	886	379	-57%	7911	5179	-35%
6	Indutech	226	258	14%	1478	1559	5%
7	Meditech	200	233	16%	1257	1367	9%
8	Mobiltech	134	159	19%	944	989	5%
9	Packtech	620	782	26%	3502	3992	14%
10	Protech	51	77	51%	404	383	-5%
11	Sportech	4	5	44%	47	44	-7%
12	Nonwovens	98	132	36%	187	262	40%
13	Speciality Fibres	23	54	131%	263	204	-22%
14	Composites	930	1210	30%	5347	5874	10%
GRAND TOTAL		3512	3672	5%	23413	22253	-5%

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

Figure 1 - Monthly Trend of Export Performance



The above figures indicate a slight dip in exports during June 2024, followed by a significant increase in September 2024. This sudden surge in September is attributed to the inclusion of additional HSN codes under the GST framework. The following items are the top contributor.

Top Ten Exported Products in Month of September'24 -

SR. NO.	HSN CODES	PRODUCT NAMES	VALUES (IN CR.)
1	63053200	Flexible Intermediate Bulk Containers (FIBC)	728
2	59039090	Other fabric plated, laminated, coated, impregnated with otherplastics	130
3	59070012	Fabrics covered with Textile flocks, base fabric of Manmade material	103
4	56074900	Other cordage of Polyethylene/ Polypropylene	102
5	84212300	Oil or petrol-filters for internal combustion engines	82
6	56031200	Nonwovens of MMF: Weighing > 25 GSM but not > 70 GSM	76
7	30059040	Bandages without Adhesive Layer	63
8	59070093	Impregnated or coated JUTE Fabrics	59
9	59031090	Other Fabrics Impregnated, Laminated Plated and Coated with PVC	54
10	53101013	Jute Hessian Fabrics	49

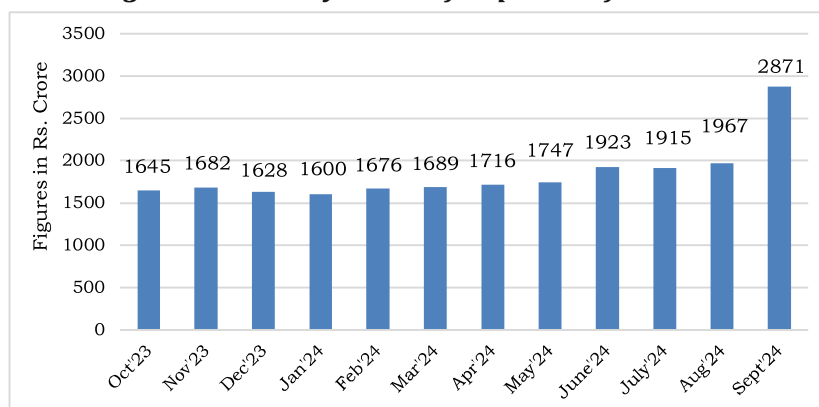
B. IMPORT PERFORMANCE

(Value in INR Cr.)

Sr. No	Segments	Sept 2023	Sept 2024	% Growth	Apr'23-Sept'23	Apr'24-Sept'24	% Growth
1	Agrotech	32	42	31%	252	233	-8%
2	Buildtech	137	153	11%	1010	992	-2%
3	Clothtech	19	27	43%	116	124	7%
4	Geotech	103	130	26%	723	829	15%
5	Hometech	32	27	-16%	179	165	-8%
6	Indutech	237	306	29%	1613	1834	14%
7	Meditech	119	178	49%	666	712	7%
8	Mobiltech	424	501	18%	3054	3109	2%
9	Packtech	61	65	6%	424	327	-23%
10	Protech	46	54	17%	296	322	9%
11	Sportech	38	57	50%	304	304	0%
12	Nonwovens	114	156	36%	706	816	16%
13	Speciality Fibres	142	172	21%	984	1180	20%
14	Composites	825	1005	22%	5766	6056	5%
GRAND TOTAL		2330	2871	23%	16090	17000	6%

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 experienced a slight dip in June 2024 but has been growing steadily since then. The sudden surge in September is attributed to the inclusion of additional HSN codes under the GST framework.

Top Ten Imported Products in Month of September'24-

SR. NO.	HSN CODES	PRODUCT NAMES	VALUES (IN CR.)
1	87089500	Safety airbags with inflator system	150
2	59039090	Other fabrics impregnated, laminated, plated, and coated with Polyurethane	89
3	84212300	Oil or petrol-filters for internal combustion engines	88
4	59032090	Other fabrics coated & laminated with Polyurethane	83
5	59031090	Other fabrics coated & laminated with PVC	64
6	96190010	Sanitary Towels & Sanitary Napkins	62
7	54022090	High Tenacity Nylon & Polyester Yarns	54
8	59021010	Tyre cord of High Tenacity Nylon Yarn impregnated with rubber	52
9	70191900	Glass Fiber	50
10	70191200	Glass Fiber Rovings	49

***NOTE -**

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

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

1. BIS SECTIONAL COMMITTEE MEETINGS -

1.1 Smart Textiles Sectional Committee, TXD 41

The 01st Meeting of Smart Textiles Sectional Committee, TXD 41 was held through video conferencing on 25.11.2024. The meeting was attended by Dr. Anup Rakshit, Executive Director from ITTA Secretariat and ITTA Members from High Performance Textiles Pvt. Ltd., Shingora Textiles Pvt. Ltd. and Star Safety Hub.

Key points discussed & decided in the meeting --

1. Adoption of ISO/TR 23383:2020 Smart (Intelligent) textiles - Definitions, categorisation, applications and standardization needs and ISO 24584:2022 Smart textiles - Test method for sheet resistance of conductive textiles using non-contact type and BIS will prepare a draft Indian Standards.

1.2 Industrial Fabrics Sectional committee, TXD 33

The 22nd Meeting of Industrial Fabrics Sectional Committee, TXD 33 was held through video conferencing on 07.11.2024. The meeting was attended by Mrs. Ruchita Gupta, Manager- Technical from ITTA Secretariat and ITTA Members from Arvind Advance Material Ltd., Garware Technical Fibres Ltd., Ginni Filaments, Jeevan Ecotex Pvt. Ltd., Khosla Profil, Pvt. Ltd., Kusumgar Corporates Pvt. Ltd., Pacific Harish Industries Ltd., Shiva Texyarn Ltd., SRF Ltd., Universal Yarn and Tex Pvt. Ltd. and Welspun India Pvt. Ltd.

Following points were discussed & decided in the meeting --

1. **Wide Circulation** - Following Draft standards will be issued under wide circulation -Non-Woven Industrial Filter Fabric, Industrial Nonwoven Wipes, 2. Preliminary draft prepared of Conveyor Belting Fabric, Abrasive cloths, Woven air slide fabrics and Woven press filter cloth bags to be circulated to TXD 33 members for period of 15 days for their comments and suggestion.

1.3 Geosynthetics Sectional Committee, TXD 30

The 32th Meeting of Geosynthetics Sectional Committee, TXD 30 was held through video conferencing on 13.11.2024. The meeting was attended by Dr. Anup Rakshit, Executive Director from ITTA Secretariat and ITTA Members from Garware Technical Fibres Ltd., Geosynthetics Testing Services Pvt. Ltd., Maccaferri Environmental Solutions Pvt. Ltd., Reliance Industries Ltd., Strata Geosystems (India) Pvt. Ltd. And Techfab (India) Industries Ltd.

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

1. **IS Standards for Publication** - Following Indian Standards & amendment were finalized for

publication - Coir Non-Woven Stitched Composite Geotextiles for Erosion Control Applications, Strength of internal structural junctions (Part 2) : Geo-composites, Guidelines for the determination of the long-term strength of geosynthetics for soil reinforcement, Screening test methods for determining the resistance to acid and alkaline liquids, Determination of water flow capacity in their plane - Part 1: Index test, Determination of Water Flow Capacity in their Plane Part 2: Performance Test and Geogrids Used in Reinforced Soil Retaining Structures.

2. Draft revision to be prepared of PVC Geomembranes for Lining and Geotextiles Used as Protection (or Cushioning) Material.

Tamil Nadu Backs Union Govt's Push for Technical Textile Hub: Shri. Giriraj Singh



Union Minister for Textiles Shri. Giriraj Singh announced that the Tamil Nadu Government supports establishing a Technical Textile hub in the state. The announcement came during his visit to the National Institute of Fashion Technology (NIFT) in Chennai, where he addressed reporters and participated in a review meeting with stakeholders from the textiles, handloom, and handicraft sectors.

Shri. Singh highlighted the National Technical Textile Mission, launched with a budget of Rs 1,400 crore, which aims to boost research and development, marketing, export promotion, and education in technical textiles. He outlined an ambitious vision to expand India's textile industry market size from USD 176 billion to USD 350 billion by 2030, projecting an increase in the sector's workforce from 4.6 crore to 6 crore during this period. Addressing concerns about meeting increased demand, Shri. Singh discussed ongoing consultations with industry stakeholders and farmers regarding fabric, fibre, and yarn requirements.

When questioned about competition from Bangladesh, he noted that the neighbouring country's workforce of 45 lakh is merely one-tenth of India's textile workforce, emphasising India's competitive advantage in labour availability, particularly in states like Uttar Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, and Jharkhand. He also praised NIFT Chennai's Vision Next laboratory for its innovative use of AI tools in forecasting colour and fashion trends, marking a shift from following US and European trends to creating indigenous design forecasts.

Meanwhile, Tamil Nadu Industries Minister Shri. T R B Rajaa took to social media to request Singh's support for establishing mini textile parks across SIPCOT industrial estates and expanding the textile industry in key districts including Virudhunagar, Karur, Tirupur, Salem, Erode, and Nagapattinam.

[Source - <https://knnindia.co.in/news/newsdetails/state/tamil-nadu/tamil-nadu-backs-union-govts-push-for-technical-textile-hub-giriraj-singh>]

NIT Jalandhar secures US \$ 2.35 million textile research grant

The Department of Textile Technology at Dr. B.R. Ambedkar National Institute of Technology (NIT), Jalandhar, showcased its achievements at an event organised by the Textile Association of India in Ludhiana. The gathering featured HB Patel, Member of Parliament from Gujarat, as the chief guest, alongside prominent textile industrialists from Ludhiana.

During the event, Ms. Monica Sikka, Head of the Department, announced a significant milestone for the department: a US \$ 2.35 million grant awarded under the National Technical Textiles Mission (NTTM) by the Ministry of Textiles, Government of India. This grant aims to enhance research capabilities and drive innovation in the technical textiles sector.

Ms. Sikka highlighted the department's ongoing efforts to promote industry-academia collaboration, including launching a part-time M. Tech program for professionals and offering customized training, consultancy services, and joint research opportunities. The department also facilitates internships, live projects, and co-hosts workshops to address real-world challenges and encourage knowledge exchange.

Mr. B. K. Kanaujia, Director of NIT Jalandhar, congratulated the department on this achievement and encouraged further collaboration with the Ludhiana textile industry to foster innovation, research, and skill development.

[Source - <https://apparelresources.com/events-news/nit-jalandhar-secures-us-2-35-million-textile-research-grant/>]

Revalyu opens 2nd Plant of PET-plastic recycling site at Nashik



Germany based Revalyu Resources invested US\$100 million to bring the total production capacity at its Nashik, India site to 280 tonnes per day (tpd) making it the world's largest PET plastic recycling site. The site consists of three independent recycling plants: a) two recycling plants, each with a capacity of 120 tpd producing 100% recycled PET chips of which one plant was recently commissioned and the second will be commissioned in Q3, 2025 and b) one operating 40 tpd recycling plant which produces 100% recycled speciality chips and textile yarns.

The plants use advanced recycling technology based on glycolysis which produces recycled PET with 75% less water and 91% less energy consumption compared to conventional PET manufacturing

revalyu Resources, a leading chemical PET recycling company with a global presence, has commissioned its second technology-leading PET recycling plant at its site in Nashik, India to further bolster its production capacity and meet growing customer demands.

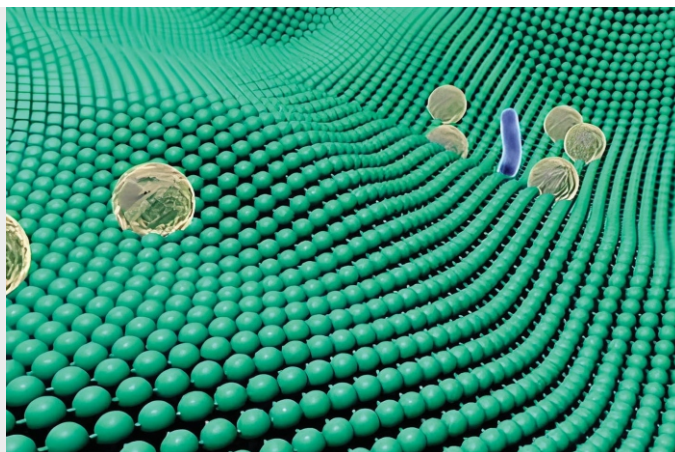
The recent commissioning of the second plant means the revalyu site now recycles over 20 million used PET bottles a day into 160 tonnes per day of high-quality PET chips and PET polymer. This is being used by customers to meet their sustainability targets in applications from diverse sectors such as PET bottle, packaging materials, textiles,

automobile accessories and a wide variety of other PET copolymer-based products. The third plant is fully financed as part of the US\$100 million investment, and under construction which will add a further 120 tonnes per day of capacity in Q3 2025. This will increase the site's recycling capacity to approximately 35 million post-consumer plastic bottles a day and total production capacity to 280 tonnes per day.

The site utilizes highly advanced patented glycolysis-based recycling technologies and automated processes, which make the manufacturing operations highly optimized, scalable, profitable and easily replicable. The recycled PET is produced using 75% less water and 91% less energy than conventional PET made from oil.

[Source - <https://www.revalyu.com/news/revalyu-resources-successfully-commissions-second-plant-of-worlds-largest-chemical-pet-plastic-recycling-site/#:~:text=recycling%20site%20Revalyu-,revalyu%20Resources%20successfully%20commissions%20second%20plant%20of%20world's%20largest%20chemical,largest%20PET%20plastic%20recycling%20site.>]

Telangana and South Korea researchers develop green antimicrobial textiles from plant extracts



A collaborative study by scientist from Telangana and South Korea has introduced an ecofriendly approach onto creating antimicrobial textiles using silver nanoparticles (AgNps) synthesized with leaf extract from *Bryophyllum pinnatum* (Air plant). The study is titled, "Harnessing durable antimicrobial cellulose cotton fabric coated with silver nanoparticles via a green approach for photocatalytic applications," published in the *Journal of Molecular Liquids*, highlights the potential of green chemistry for sustainable innovation.

The research team has demonstrated that BP leaf extract could act as a natural reducing agent to synthesise silver nanoparticles. These nanoparticles were marked through techniques including UV- Visible spectroscopy. The process involved coating cellulose cotton fabric (CCF) with silver nanoparticles using an eco-friendly deposition method. The treated fabric kept its mechanical integrity, assuring safety for applications in healthcare, apparel, and household textiles. Tests revealed powerful antibacterial activity, effectively inhibiting harmful bacteria such as *Escherichia coli*, *Bacillus subtilis*, and *Staphylococcus aureus*.

In addition to its antimicrobial properties, it

demonstrated effective photocatalytic activity. The coated fabric was tested for its ability to degrade the organic dye Congo Red (CR) under simulated sunlight, showcasing possibilities for wastewater treatment and environmental remediation. Notably, the antimicrobial functionality stayed intact throughout the photocatalytic process, allowing concurrent pollutant breakdown and disinfection.

The researchers emphasised the simplicity and sustainability of their method, which aligns with green chemistry principles. BP leaf extract, containing natural phytochemicals, enabled rapid nanoparticle synthesis under ambient conditions while providing stability and uniformity. "This dual-function molecule allows for an efficient and eco-friendly production process," the team explained. The study opens up new possibilities for the development of long-lasting, multifunctional textiles. The treated fabric showed powerful antibacterial activity & kept its mechanical integrity, assuring safety for applications in healthcare, apparel, & household textiles.

[Source-<https://timesofindia.indiatimes.com/city/hyderabad/telangana-and-south-korea-researchers-develop-green-antimicrobial-textiles-from-plant-extracts/articleshow/116325406.cms>]



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.

RAW MATERIAL

New Funding Awarded to Develop Coal-derived Carbon Fibres



Two US Department of Energy (DOE) National Laboratories, the National Energy Technology Laboratory (NETL) and Oak Ridge National Laboratory (ORNL), are working with the University of Kentucky and the Pennsylvania State University to further the research and development of coal-derived carbon fibres.

This research, valued at US\$10 million, will investigate all aspects of coal-derived carbon fibre production – from computational chemistry and pitch processing to the final spinning and heat treatment process of the fibres. The aim is to produce fibres with superior properties at a lower cost than currently available.

Through this effort, ORNL researchers will work to understand the chemistry and processing conditions required to produce different grades of coal-derived carbon fibre. NETL, ORNL, and the university teams will work closely to diversify U.S. coal use in domestic manufacturing while making coal and coal-based products more attractive for export.

Because of competition from low-priced natural gas and incentivised renewable energy, the market for coal in the electric power generation sector is decreasing. However, coal-to-products opportunities can develop new markets for coal, which have the potential to offset this decrease.

For example, the market for carbon fibres is estimated to see an annual growth rate of 12 per cent through 2024, driven largely by increased use in aerospace and defence applications and in light-weighting of vehicle structures. Additional market growth is also possible in other high-volume applications, such as thermal insulation for buildings and materials for construction and infrastructure.

The \$10 million that ORNL's Carbon Fiber Technology Facility will receive comes as a part of \$30 million in the fiscal year 2020 Congressional appropriations to support DOE's Advanced Coal Processing Program. This program supports the development of technologies that can utilise coal for purposes outside the traditional thermal and metallurgical markets.

Of the \$10 million funding, \$4.5 million will support University of Kentucky research to determine how coal tar pitch, the carbon fibre precursor, can be tailored and optimised for the specific type of desired fibre. Additionally, \$80,000 will go to Pennsylvania State University for material characterisation.

[Source - <https://www.compositestoday.com/2020/08/new-funding-awarded-to-develop-coal-derived-carbon-fibres/>]

Owens Corning Started Glass Nonwovens Line



Owens Corning based US, has begun production on its high-performance glass nonwoven production line in Fort Smith, TX. The machine includes the most extensive layout machinery supplier Voith has ever created for a glass nonwoven production line. The scope of delivery includes the forming, binding and drying sections.

The technological highlights include the world's largest inclined wire former HydroFormer, the FiberDry glass mat dryer and a comprehensive Papermaking 4.0 and automation package to increase efficiency, product quality and machine availability. Voith also supplied two IntensaPulper machines based on the Process Line Package (PLP) concept, which has set industry standards in the field of pulping with its energy-efficient technology. The HydroFormer covers a width of 5.5 meters and enables exceptionally uniform forming of fibers up to 40 mm in length with extremely low stock consistency. Sustainability and efficiency were

important factors for Owens Corning when deciding on the individual components.

The potential design speed of the line is 510 m/min, which will enable the production of 90,000 tons of glass nonwovens per year. Already two months before the target date, the line is achieving a speed of around 300 m/min.

The start-up of the glass non-woven production line in Fort Smith is a huge milestone for us. Our customers expect high-quality, consistent products that are delivered on time. This new facility is best-in-class and employs highly sustainable practices that are the result of strong partnerships," says Ms. Rachel Marcon, Vice President of non-wovens business at Owens Corning.

[Source - https://www.nonwovens-industry.com/contents/view_breaking-news/2024-12-09/owens-corning-starts-up-glass-nonwovens-line/]

COMPOSITE

SGL Carbon to Produce Composite Battery Enclosures for BMW

SGL Carbon has announced an agreement with BMW Group to produce a cover component for battery enclosures in series. The new deal will include the production of a glass-fibre-based cover plate for the battery housing for usage in a future plug-in hybrid model of BMW Group.

Materials made of composites are suited for battery

enclosures for different reasons: Besides their lightweight, which enhances the electric vehicle's range, fibre-reinforced plastics offer high stiffness. In addition, they meet high requirements for water and gas tightness and feature excellent fire protection properties. Composite materials can also help to achieve improved structural stiffness of the underbody, e.g. to protect against penetration, as

well as optimised thermal management. Carbon fibres are ideal for especially stressed structures or load-bearing elements, such as the underbody panels and side frames. For components subjected to less stress, such as battery box covers, glass fibres or a fibre mix may suffice.

In addition to the new application for the hybrid model battery enclosure, SGL Carbon will continue producing the usual components made of carbon-fibre-reinforced plastic for the BMW i3 and delivering materials for the Carbon Core body of the BMW 7 series and has been nominated as the supplier for all carbon materials – fibres, textiles, stacks – for the BMW iNEXT, set to be launched in 2021.

Over the years SGL has supplied a number of automotive manufacturers with carbon materials

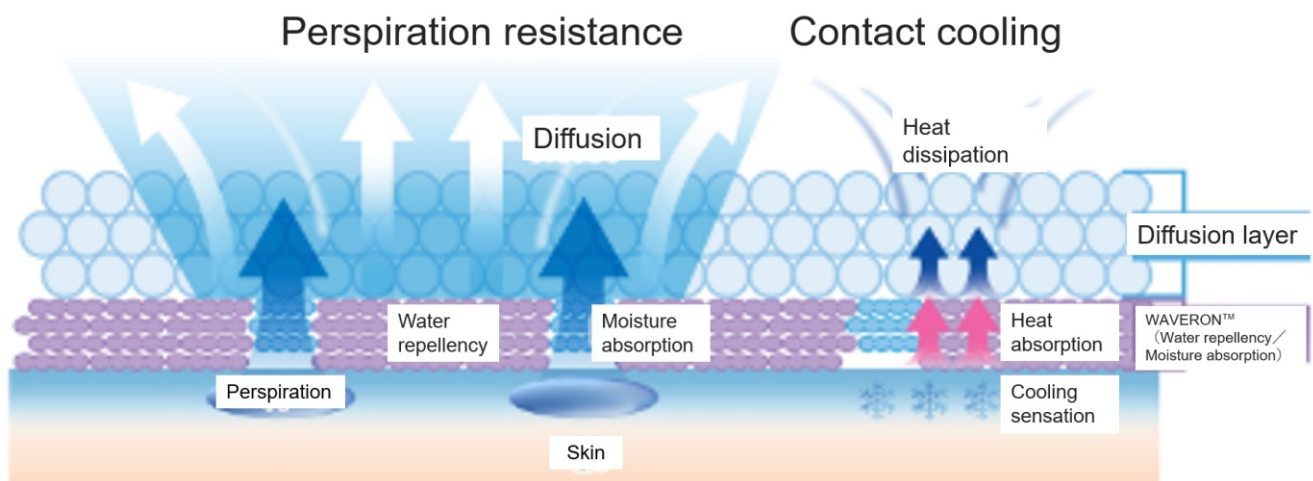


and composite components, from sports car parts to large-scale deliveries of leaf springs and structural components.

[Source - <https://www.compositestoday.com/2020/04/sgl-carbon-to-produce-composite-battery-enclosures-for-bmw/>]

PROTECH

Develops a Next-generation Comfort Material for Active and Functional Apparel



Teijin Frontier Co., Ltd., Tokyo announced that it has developed a next-generation comfort material that uniquely combines contact cooling functionality with sweat stickiness prevention. The new material features a dual layer, knit structure. The inner layer alternates Teijin Frontier's newly developed hydrophobic WAVERON™ yarn and conventional hydrophilic WAVERON™ yarn. The hydrophilic yarn absorbs perspiration, while the hydrophobic yarn prevents it from adhering to the skin to keep the skin

dry. The outer layer disperses absorbed perspiration to the outside.

Teijin Frontier plans to promote and sell this next-generation comfort material as a desirable fabric for the 2026 spring/summer sports and outdoor apparel season, in both domestic and international markets. In advance of that season, the company aims to sell 100,000 meters of the material. Subsequently, it will expand into functional apparel

such as fashion clothing. By fiscal 2028, Teijin Frontier expects to sell 1 million meters of this next-generation comfort material per year.

Cooling Comfort for a Warming Planet:

In recent years, due to global warming, sports and outdoor apparel retailers are demanding clothing with multiple functions, such as contact cooling and perspiration management, to enhance consumers' comfort in elevated temperatures. However, until now it has been challenging to deliver textiles that provide both contact cooling and sweat stickiness prevention. This is because contact cooling requires enlarging the material's contact area with the skin to improve heat conduction from the skin, while sweat stickiness prevention requires reducing contact with the skin.

To resolve this dilemma, Teijin Frontier leveraged the structure and function of two products. One is a specially structured polyester fabric that combines

perspiration absorption functionality and sweat adhesion prevention through optimal placement of hydrophobic and hydrophilic yarns. The other product is WEVERON™, a full dull, noncrimped yarn with contact cooling functionality. WEVERON™ yarn contains titanium oxide, which promotes a cooling sensation as heat is transferred from the skin to the fiber, and has a flat, cross-sectional shape that increases the skin contact area. Additionally, this non-crimped yarn maximizes the air gaps between fibers, offering high breathability. By combining these two technologies, the company was able to deliver both contact cooling and sweat stickiness prevention functions in one material.

Contributing to Sustainability: The new material uses 100 percent recycled polyester and features water-repellent technology made without per- and polyfluoroalkyl substances (PFAS).

[Source - <https://www.teijin.com/news/>]

BUILDTech

PVC alternative for tarpaulins



As large sheets of strong, flexible, water-resistant material used for protection from extreme conditions, tarpaulins are commonly made from PVC-coated polyester, which is characterised by its low price and good resistance, but is more difficult to recycle than other plastics.

The European Tarpaulife Project aims to demonstrate the possibility of manufacturing large-area polyolefin coated fabrics such as polyethylene and polypropylene that can compete in terms of both the cost of PVC-coated fabrics, and their properties of strength, flexibility, impermeability and lower environmental impact.

Rina Consulting of Genoa, Italy, is coordinating the project co-financed by the European LIFE Programme, with the participation of companies Giovanardi, Nowa and Ziplast, along with AIMPLAS, the Spanish plastics technology centre. The main result of the project will be a three-metre-wide polyolefin-coated fabric production facility which will be located at the Ziplast facility in Milan, Italy, with an annual capacity of 250,000 square metres once completed.

The main application selected for the material is as water bags for transporting large amounts of fresh

water by sea. As demonstrators of the project, two 2,500 cubic metre water bags will be made with the new material for testing in two locations – providing a backup to a freshwater reservoir in the North Sea off the coast of Iceland, and in the Mediterranean.

It is anticipated that more than 100 water bags will be produced three years after the project ends and more than two million cubic metres of water will be stored at three fresh water storage sites. The proposed solution will help avoid incineration of more than 2,000 tons of PVC and prevent more than

13 tons of CO₂ from being released into the environment.

The project also includes replication of the results in other sectors, such as truck tarps and glacier tarpaulins, and a demonstration of the sustainability of the new coated material by quantifying the environmental and LCA-LCC benefits compared to the use of PVC-coated fabrics.

[Source - <https://www.innovationintextiles.com/pvc-alternative-for-tarpaulins/>]



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NEW MEMBERS



CORPORATE MEMBERS

MICHAELMAN PVT. LTD.

Michelman is a US based Company, and has its manufacturing facility in the US, Europe & Singapore. They have expertise in water-based emulsions with a production capacity of 5000 tons for FY 2023-24, the performance and production of technical textiles are enhanced through improved adhesions, (fiber-to-matrix and fiber-to-fiber), thermal resistance, lubricity, print receptivity, water & chemical resistance, and anti-blocking.

TUFROPES PVT. LTD.

Since the year 1992, Tufropes is the manufacturer of synthetic ropes and nets. With 4 units spread in Western and Central India, Tufropes is able to produce 40,000 MT of ropes and netting in one year. They have machineries such as Extruders, Twister, Braider, Warp Knitting, Knotted Netting, Fabrication, etc.

PLASTI WEAVE INDUSTRIES LLP

Plasti Weave Industries started in 1979. Later in the year 2011-12 it was restructured and converted into LLP. Presently, they have two state-of-the-art factories with a total capacity of 11500 MT per annum for manufacturing PP Woven laminated/Unlaminated Fabrics and PP Woven Laminated/Unlaminated Sacks, FIBC Bags. They have factories are situated at Rajasthan and Gujarat. They have machines like Tape Extrusion Line, PP Monofilament Extruding Machine, Circular Loom, Recycling Plant, Rewinding Machine, Sewing Machine, Automatic Bag cutting and Sewing Machine, Warping machine, Ultrasonic Cutting and Sealing Equipment, etc. They are an ISO:9001 and ISO:22000 certified organization. They have also been given food grade certificate FSSC:22000 for the last 5 years.

VIJET PRODUCTS PVT. LTD.

Vijet Products has over 30 years of experience in the emulsion industry, offers a wide range of emulsion binders with a production capacity of 2400 MT/year to the technical textile industry. They provide binders for non-woven fabrics, canvas coating, blackouts, and more.

ASSOCIATE MEMBERS

CRYSTAL SAFETY

Ms. Hema Ghadiali, Founder & Director of Crystal Safety. They are the manufacturer of Industrial Safety Work Wear. For the past eight years, she has successfully operated her own business.

UPCOMING EVENTS

DATES	EVENTS NAME	PLACE	WEBSITE
DOMESTIC EVENTS			
21-23 November 2024	OSH INDIA	Mumbai, India	https://www.oshindia.com/mumbai/
17-19 January 2025	7TH Agri Vision- 2025 International Conference on Agriculture for Food Security & Nutrition	Odisha, India	https://agrivision.in/
21-23 January 2025	ICERP 2025 (International Conference & Exhibition on Reinforced Plastics)	Mumbai, India	https://icerpshow.com/
23- 25 January 2025	18TH EDITION OF FIBERS & YARNS EXPO 202 5	Mumbai, India	https://www.fibersnyarns.com
14-17 February 2025	BHARAT TEX 2025 (Global Textile Expo)	New Delhi, India	https://bharat-tex.com/
20-22 February 2025	ACREX INDIA 2025 (South Asia's Largest Exhibition on Air Conditioning, Heating, Ventilation and Intelligent Buildings)	Bangalore, India	https://acrex.in/
21-22 February 2025	TEXCON 2025	Indore, India	https://events.svvv.edu.in/texcon/
21-23 February 2025	GTES 2025 (3rd Global Textile Technology & Engineering Show)	Mumbai, India	https://www.india-itme.com/exhibitions/gtes/index.php
21-24 February 2025	ITMACH INDIA 2025	Gandhinagar, India	https://tradefest.io/en/event/itmach-india
27-29 March 2025	MEDICAL FAIR INDIA (30th International Exhibition and Conference)	New Delhi, India	https://www.medicalfair-india.com/
24-25 April 2025	OSH INDIA NORTH	New Delhi, India	https://www.oshindia.com/oshgurukulconference/
26-27 June 2025	OSH INDIA SOUTH	Bangalore, India	https://www.oshindia.com/
01-04 July 2025	HGH INDIA 2025 (Home Décor, Gifts & Houseware)	Mumbai, India	https://www.hghindia.com/
10-12 July 2025	YARNEX (INDIA INTERNATIONAL YARN EXHIBITION)	New Delhi, India	https://www.textilefairsindia.com/delhi.php
10-12 July 2025	HOMTEX (India International Home Textile Exhibition)	New Delhi, India	https://textilefairsindia.com/homtex/
12-14 August 2025	SPORT INDIA 2025 - 13th India International Sporting Goods Show	New Delhi, India	www.iisgs.com
06-08 November 2025	9TH EDITION NONWOVEN TECH ASIA (International Exhibition & Conference)	New Delhi, India	https://nonwoventechasia.com/
19-21 November 2025	TECHTEXTIL INDIA 2025	Mumbai, India	https://techtextil-india.in.messefrankfurt.com/mumbai/en.html

DATES	EVENTS NAME	PLACE	WEBSITE
INTERNATIONAL EVENTS			
05-07 November 2024	WATERPROOF MEMBRANES 2024	Düsseldorf, Germany	https://www.ami-events.com/event/F622673A-3032-468C-8AB8-E031E9536242/summary
13-15 November 2024	ANTEXASIA 2024 (Asia Nonwovens Technology Expo)	Bangkok, Thailand	https://www.antexasia.com/
12-14 November 2024	FILTECH 2024 (The Filtration Event)	Cologne, Germany	https://filtech.de/
18-21 November 2024	HYGIENIX 2024 (The Premier Event for Absorbent Hygiene & Personal Care Products)	Nashville, USA	https://www.hygienix.org
05-06 December 2024	SMART TEXTILES AND EMERGING TECHNOLOGIES (STET) - INTERNATIONAL CONFERENCE - 2024	Virtual	https://texmatresearch.com/stet2024/
11-13 December 2024	10TH FILTRATION & SEPARATION ASIA (FSA) + 13TH CHINA INTERNATIONAL FILTRATION & SEPARATION EXHIBITION	Shanghai, China	https://www.fsa-expo.com/
14-17 January 2025	HEIMTEXTIL 2025	Frankfurt, Germany	https://heimtextil.messefrankfurt.com/frankfurt/en.html
17-19 January 2025	HOMETEX NEPAL (Home Textile & Home Décor Exhibition)	Kathmandu, Nepal	https://hometexnepal.com/
17-19 January 2025	7TH Agri Vision- 2025 International Conference on Agriculture for Food Security & Nutrition	Odisha, India	https://agrivision.in/
12-15 February 2025	THE 17TH BANGLADESH INTERNATIONAL PLASTICS, PRINTING & PACKAGING INDUSTRY FAIR	International Convention City Bashundhara (ICCB)	https://ipf.chanchao.com.tw/
26-28 February 2025	VIETNAM INTERNATIONAL TRADE FAIR FOR APPAREL, TEXTILES AND TEXTILE TECHNOLOGIES (VIATT)	Ho Chi Minh City, Vietnam	https://viatt.hk.messefrankfurt.com/hochiminhcity/en.html
11-13 March 2025	INTERTEXTILE SHANGHAI HOME TEXTILES SPRING EDITION	Shanghai, China	https://intertextile-shanghai-hometextiles-spring.hk.messefrankfurt.com/shanghai/en.html
12-14 March 2025	GENTEXH 2025 (GLOBAL EXHIBITION ON NONWOVEN & HYGIENE TECHNOLOGY)	Ho Chi Minh City, Vietnam	https://gentexh.com/
29 April-01 May 2025	IDEA 2025	Florida, USA	https://www.ideashow.org/
29 April-01 May 2025	FILTXXPO™ 2025 (International Filtration/ Separation Exhibition & Technical Conference)	Florida, USA	https://www.filtxpo.com/
20-23 May 2025	11th EUROPEAN CONFERENCE ON PROTECTIVE CLOTHING	Kuşadası - TÜRKİYE	https://ecpc2025.com/
19-22 May 2026	INDEX 2026 (Nonwoven Exhibition)	Palexpo, Geneva	https://www.indexnonwovens.com/en/
21-24 July 2025	WORLD OF WIPES 2025 (WOW) (International Conference)	Columbus, USA	https://www.worldofwipes.org/
04-07 November 2025	A+A 2025	Düsseldorf, Germany	https://www.aplusa-online.com/
19-22 May 2026	INDEX 2026 (Nonwoven Exhibition)	Palexpo, Geneva	https://www.indexnonwovens.com/en/
21-24 July 2025	WORLD OF WIPES 2025 (WOW) (International Conference)	Columbus, USA	https://www.worldofwipes.org/