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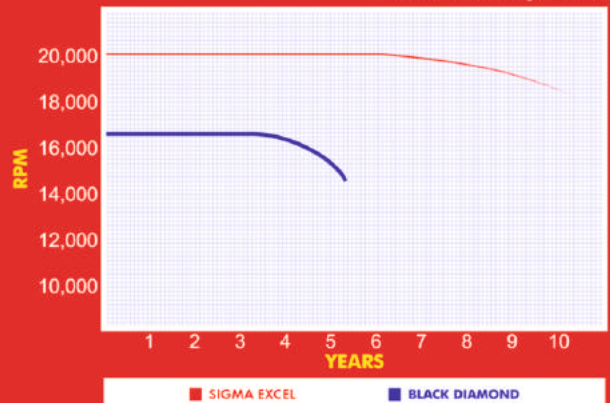
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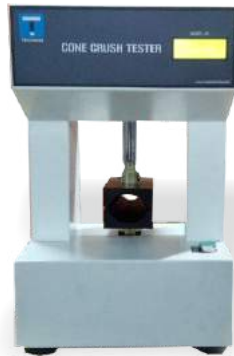
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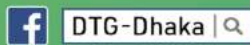


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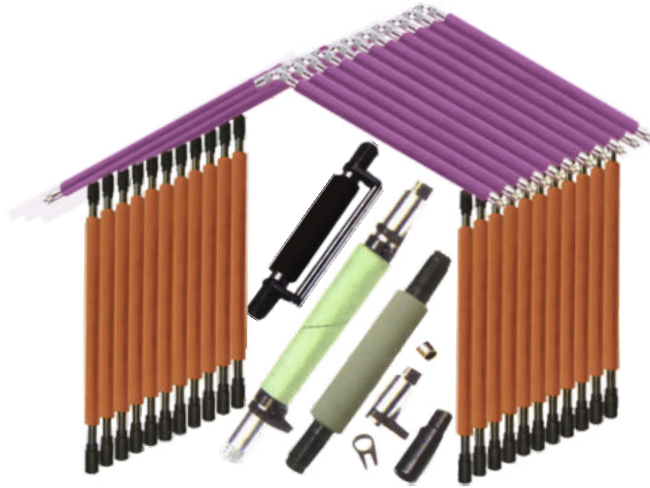
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A Promising Budget for India

Finance Minister Mrs. Nirmala Sitaraman presented union budget for 2023-24 on 1st February, 2023 in parliament. This budget is expected to serve as the last full budget of P.M Narendra Modi's second term in office. In this budget finance minister made a determined push for growth lifting capital expenditure to over a fifth of total expending at Rs.10 lakh crores. This heavy capital spending budget is to drive growth process and in turn it will generate jobs and provide a boost to the nascent private sector recovery as the global economy moves in slow.

In her budget speech Mrs. Nirmala Sitaraman said government is targeting a fiscal deficit of 5.9% for FY-24. Fiscal deficit is the difference between govt.'s expenditure and revenues when the former is higher. This budget pushed for greater adoption of the new tax regime in a big way by reducing the no. of tax slabs, increasing the basic exemption limit to Rs.3 lakh from 2.5 lakh. The threshold for rebate has been raised to Rs.7 lakh from 5 lakh. This tax relief is expected to leave more money in the hand of tax payers and as a result it will raise the consumption and demand.

The budget proposed to increase customs duty on several items such as component for electrical appliances to encourage domestic manufactures. MSME sector has got higher credit guarantee and measures to ensure the faster payment of dues. The PLI schemes announced in this budget are seeing success in capitalizing on shift in global supply chain, and this is providing a significant boost to new investment in manufacturing sector including textile. This scheme should be designed to boost textile and apparel industry. The enhanced outlay for the PM Awas Jyoti by 66% to Rs. 79,000 crore is great news for affordable housing for marginal section for our society.

In the current unrest in global environment India has emerged as a beacon of resilience due to the policy adopted by the government. Over the last couple of years India continues to be one of the fastest growing economies in the world. It is time for India to be bold and invest to create conditions that will leverage India's economic growth. Digitalization, Innovation and Cooperation are the three pillars from which the budget makes the clarion call to all the stake holders – Industries, Companies and Citizen – to prepare India for its 100% years of independence 1947.

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⇒ At 3%, China's GDP grew at lowest pace in 2022

China's economy grew last year at its slowest pace in four decades as it was hammered by Covid lockdowns and a property crisis but the forecast-beating reading raised hopes for a strong recovery as it reopens. Beijing's rigid adherence to its zero-Covid strategy of strict containment that effectively shut the country off from the world hammered business activity last year and threw supply chains offline, rattling the global economy. The measures meant the growth came in at just 3% last year, the worst reading since a 1.6% contraction in 1976 — when Mao Zedong died — excluding pandemic-hit 2020. National Bureau of Statistics official Kang Yi told reporters recently the world's number-two economy had in 2022 "faced storms and rough waters in the global environment", and warned "the foundation of domestic economic recovery is not solid as the international situation is still complicated and severe". The figure missed the government's 5.5% target and was well down from the previous year but it was better than the 2.7% predicted in an AFP survey of analysts. The fourth-quarter reading also topped forecasts, providing some optimism for 2023. Retail sales shrank just 1.8% in December, compared with the 9.0% estimated, as the lifting of restrictions allowed consumers to go back to the high street. Industrial output and fixed-asset investment also beat expectations, while unemployment fell in December from November. "The good news is that there are now signs of stabilisation, as policy support doled out towards the end of 2022 is showing up in the relative resilience of infrastructure investment and credit growth," Louise Loo, Senior Economist at Oxford Economics, said in a note. □

⇒ Investment, innovation propel employment : WEF

Technologies in Agriculture, education and energy are the 'most strategically important' for economies and societies over the next decade to drive jobs, growth and markets of tomorrow, a survey said recently. Citing the survey of 12,000 global executives, the World Economic Forum (WEF) also said there is an unmet need for 76 million new jobs in green and social sectors. The research found that agritech, edtech and energy-related technologies are seen by businesses as the most

strategically important over the next 10 years in over 120 economies. "It also finds that 76 million additional jobs are needed by 2030 in green and social sectors, including agriculture, education, health and energy," the WEF said. Two reports from the WEF, 'Markets of Tomorrow Report 2023 : Turning Technologies into New Sources of Global Growth' and 'Jobs of Tomorrow : Social and Green Jobs for Building Inclusive and Sustainable Economies', called on government and business leaders to double down on deploying technologies to create the markets and jobs of tomorrow. The 'Jobs of Tomorrow' analysis was conducted in collaboration with Accenture, and it found an additional 76 million jobs in green and social sectors are needed by 2030 across 10 economies alone. These are Australia, Brazil, China, Germany, India, Japan, South Africa, Spain, the United Kingdom and the US. Social jobs, defined as occupations within education, healthcare and care, represent 11 per cent of the total workforce in the 10 assessed economies. But the report found that countries will need to increase the number of social jobs by 37 per cent or 64 million to make progress on inclusion and social mobility goals. Occupations with the greatest unmet need are personal care workers in health services (18 million), childcare workers, teacher aides and early childhood teachers (12 million) and primary and secondary education teachers (9 million). Currently, Green jobs represent just 1 per cent of the surveyed workforces and an additional 12 million green jobs are needed to make progress on environmental objectives, representing a 66 per cent increase on current numbers. Green jobs with the greatest unmet need include agricultural, forestry and fishery workers (11 million), environmental construction roles (80,000), and environmental, civil and chemical engineers (70,000), with South Africa, China, the United Kingdom and Brazil experiencing the greatest shortfalls. □

⇒ Fragmentation of world economy may reduce GDP by 7%

A severe fragmentation of the global economy after decades of increasing economic integration could reduce global economic output by up to 7%, but the losses could reach 8-12% in some countries, if technology is also decoupled, the International Monetary

Fund said in a new staff report. The IMF said even limited fragmentation could shave 0.2% off of global GDP, but said more work was needed to assess the estimated costs to the international monetary system and the global financial safety net (GFSN). The note, released recently, noted that the global flows of goods and capital had levelled off after the global financial crisis of 2008-2009, and a surge in trade restrictions seen in subsequent years. "The Covid pandemic and Russia's invasion of Ukraine have further tested international relations and increased skepticism about the benefits of globalisation," the staff report said. The unravelling of trade links "would most adversely impact low-income countries and less well-off consumers in advanced economies," it said. Restrictions on cross-border migration would deprive host economies of valuable skills while reducing remittances in migrant-sending economies. Reduced capital flows would reduce foreign direct investment, while a decline in international cooperation would pose risks to provision of vital global public goods. The IMF said studies suggested that the deeper the fragmentation, the deeper the costs, with technological decoupling significantly amplifying losses from trade restrictions. It noted that emerging market economies and low-income countries are likely to be most at risk. Barely two in five people believe their families will be better off in the future, according to a regular global survey that also identified growing levels of distrust in institutions among low-income households. The Edelman Trust Barometer, which for over two decades has polled the attitudes of thousands of people, found that economic pessimism was at its highest in some of the world's top economies such as the United States, Britain, Germany and Japan. Higher-income households still broadly trust institutions such as government, business, media and NGOs. But alienation is rife among low-income groups. "This has really shown the mass class divide again," said Richard Edelman, whose Edelman communications group published the survey of over 32,000 respondents in 28 countries interviewed from November 1 to 28 of last year. Only 40% agreed with the statement "my family and I will be better off in five years" compared to 50% a year before, with advanced economies most downbeat: the US (36%), Britain (23%), Germany (15%) and Japan (9%). □

⇒ German Economy appears to have stagnated in Q4, grows 1.9% in 2022

The German economy appears to have stagnated in the fourth quarter, the national statistics office said recently, while Europe's biggest economy managed full-year growth of 1.9% — slowing somewhat from 2021 as the impact of Russia's war in Ukraine weighed on its performance. Germany releases a preliminary full-year gross domestic product figure before full December economic data is available, and an official fourth-quarter number isn't due for a few weeks yet. The head of the Federal Statistical Office, Ruth Brand, said that "according to what we know so far, gross domestic product stagnated in the fourth quarter of 2022" compared with the previous three-month period. She cautioned that there was still "a great deal of uncertainty" about that estimate. If the estimate holds up, stagnation in the October-December period would be a better showing than expected. The economy was long expected to shrink in last year's fourth quarter and in the current first quarter. In last year's third quarter, the economy grew 0.4%. Germany's full-year growth declined from 2.6% in 2021. In 2020, when the economy took a big hit from the Covid-19 pandemic, GDP shrank by 3.7%. □

⇒ IMF chief Georgieva cautions of 'Tough year' for world economy

International Monetary Fund Managing Director Kristalina Georgieva warned that the global economy faces "a tough year, tougher than the year we leave behind." "We expect one-third of the world economy to be in recession," Georgieva told CBS's 'Face the Nation' in an interview aired Jan. 1. "Why? Because the three big economies US, EU, China are all slowing down simultaneously." The IMF already warned in October that more than a third of the global economy will contract and that there is a 25% chance of global GDP growing by less than 2% in 2023, which it defined as a global recession. Examining the three biggest economies on CBS, Georgieva painted a mixed picture of their ability to withstand the downturn. ■

INDIAN ECONOMY AND TRADE TRENDS

⇒ Exports shrink 12.2% in December as global slowdown hits demand

India's goods exports dropped 12.2% in December from a year earlier to \$34.5 billion as the deepening global slowdown dented consumer demand across most of the developed world and many emerging economies. The drop in imports was less as the growing Indian economy continued to ship in inputs and goods. Imports declined to \$58.2 billion in December against \$60.3 billion in the same month last year. India's merchandise trade deficit in December widened to \$23.9 billion against \$21.1 billion a year ago. "US and Europe are facing recessionary trends. In China, there is huge demand reduction. So, we are facing a lot of headwinds," commerce secretary Sunil Barthwal said. "Our export competitiveness has held its head high despite the strong headwinds we're facing." During April-December this fiscal, the country's overall exports rose 9% to \$332.8 billion while imports were up a quarter to \$551.7 billion. "Encouragingly, non-oil, non-gold exports rose, albeit only slightly, despite global growth headwinds and the decline in exports across Asia," Rahul Bajoria of Barclays said in a note. Eleven out of export sectors reported growth. Among the key export items, engineering goods shipments declined about 12% on-year in December to \$9.1 billion while those of gems and jewellery fell 15.2% to \$2.54 billion. Petroleum products exports contracted almost 27% to \$4.9 billion in December. In April-December this fiscal, the US emerged as the largest export destination with a growth of 6.8% at \$59.57 billion. It was followed by UAE, Netherlands, Bangladesh, and Singapore. Though the trade deficit rose in December, reversing several months of declining trend, experts say with commodity prices easing imports should fall, helping bring down the merchandise trade gap. "We believe the current account deficit has likely peaked in Q2 FY2023, and foresee a moderation to US\$25-29 billion each in the subsequent two quarters," said Aditi Nayar, chief economist, ICRA. On a year-on-year basis, imports fell for the first time since November 2020. Imports of coal, coke and briquettes almost doubled to \$40.6 billion during April-December FY23 as against \$21.66 billion a year ago. Imports from Russia jumped four times to \$32.88 billion during

April-December 2022 as India bought more crude oil, taking advantage of the lower prices offered. In December, oil imports rose 6% to \$17.5 billion while gold imports dropped 75% to \$1.18 billion as prices hit a record high. Imports from China rose about 12% to \$75.87 billion in April-December 2022 period whereas exports fell 35.58% to \$11 billion. □

⇒ Retail inflation in December fell 12-month low of 5.72%

Retail inflation, measured by consumer price index (CPI), fell to a one-year low of 5.72% in December, thanks primarily to a sharp deflation (-15.08%) in vegetables and easing of price pressures in the broader "food and beverages" category, according to official data released recently. The inflation stood at 5.88% in November 2022. With this, the headline inflation number remained below the upper limit of the Reserve Bank of India's (RBI's) medium-term target of 2-6% for the second straight month (it was previously above that range for 10 long months). Though the latest inflation print was significantly below analyst expectations, it is unlikely to prevent the RBI from going in for the sixth round of rate hike in February, which is widely expected to take the policy repo rate to 6.5% from 6.25% at present. Persistently high "core inflation" — it inched up to 6.1% in December from 6% in November — remains a cause for concern, along with still-elevated inflation rates for "fuel and light" (10.97%) cereals (13.79%), "milk and milk products" (8.51%) and "clothing and footwear" (9.58%) categories. Inflation, measured by the consumer food price index, saw a sharp sequential decline from 4.67% in November to 4.19% in December. In its latest monetary policy statement, the RBI said: "The correction in industrial input prices and supply chain pressures, if sustained, could help ease pressures on output prices; but the pending pass-through of input costs could keep core inflation firm." Wholesale price inflation had hit a 21-month low of 5.85% in November, aided by a favourable base and a sharp drop in food inflation. It was for the first time since February 2021 that inflation measured by wholesale price index fell below the retail inflation rate, suggesting the pass-through of elevated input costs to finished product

prices was nearing completion. Though the relatively benign global commodity prices and a favourable base will likely continue to ease retail inflation in the short term, the outlook is still rather uncertain. The price pressures in the economy in the next fiscal will be influenced by how geopolitical factors will pan out. The economic slowdown in China and its impact on supply chains coupled with the impending recession in the West will potentially have a major role in imported inflation. That said, retail inflation for Q3FY23 came in at 6.1%, half a percentage point below the RBI's forecast. This means that the inflation forecast for FY23 will be significantly lower than 6.7% seen by the RBI and the monetary policy committee (MPC). Analysts reckon that CPI inflation in Q4 will be marginally below 6% and that in Q1FY24 could come in at below 5%. Data released by the ministry of statistics and programme implementation of late revealed that the "food and beverages" sub group, which has a 45.86% weight in the combined CPI basket, registered deflation in vegetables for the second straight month although inflation in cereals and products remained high at 13.79%. Significantly, CPI inflation in health and education also picked up, indicating higher fees and costs. While CPI inflation in health rose to 6.15% in December, it increased to 5.9% in education. "This (core inflation) will remain sticky as the government is not lowering excise duties on fuel, while companies are still in the process of passing on the higher input costs," said Madan Sabnavis, chief economist, Bank of Baroda, adding that RBI may continue to increase rates in the February policy by 25 basis points, which can be the last hike for this cycle as the numbers in the coming months would come down due to the base effect. □

⇒ Wealth of ultra-rich continues to hike in 2023 : Knight Frank

Indian ultra-high networth individuals (UHNIs) allocated 34% of their investable wealth — the highest proportion — to equities in 2022, says a report by Knight Frank, titled *The Wealth Report : Outlook 2023*. The latest edition of the annual *Attitudes Survey* returned 88% of the respondents seeing a rise in UHNI wealth in 2022, of which 35% said Indian UHNIs saw an increase in wealth in

excess of 10%. Globally, respondents opined that an estimated 40% of UHNIs saw a rise in wealth in 2022, and approximately 15% noted no change in wealth status in 2022, against the previous year. Indian respondents expect wealth of UHNIs to continue rising in 2023. While 47% expect wealth to increase by more than 10%, the remaining 53% respondents expect wealth to rise by at least 10% over the previous year. Globally, only 69% of respondents expect a rise in wealth, and about 14% responded saying wealth will decline. Indian UHNIs allocated 84% of their investable wealth between equities, real estate, and bonds. Besides the 34% invested in equities, close to 25% was allotted to commercial properties (directly through ownership or indirectly through funds), and that the rising allocation to commercial assets pointed to improving confidence among investors towards India's growth story. Seeking stability in an uncertain environment, UHNIs invested 16% of their investable wealth in bonds. Among key themes for 2023, reopening of China, India's economic growth, and the fundamental strength in the US economy will dominate, it said. Liam Bailey, Global Head of Research at Knight Frank, said : "With 69% of UHNIs expecting to see wealth growth in 2023, we anticipate a substantial shift in portfolio strategy, with a search for value opportunities in the real estate sector playing a much bigger role than in recent years." □

⇒ Indian economy may play key role for world economy

India's economic fortunes are critical for the world, Aditya Birla Group chairman Kumar Mangalam Birla said recently. "But more interestingly, India's rise is being welcomed by the world as it grows into a stabilising and non-disruptive growth engine," he wrote in a note. As global corporations start to look at countries across Asia as part of their China +1 strategies, India is a clear choice. "Supply chain repositioning is complex and needs us to stay the course." He said India combines economic might, a large working age population, demographic dynamism, entrepreneurial energy, robust democracy and diversity. "Add to this a pivotal position in current global geopolitics. That country is India. And I think even Chat GPT concurs." ■

New Textile Policy to Transform up into a Textile Hub

To foster the textile industries in Uttar Pradesh, the Yogi Adityanath government has introduced a new policy that provides hefty subsidies and other incentives like a 50 per cent subsidy on the purchase of land and up to 100 per cent exemption on stamp duty for setting up textile units. The policy also provides for 25 per cent subsidies on plant and machinery, subject to a maximum limit of ₹100 crore for units investing more than ₹200 crore in the project. The government aims to make the state a global textile hub by attracting ₹10,000 crore investments and generating more than five lakh jobs.

The textile industry is vital to Uttar Pradesh's economy as the sector, along with its ancillary manufacturing units, provides high employment opportunities. There is a great need for employment generation in the state. Further, the state offers a big market for textile products. To meet this demand, plenty of opportunities are available to set up textile industries in the state.

The policy focuses on expanding job opportunities in this sector. Uttar Pradesh has an extremely high percentage of skilled, semi-skilled and unskilled workers in textile units across the country. Thousands of residents of UP take up jobs in textile units in Maharashtra, Gujarat, Tamil Nadu and Kerala. The State Government is keen to bring employment to the doorsteps of such migrants and provide them with wholesome opportunities here, in their home state.

Uttar Pradesh has over 2,50,000 handloom weavers operating about 1,10,000 handlooms with natural clusters developed over hundreds of years. Varanasi and Mubarakpur's silk sarees have global repute. Hand embroidery of the highest quality is the strength of several traditional

clusters such as Farrukhabad, Bareilly and Lucknow. There is a thriving power-loom industry in many parts of the state. Shining examples are Bijnore, Hapur and Amroha in the west, Sitapur in central UP and Gorakhpur in Eastern UP. Bundelkhand, too, is rich in tradition. These areas have vast pools of skilled manpower required for the textile industry.

Special incentives

This policy allows for special incentives in Purvanchal, Bundelkhand and Madhyanchal regions. The incentives include one-time subsidies and recurring benefits. One-time incentives are in the form of land cost rebates as subsidies, subsidies on the cost of plant and machinery, stamp duty exemptions and margin money assistance for some categories. The recurring incentives include SGST reimbursement, interest cost subvention, freight reimbursement for export promotion and EPF reimbursements.

Subsidy at initial level of production

The new policy offers a 50 per cent subsidy on the purchase of land from industrial development authorities or other development authorities in UP for setting up textile units. The rule would be applicable in all districts except Gautam Budh Nagar in Noida, where the subsidy would be 30 per cent. At the same time, the subsidy would be limited to 10 per cent of the total cost of the project. However, the subsidy would be given only when the textile unit would start production within five years of the purchase of land. Also, the state government has taken initiatives to establish textile parks in 1,000-acre areas in Lucknow and Hardoi districts. These parks are to be developed under the Prime Minister Mitra Park Scheme and land parcels for the project have been identified.

Stamp duty exemptions

Apart from subsidies, the investors would get the benefit of exemption from stamp duties in the registration of purchased lands. The stamp duty exemption will be 100 per cent in all districts except the Gautam Budh Nagar, where it would be 75 per cent. Further, the new textile and garment units would also get a 100 per cent exemption on electricity duty for 10 years.

Meanwhile, textile parks being established under the PM Mitra Park Scheme would get a 100 per cent exemption from stamp duty while private developers would get a 50 per cent exemption on stamp duty. Another incentive earmarked for the developers of textile parks under the PM Mitra Scheme is a subsidy of ₹2/per kilovolts in the electricity tariff for five years, subject to a maximum of ₹60 lakh/per year per textile park. Placing employment as the top priority, the power subsidy would be given on the condition that the textile park provides employment to a minimum of 50 people.

Push to silk production

Giving a boost to silk production in the state, the policy also offers a 100 per cent stamp duty exemption on setting up silk production and threading units. Besides, it also offers a capital subsidy including a 25 per cent subsidy on the purchase of plant and machinery for textile and garment units. Silk-reeling units with a capital investment of ₹01 crore and above will get 20 per cent capital subsidies.

The units being set up in Bundelkhand and Purvanchal regions would be able to avail of an additional 10 per cent capital subsidy.

Assisted infrastructural development

The policy also offers financial assistance to investors in the development of infrastructure for their units. In fact, for units being developed on undeveloped land, the government would provide 50 per cent reimbursement on the cost of the development of water pipelines, electricity lines, affluent plants and roads, up to a maximum of ₹3 crore per unit. ■

Stress on job—creating textile sector

The Madhya Pradesh government is providing customised incentives for the employment-oriented textile and garment sector, Chief Minister Shivraj Singh Chouhan has told recently. The state will showcase the sector at the upcoming Global Investors Summit to be held in Indore.

Madhya Pradesh offers a 5 to 7 per cent interest subsidy on loans for machinery, rebates on discounted tariff, infrastructure development help, etc.

According to the government data, the state accounts for 43 per cent of India's and 24 per cent of world's organic cotton production. The state has witnessed a 60 per cent compound annual growth rate in organic cotton production during the past three years.

The state has more than 60 large textile mills, over 4,000 looms, and 2.5 million spindles. Indore houses over 1,200 units with apparel designing centers.

Shreyaskar Chaudhary, managing director of Pratibha Syntex, said the company's new factory in Ujjain—based completely on green technology—employs 4,000, of which 80 per cent are women. "The policies are conducive, infrastructure support is unparalleled, and skilled manpower is available," Chaudhary said.

Chhindwara-based Aid and Survival of Handicrafts Artisans (ASHA) works with tribal artisans only. Its founders Aarti and Rohit Rusia said the government not only should train the artisan but it should also take advantage of their skills. ■

Extra-long staple cotton received a major boost

Extra-long staple cotton, a niche produce greatly in demand in the textile industry, received a major boost with a slew of measures announced by Finance Minister Nirmala Sitharaman for enhanced output and higher returns to farmers. "We will adopt a cluster-based and value chain approach through public-private partnerships (PPP) to enhance the productivity of extra-long staple cotton," she said. "This will mean collaboration between farmers, the State governments and industry for input supplies, extension services, and market linkages," she said.

According to trade experts, out of the total ELS cotton requirement of 20 lakh bales (each of 170 kg), India produces only about 5 lakh bales, forcing the industry to depend on imports from Egypt and the US to meet the demand for this high-quality fibre.

Extra-long cotton or ELS in loom yarns, high-end fabrics and in sewing threads. Though a major cotton producer, India lags in the production of ELS cotton, forcing it

to depend on imports. The textile industry, for long, has asked the government to make efforts to increase the availability of ELS cotton to lower the cost of textile production. The industry, however, expected much more from the government to bolster the sector, which has been saddled with poor returns and decreasing yields. "We wanted the government to announce measures to promote research which will go a long way in promoting ELS varieties. We, however, will wait for the finer details of the announcement made in the Budget," Ram Kaundinya, Director-General of Federation of Seed Industry of India, told of late.

The difficulty with ELS cotton, which belongs to a species called Barbadens, is that it is a long-duration crop. Yields are low and the incidence of Pink Bollworm attacks is high. Hence, farmers do not prefer to plant it.

M Prabhakara Rao, President of the National Seed Association of India (NSAI), welcomed the move and said that there is a huge potential in the country for ELS cotton. ■

Brokerage firm offers coverage on textile firms to help domestic textile sector

Brokerage firm Emkay Global has initiated coverage on textile firms Vardhman, Gokaldas Exports and Nitin Spinners with a buy rating as the government's incentives for the sector, the shift in business from China to other countries, and trade agreements could help the domestic industry 'sprint and soar'.

The firm said it has been 'gloom and doom' for the domestic industry in the past few months because of high cotton prices and low demand for textiles and apparel in Western countries. "New FTAs (free trade agreements) would offer opportunities to large established players, capturing a higher wallet share by entering into adjacencies in existing geographies," said

Emkay's analysts Abhineet Anand and Chinmay Kabra in a recent note to clients. "Textile PLI (production linked incentive) schemes by the government are largely focused on MMF (man-made fibre) - which will help to build an ecosystem similar to cotton textiles', over the medium term." ■

Textile sector expected to generate over 38000 jobs in Rajasthan

Textile has emerged as a prominent sector for generating new employment opportunities in Rajasthan following the implementation of agreements signed during the Invest Rajasthan Summit-2022.

The textile industry is expected to generate employment for about 38,900 people with an investment of ₹8,003 crores.

Of the 4,192 Memorandums of Understanding and letters of intent received during the investors' meetings held in different cities across the country and in Dubai before the summit, 46% have been implemented or are under implementation. The highest investment of ₹1,12 lakh crores is proposed to be made in the energy sector, which will generate about 36,000 jobs.

Industries Minister Shakuntala Rawat said here on Monday that chemicals and petroleum would be the second major sector after energy in terms of investment. ■

Apparel sales decline on price pressures

The Apparel Industry has witnessed a slowdown in discretionary spends by consumers over the past few months, primarily because of inflationary pressures, with an impact of around 10-12%, according to industry players.

“Whether it was Durga Puja or Diwali, this year’s festive season was not that great for the industry,” said Rahul Mehta, president of Clothing Manufacturers Association of India, adding: “After that too, especially in December, markets slowed down quite significantly. That is also reflecting in summer bookings by our members right now.”

“By and large, inflationary pressures are hitting the middle class, and therefore, their discretionary spending has been limited because buying clothes is something you can always postpone. While there has not been much impact on the kids category, the adults category has been hit,” he added.

Sanjay Vakharia, CEO of Spykar Lifestyles, said to some extent people are becoming wary of their spends and some conservatism can be observed in the last few months. “On an average, we feel sales could have been better by 10-15% than what they have been so far,” he said.

Some industry players pointed out that this slowdown was not just the general lull after the festival season, but even during Durga Puja or Diwali, when consumers generally spend more on cloths, people spent conservatively this time.

This was also reflected in the quarterly results of Avenue Supermarts, which operates the DMart retail stores. The company said the FMCG and staples segment out performed the general merchandise and apparel segments during October-December. This mix deterioration due to tepid growth in apparel and general merchandise even hit the company’s margins during the quarter.

Analysts said high inflation impacted the discretionary spends in Q3, which surprisingly impacted even a “deep value retailer” like DMart.

According to a report by Kotak Institutional Equities, apparel and some other discretionary categories suggest a sharp drop in discretionary demand in the past few weeks. The slowdown in discretionary consumption is due to a combination of factors such as withering of pent-up demand, especially after the festive season, or elevated inflation hitting household savings. The brokerage does not see a rapid turnaround in demand, given the underlying economic challenges, but they expects in the staples volumes.

Iterating the same view, Mehta said while there has been a slowdown in demand in the apparel industry so far, people are also likely to remain wary in the coming months. ■

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mills, over 4,000 looms, and 2.5 million spindles. Indore houses over 1,200 units with apparel designing centers.

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Kashmir's pashmina shawls adorn with French-touch

Kashmir's famed pashmina shawls, known for centuries for their intricate *buta* or paisley patterns, got a French touch recently. Artist Maximilien Pellet turned the fabric into a canvas for contemporary art forms at a Parisian exhibition, in a rare bid to cater to Western sensibilities.

Mujtaba Qadri, owner of the label Me&K, introduced the pashmina shawls with modern art during the *Maison & Objet* exhibition held in Paris between January 19-23. "Pashmina – or cashmere as it's called in the West — is a fabric loved and respected the world over. That said, very few people are aware of the role Kashmir played in this legacy. Instead of restricting its usage and aesthetics within small elite circles, I wanted to give pashmina a more global flavour, infusing modernity and minimalism through the artist's signature," he told of late.

The transformation, where the shawls were adorned with abstract paintings rather than

embroidery, has re-introduced the fabric with new-age aesthetics. "The effort was one of a kind, taking art into utility and beyond," said Mr. Qadri, whose shawls evoked curiosity among fashion aficionados and locals.

The French artist Mr. Pellet described the art fusion with the Kashmir industry as an "honour" for his designs.

"I am more and more interested in the variation of my work with different techniques and different supports in order to break the border between art and design. When I have the opportunity to work in collaboration with quality craftsmen, it is an honour for my designs," Mr. Pellet told recently.

Mr. Pellet has been tracking the craft industry of Kashmir. "I was able to understand all the different stages of the work done by hand. It represents a real fascination. I have the impression that it is another relationship to time," he said. ■

Textile apparel units in many states issue Covid advisory to prevent resurgence of the pandemic

Labour-intensive textile, apparel, diamond and engineering units in states including Gujarat, Tamil Nadu and Maharashtra have issued advisories asking workers to abide by Covid-19 protocol so as to prevent a resurgence of the pandemic.

The development comes in the wake of reports of mounting cases of the infection in China.

The Surat Municipal Corporation held a meeting with representatives of textile and diamond trade to discuss the Covid-19 situation and said it is looking at how to provide booster doses to the workers. The diamond and textile units in Surat together employ about 2.8 million people. The Tiruppur Exporters Association issued an advisory to its 1.2 million workers and sought to allay fears about a fresh wave of the pandemic among migrant workers so that they do not leave their workplaces.

"The workers in Surat and Mumbai units have started observing the Covid-19 protocol. For the gems and jewellery industry, the news of Covid-19 in China has not been a good one and it will impact our exports in the current fiscal," said Vipul Shah, chairman, Gem & Jewellery Export Promotion Council. ■

Textile entrepreneurs opt for lower freight rate

Textile entrepreneurs have discussed key issues to bring in stability in the sector eyeing a reduction in cotton prices and freight charges, an industry official has said. Participating in an interactive session Coimbatore, around 120 managing directors of spinning mills discussed various issues including cotton prices and freight rates, according to Indian Textpreneurs Federation, the organisers of the event.

Sharing of benchmark numbers regarding productivity, cost reduction techniques, best practices to be adopted on periodic basis to improve manufacturing were some of the key points discussed. ITF convenor Prabhu Dhamodharan said. ■

APPLICATIONS OF AI IN TEXTILES

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Abstract

Various segments of labour-intensive textile industry are using Artificial Intelligence (AI) to increase quality & productivity and to provide textile products at competitive price. AI technologies like Artificial Neural Networks (ANN), computer vision, Machine Learning (ML), Computer Aided Design (CAD), robotics, Internet of Things (IoT) and others are being integrated in textiles. This increasing integration of AI in textiles will definitely reshape and increase growth of textile industry.

Keywords : AI, ML, CAD, IoT.

Introduction

Artificial Intelligence (AI) is the ability of computer or smart machine to do tasks which require human intelligence and discernment. The machines are programmed to think and work like humans. Term AI may also be used for machine having abilities like human mind such as learning, reasoning and problem solving. AI is based on the principle that human intelligence can be defined in way that a machine can easily mimic it and can execute most simple to more complex tasks. There are different AI technologies like machine learning, deep learning, robotics, artificial neural networks, speech recognition, natural language processing, biometrics and various others.

Textile industry has various segments like spinning, weaving, processing, garmenting etc. textile industry is a labour-intensive industry and hence there are huge chances of errors. Demand for quality products and quantity is increasing. So, textile industries are using AI to minimize faults, to reduce labour & production cost and to deliver products according to consumer preferences. AI is used in different segments of textile to provide quality products. Following is the discussion of some of applications of AI in textiles.

Applications

1. Fabric defect detection

Fabric may have defects like broken ends, broken picks, double end, double pick, float gout, holes and ladder etc. these defects reduce the value of the fabric. If a defect present in fabric passed into the final product, that product may get rejected. Therefore, fabric defect detection is important. Fabric defect detection is traditionally done by individual human works by using lighted tables with equipments wherein fabric is analysed to check its quality. Manual detection takes more time and human fatigue can allow defects to pass into the product. Vision based AI techniques can perform this task faster, with more accuracy.

2. Pattern inspection

Vision based inspection system is helpful to detect defects in patterns like weaving and knitting. Artificial Neural Network (ANN) techniques are used in these applications. Using different algorithms, ANN system is trained to analyse fabric picture obtained through image

acquisition system. The system learns fabric patterns and then can detect pattern defects.

3. Computer Aided Design (CAD) systems

In garment industry, one of the important steps is pattern making wherein designers design basic patterns and then those patterns are to be made on the fabric. Computer Aided Design (CAD) is a subset of AI that enables computerized pattern making. CAD softwares are useful for pattern making, digitizing, grading, marker planning and cutting patterns. To make visualization better, it provides 3D images of fabric and design.

4. Supply Chain Management (SCM)

SCM is important to manage the smooth flow of materials between different production points. Good SCM requires large storage space, better warehouse management, product segregation and better communication. AI can fulfil all these requirements through robotics, machine learning, internet of things and other technologies.

5. Production Planning and Control (PPC)

Main purpose of PPC is to co-ordinate between various departments of production so that delivery dates are met and orders are delivered in time. AI technologies based on statistics and machine learning are used in PPC. These technologies are useful in operation assignment, production planning, line balancing etc.

6. Merchandizing

Today, merchandisers have the opportunity to leverage far greater volumes of data in near time, allowing them to make more informed decisions, through the power of artificial intelligence. AI is allowing buyers and merchandisers to make intelligent decisions while using the best data available. They can find out exactly what sizes need to be available and where, and be able to predict future demand with increasing accuracy. This ultimately allows for buyers and merchandisers teams to improve their final margin and reduce waste.

Conclusion

Applications of AI in various segments of textile can increase quality and productivity. In coming years, increasing integration of AI in textile will definitely reshape and increase growth of textile industry.

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EFFECT OF PROCESS VARIABLES ON AIR-COVERED ELASTANE YARN CHARACTERISTICS

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Abstract

The effect of air pressure, delivery speed and nozzle diameter with each of the three levels in the air-covering machine on polyester and Lycra air-covered yarn has been investigated. The change in air-covered yarn properties like linear density, strength, elongation%, hot air shrinkage, boiling water shrinkage, and intermingling points with the change in air-covering machine process variables has been reported. The results showed that linear density and intermingling point of air-covered yarn increase while strength and elongation% decrease with an increase in air pressure and nozzle diameter. Hot air shrinkage and boiling water shrinkage of air-covered yarn are marginally influenced by the change in air-covering machine process parameters. The delivery speed had no noticeable effect on the characteristics of the air-covered yarn.

Keywords : Air-covered yarn, nozzle diameter, intermingling points, hot air shrinkage, and boiling water shrinkage.

Introduction

Elastic core-covered yarns are made by using different manufacturing techniques for different applications (1). The air-covering method is a relatively new technology for producing elastic core cover yarn. The processing settings and feed material attributes have an impact on the properties of the elastic core cover yarn. The manufacturing of high-quality elastane aircover yarn necessitates a full understanding of the processing factors and their impact on the yarn quality.

As overfeed to jet increases, the linear density of air-covered yarn increases. The linear density of air-covered yarn is less affected by machine delivery speed. With increasing delivery speed, overfeed to jet, air pressure, and Lycra draw ratio, the immediate elastic recovery of air-covered yarns diminishes. The number of nodes in yarn grows as delivery speed, overfeed to jet, air pressure, and Lycra draw ratio increase (2). Dorlastan® core spun yarns are used in denim fabrics as weft yarns with varying counts, elastane draws, and twist factors. The Dorlastan® ratio and yarn count are important factors in influencing elastic recovery (3). In core spun yarn with a core material like textured polyester, nylon filament, and Lycra, the core spun yarn containing Lycra has a lesser tenacity but a higher elastic rebound and hairiness (4).

In core-spun yarns, the spandex feed-in angle affects the stability of yarns. The greater the feed-in angle, the less the spandex will vibrate and the more stable it will be, as the spandex will be closer to the center position. The strength and stability of strands increase as the angle increases. The higher the draw ratio, the greater the yarn's elastic recovery. In Spandex/cotton elastic core spun yarn, a larger feed-in angle improves the cover effect, and a draw ratio of 3.5 improves dynamic elastic recovery. The larger feed-in angle improves the cover effect, and a draw ratio of 3.5 improves dynamic elastic recovery (5).

In the present work, an attempt has been made to measure the effect of air pressure, delivery speed, and nozzle diameter with each of three levels in the air-covering machine on Polyester and Lycra air-covered yarn properties like linear density, strength, elongation %, hot air shrinkage, boiling water shrinkage and intermingling points.

Material and methods

Textured Polyester of 166 dtex with 34 filaments and 44 dtex Lycra was used for the study. Taguchi L9 Orthogonal array experimental design was used to produce the elastic air-covered yarn samples, with varying air-covering machine process variables like air pressure, delivery speed, and nozzle diameter with three levels each as given in Table 1. Nine elastic air-covered yarn samples were produced as per the design of the experiment on the air-covering machine, keeping all the other process parameters and settings constant. The yarn samples were conditioned at $27\pm 2^\circ\text{C}$ and relative humidity of 65 ± 2 for 24 h. Yarn samples were tested for linear density, strength, elongation%, hot air shrinkage, boiling water shrinkage, and intermingling points. Minitab statistical software was used to analyze test results by using ANOVA- General Linear Model and the confidence level used was 95%.

Table 1
L9 Orthogonal array experimental design

Sample	Air Pressure (bar)	Delivery Speed (m/min)	Nozzle Diameter (mm)
S1	3	78	1.2
S2	3	118	1.4
S3	3	157	1.6
S4	4	78	1.4

EFFECT OF PROCESS VARIABLES ON AIR-COVERED ELASTANE YARN CHARACTERISTICS

S5	4	118	1.6
S6	4	157	1.2
S7	5	78	1.6
S8	5	118	1.2
S9	5	157	1.4

Result and discussion

The mean values of elastane air-covered yarn characteristics are linear density, strength, elongation %, hot air shrinkage, boiling water shrinkage, and intermingling points. of all the nine yarn samples are given in Table 2.

Table 2
Effect of air-covering machine process variables on yarn properties

Sample No.	Count (D)	Breaking load (gf)	Elongation %	Hot air shrinkage %	Boiling water shrinkage %	Intermingling points Nodes /inch
S1	166.83	615.68	21.53	14.10	3.12	5
S2	168.14	591.87	18.85	14.62	3.86	7
S3	170.90	560.54	19.07	13.93	3.48	8
S4	170.08	562.77	18.52	14.48	2.92	7
S5	170.47	538.95	18.27	14.43	2.98	8
S6	167.19	585.17	19.294	14.26	2.98	8
S7	169.63	514.36	16.38	13.97	2.64	9
S8	167.72	568.48	18.45	14.67	2.88	10
S9	170.91	557.77	18.80	15.20	2.74	11

Effect of air-covering machine process variables on elastane air-covered yarn linear density

Figure 1 and Table 2 show the effect of air-covering machine process variables on elastane air-covered yarn linear density.

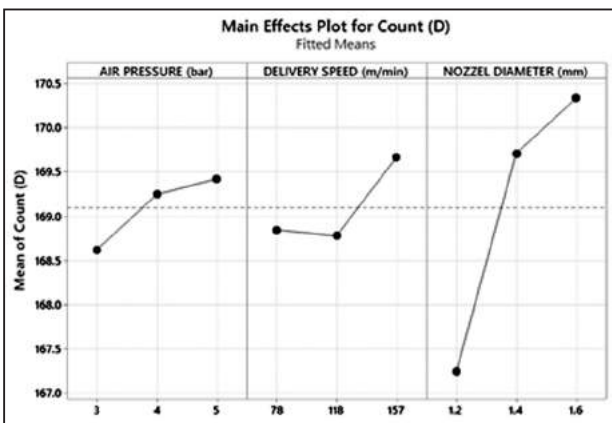


Figure 1: Effect of air-covering machine process variables on elastane air-covered yarn linear density.

As the air pressure increases elastane air-covered yarn linear density increases. This is because of increase in air pressure increases the loop density and elastane air-covered yarn becomes coarser. An initial increase in delivery speed shows a marginal decrease in linear density but a further increase in delivery speed shows a noticeable increase in linear density of elastane air-covered yarn. The linear density of elastane air-covered yarn increases as the nozzle diameter increases. This is due to the increase in elastane air-covered yarn bulkiness because of an increase in intermingling points as the number of nodes increases.

Effect of air-covering machine process variables on elastane air-covered yarn strength

Figure 2 and Table 2 show the effect of air-covering machine process variables on elastane air-covered yarn strength.

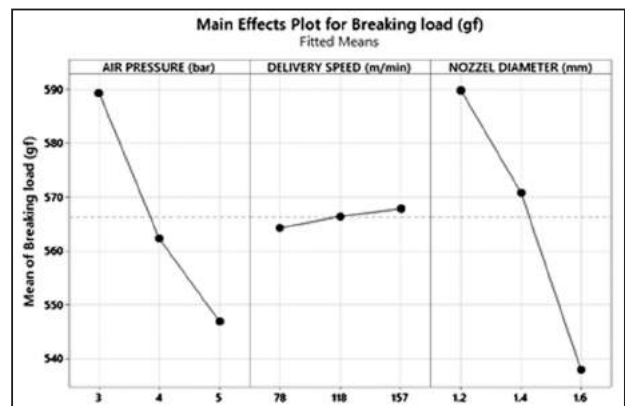


Figure 2: Effect of air-covering machine process variables on elastane air-covered yarn strength.

An increase in air pressure shows a decrease in breaking load. This is due to the increase in air pressure decreases the Lycra content and increases the polyester content, increasing bulkiness. Tenacity decreases as yarn bulkiness increases. Change in delivery speed shows a marginal increase in the breaking load. This may be because of less time the yarn remains in the air jet nozzle reducing loop density and increasing Lycra content in the elastane air-covered yarn.

A decrease in breaking load was observed with an increase in the nozzle diameter. As the area of the nozzle increases with increasing diameter, the yarn becomes bulkier and its tenacity decreases.

Effect of air-covering machine process variables on elastane air-covered yarn elongation

Figure 3 and Table 2 show the effect of air-covering machine process variables on elastane air-covered yarn elongation.

EFFECT OF PROCESS VARIABLES ON AIR-COVERED ELASTANE YARN CHARACTERISTICS

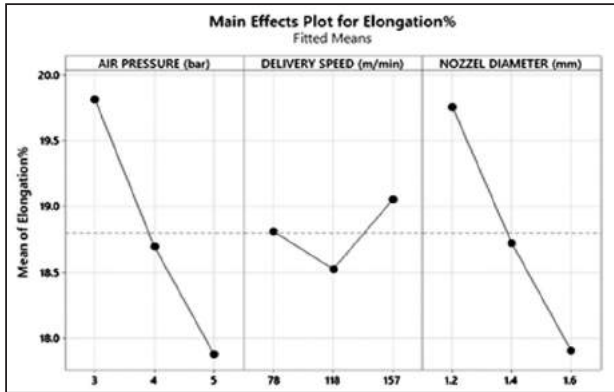


Figure 3: Effect of air-covering machine process variables on elastane air-covered yarn elongation.

As the air pressure increases the elongation% of elastane air-covered yarn decreases. This is because of the increase in loop density which increases the binding points making the yarn less flexible and extensible.

Change in delivery speed shows a marginal change in elongation% of elastane air-covered yarn. An initial increase in delivery speed shows a marginal decrease and a further increase in delivery speed shows an increase in elongation% of elastane air-covered yarn. This may be because of less time the yarn remains in the air jet nozzle reducing loop density and increasing Lycra content in the elastane air-covered yarn.

A decrease in elongation% was observed with an increase in the nozzle diameter. As the volume of the nozzle increases with increasing diameter, the yarn becomes bulkier, and its elongation% decreases.

Effect of air-covering machine process variables on hot air shrinkage in elastane air-covered yarn

Figure 4 and Table 2 show the effect of air-covering machine process variables on hot air shrinkage in elastane air-covered yarn.

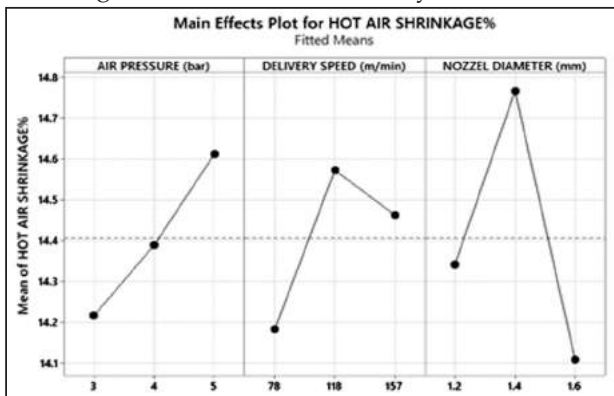


Figure 4: Effect of air-covering machine process variables on hot air shrinkage of elastane air-covered yarn

An increase in the air pressure shows the increase in the hot air shrinkage of elastane air-covered yarn. This is because of increase in air pressure increases the yarn bulkiness and Lycra core yarn content. Due to the increase in Lycra core yarn content, the elastane air-covered yarn hot air shrinkage increases with an increase in air pressure. An initial increase in delivery speed shows increases the hot air shrinkage, but a further increase in delivery speed shows a marginal decrease in shrinkage. This may be because of less time the yarn remains in the air jet nozzle reducing loop density and increasing Lycra content in the elastane air-covered yarn which reveals an increase in hot air shrinkage.

An initial increase in nozzle diameter increases the hot air shrinkage, but a further increase in nozzle diameter shows a decrease in the shrinkage. This may be with an initial increase in nozzle diameter, the volume of the nozzle increases and the yarn becomes bulkier, and Lycra content increases. The increase in Lycra content increases the hot air shrinkage of elastane air-covered yarn. Further increase in nozzle diameter increases the yarn bulkiness and loop entanglements which results in a decrease in the hot air shrinkage of elastane air-covered yarn.

Effect of air-covering machine process variables on boiling water shrinkage in elastane air-covered yarn

Figure 5 and Table 2 show the effect of air-covering machine process variables on boiling water shrinkage in elastane air-covered yarn.

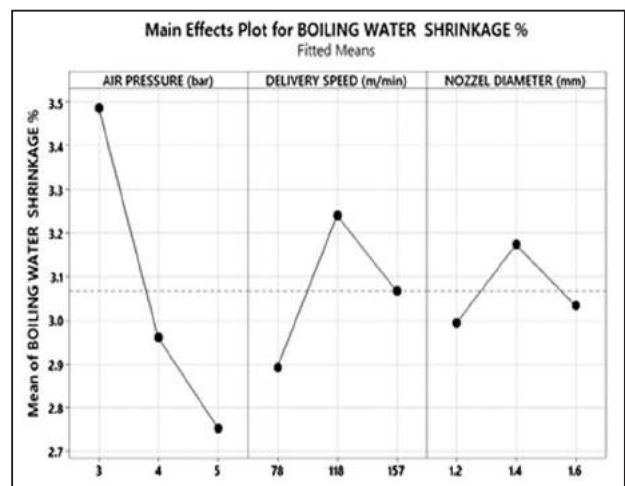


Figure 5: Effect of air-covering machine process variables on boiling water shrinkage of elastane air-covered yarn

An increase in the air pressure shows a decrease in boiling water shrinkage in elastane air-covered yarn. This is because of an increase in loop density and binding points in elastane air-covered yarn with an increase in air pressure.

An initial increase in delivery speed shows increases in boiling water shrinkage, but a further increase in delivery speed shows a marginal decrease in shrinkage. This may be because of less time the yarn remains in the air jet nozzle reducing loop density and increasing Lycra content in the elastane air-covered yarn which reveals an increase in boiling water shrinkage.

An initial increase in nozzle diameter increases the boiling water shrinkage, but a further increase in nozzle diameter shows a decrease in the shrinkage. This may be, with an initial increase in nozzle diameter, the volume of the nozzle increases and the yarn becomes bulkier, and Lycra content increases. The increase in Lycra content increases the boiling water shrinkage of elastane air-covered yarn. Further increase in nozzle diameter increases the yarn bulkiness and loop entanglements which results in a decrease in the boiling water shrinkage of elastane air-covered yarn.

Effect of air-covering machine process variables on intermingling points in elastane air-covered yarn

Figure 6 and Table 2 show the effect of air-covering machine process variables on boiling water shrinkage in elastane air-covered yarn.

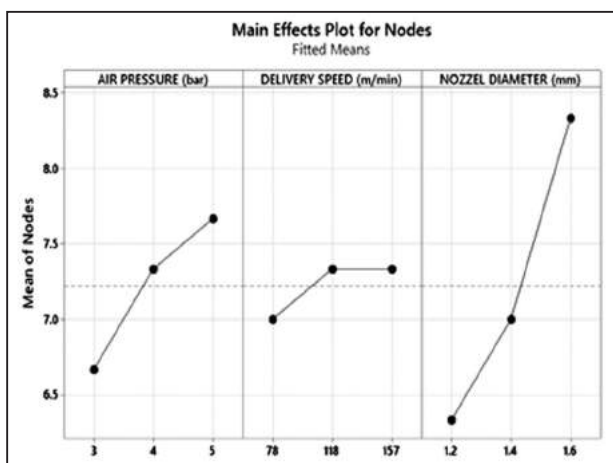


Figure 6: Effect of air-covering machine process variables on intermingling points in elastane air-covered yarn

An increase in air pressure increases the intermingling points (nodes). As the air pressure

increases the nodes increases with the same over-feed length of filaments with a decrease in loop size. The increase in delivery speed shows a marginal change in nodes in elastane air-covered yarn. An increase in nozzle diameter shows an increase in nodes. The linear density of elastane air-covered yarn increases as the nozzle diameter increases due to the increase in bulkiness. An increase in elastane air-covered yarn bulkiness increases the intermingling point in elastane air-covered yarn.

Conclusion

Analysis and discussions on the test data obtained in this study led to the following conclusions.

- ❖ Elastane air-covered yarn linear density increases and strength and elongation decrease with an increase in air pressure and nozzle diameter.
- ❖ Hot air shrinkage and boiling water shrinkage are both influenced by the elastane air-covered yarn process parameters under study.
- ❖ The intermingling point increases as air pressure and nozzle diameter increase.
- ❖ The delivery speed had no evident effect on the characteristics of the air-covered yarn.

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APPLICATION OF CONDUCTIVE POLYMER ON TEXTILES

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Abstract

In the new era of E-textile of micro and nanotechnologies, and driven by the need to increase the value of conventional textile products, fundamental and applied research into smart textiles, and high-tech textiles have recently flourished. Textiles are used as a conductive material due to their several advantages such as strength, lightweight, flexibility, porous, drape, comfort, economical and durability which are suitable or required for several applications. Hence, conductive polymers are applied on textile fibres which makes more effective conductive textiles.

Keywords : *Conductive, Electronics, Fibres, Polymers, Textiles.*

1. Introduction

With the rapid development of the electrical and particularly, the electronic industry, flexible electrical conducting and semiconducting materials such as conductive polymers, conductive fibres, threads, yarns, coating and ink are receiving widespread attention. Electrically conductive textiles make it possible to produce interactive textiles. They can be used for communication, entertainment, healthcare, safety, homeland security, computation, thermal purposes, protective clothing, and wearable electronics & fashions [1]. Textiles are used as a conductive material because of several advantages as clothes and are unique in several aspects. They are extremely versatile in products as well as processes. They are playing a more and more important role in realizing strength, high surface-to-mass ratio, lightweight, flexibility, resistance to chemicals, durability against deformation, harsh environmental conditions, and formability to desired product [2, 3].

In general, for the development of conductive materials cotton, acrylic, wool, silk, polyester, and nylon 6, fibres are reported. Electrically conductive textiles are commonly produced by a core-spun method where metallic wires are wrapped with textile fibres, incorporated with conductive fillers or coated with carbon/metal powders, however, the metal-based conductive textile has the disadvantages of limited mechanical properties like flexibility, heavyweight, corrosion and hence to overcome these shortcomings, textile substrates are incorporated with an intrinsically conducting polymer (ICP). Conductive polymers offer an

interesting alternative to coated or filled plastics and textiles [4].

Conjugated polymers

Polymers, either natural or synthetic, are large molecules (macromolecules) comprised of small building blocks or repeating units connected by covalent bonds. These repeating units are called monomers. Polymeric materials are usually used as insulators because of their higher electrical resistance values (10-18 S/cm) [21]. However, after the revolutionary invention of poly(acetylene) as a highly conductive organic material in 1977 [22], a particular class of polymers called conjugated polymers or intrinsically conductive polymers could be differentiated from the rest. Later on, the Nobel Prize in Chemistry in the year 2000 was awarded to Hideki Shirakawa, Alan J. Heeger, and Alan MacDiarmid for their extraordinary breakthrough. Conjugated polymers, also known as synthetic metals, can conduct electricity because of the presence of alternating carbon-carbon double bonds along with the backbone structures of these polymers, which enable the overlapping of π -orbital along the molecule [23]. Due to their electron-transport characteristics, ICPs are regarded as semiconductors or even sometimes conductors.

During the last few decades, ICPs have attracted an overwhelming amount of interest around the world and considerable developments in this field have been made. It shows the chemical structures of some of the most studied conjugated polymers. Intrinsically conductive polymers, because of their broad range of conductivities and possible uses in several electronics and optoelectronics applications, can replace the conventional used metallic materials [24-32].

Conductive polymers have been extensively explored during the last several decades because of their excellent electronic, and physical properties and chemical stability which are due to their unique double-conjugated systems and switchable conductivity between metal and insulator. The advantages of conductive polymers are ease of varying their conductivity as a function of the amount of the doping agent, i.e. the degree of doping, especially within low conductive ranges. The electric properties of polymers are essential for their successful application in the electronics industry. There is an ever-increasing demand for polymers which show antistatic behaviour [5].

In recent years, electrically conducting polymers and polymer-based conductive composites have gained popularity for EMI shielding applications because they have distinct advantages over conventional metals such as lightweight, corrosion resistance and flexibility, lower cost, etc. These polymers are employed as packing materials for microelectronic devices that are sensitive to electric discharges. The use of modern organic conductors as fillers for the production of antistatic polymers is advantageous, especially for the formation of films. [6, 7]

The various conductive polymers such as poly (acetylene), poly (aniline), poly (pyrrole), poly (fluorine), poly (thiophene), poly (3-semiconducting), poly (tetrathiafulvalenes), polynaphthalenes, poly (p-phenylene sulfide), and poly (para-phenylenevinylene)

2.1 Classification of conductive fibres

Conductive fibres can be divided into two categories :

1) Naturally conductive fibres (Inherently conductive)

The fibres that can be produced purely from inherently conductive materials, such as metals, metal alloys, carbon sources, and conjugated polymers (ICPs), are associated with the class of natural conductive fibres. In their pure form, these fibres have high conductivity values. A short description of each type is given below :

a) Metallic fibres

Metallic fibres, as suggested by the name, are the first man-made fibres to be developed from metals or metal alloys. These fibres have very thin metal filaments with diameters ranging from 1 to 80 μm , which can be produced by the bundle-drawing or shaving process. Metallic fibres have very high conductivity (106 S/cm) with a wide range of mechanical properties. Even though they have extraordinary electromechanical properties, metallic fibres have limited textile applications because of their low flexibility, stiffness, high weight, high cost, low compatibility with other materials, and poor weaving properties [62].

b) Carbon fibres

Carbon fibres, which were invented by Edison in 1879, are used as the most demanding materials in high-tech industrial applications such as structural composites in aerospace, transportation, and defence-related products. Carbon fibres are petroleum-based products and they can be produced from

petroleum pitch and polyacrylonitrile (PAN). The heat treatment of PAN, also called graphitization, strongly influences the electrical and mechanical properties of carbon fibres. Carbon fibres have a graphite structure, which means that they have conductivity values similar to those of metals, i.e. 104–106 S/cm. Carbon fibre composites are usually appropriate for structural applications when high strength, stiffness, lower weight, and extraordinary fatigue characteristics are required. For smart and interactive textile applications, carbon fibres cannot be easily integrated into knitted or woven structures because of their high stiffness and brittleness. Also, aesthetic considerations and health-related issues are strong reasons for the use of carbon fibres being limited in the clothing industry.

c) Conjugated polymer fibres

Conjugated polymers or ICPs are organic materials that conduct electricity. Due to their high conductivity, lower weight, and environmental stability, they have a very important place in the field of smart and interactive textiles. Several attempts have been made to produce conductive fibres that are wholly based on ICP. Conductive fibres produced by polyaniline and PEDOT: PSS fibres, respectively, by using a one-step wet-spinning process. However, it is very difficult to use these fibres for interactive applications. The major reasons are poor mechanical strength, brittleness, a lower production rate, and difficulty processing. The production of pure PEDOT fibres with high conductivity values, from 150 to 250 S/cm, by a chemical polymerization method has also been reported, but due to their micro-scale size and brittle nature, useful applications could not be found.

2) Treated Conductive Fibres (Extrinsically Conductive)

The conductive fibres that can be produced by the combination of two or more materials, such as non-conductive and conductive materials, are known as treated conductive fibres or extrinsically conductive fibres. Special treatments involve the mixing, blending, or coating of inherent insulating materials such as polyethylene (PE), polypropylene (PP), polystyrene (PS), or textile fibres with high conductive materials such as metals, carbon black, or ICPs. The conductive fibres obtained, also known as conductive polymer composites (CPCs), can have a combination of the electrical and mechanical properties of the treated materials. These fibres can be classified further:

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a) Conductive-filled fibres

Conductive-filled fibres are a class of conductive fibres that can be produced by adding conductive fillers such as metallic powder, carbon black, carbon nanotubes, or conjugated polymers to non-conductive polymers such as PP, PS, or PE [50]. Usually, melt spinning and solution spinning techniques are used to produce filled conductive fibres. However, to get a homogenous distribution of conductive particles or ICPs in polymers, the parent materials are well mixed before the spinning process. However, the conductive fibres produced by the solution spinning process have better electrical properties than those produced by the melt spinning process, but the need for large quantities of solvents, their separation, and possible health hazards have made this process obsolete [22]. The electrical conductivity values of melt-spun conductive fibres strongly depend on two parameters: volume loading of filler and filler shape. The fibrous conductive filler can give higher conductivity in melt-spun fibres than irregular and spherical particulates [11]. The melt spinning process is the most economical and least complex process for the production of filling conductive fibres, but the lower electrical and mechanical properties of conductive fibres limit their use in smart and interactive textile applications.

b) Conductive-coated fibres

The conductive fibres that can be produced by coating insulating materials with highly conductive materials, such as metals, metal alloys, carbon black, carbon nanotubes, and ICPs, is known as conductive coated fibres. With coating processes, not only can the highest conductivities be achieved but also the mechanical properties of conductive fibres can be enhanced

The emerging field of interactive textiles and smart fabrics has recently attracted attention to electrically conductive fibres. They are now being explored in different applications such as heat generation, electromagnetic interference shielding, electrotherapy, and electrostatic discharge protection.

The methods for manufacturing traditional conductive textiles rely on the inclusion of metal in the forms of fibres, yarns and metal salts. The metal-based conductive textiles add weight burden, affect flexibility, and invariably offer metallic properties detrimental to feel, comfort and aesthetic aspects. Many of the shortcomings of conventional metal-

based textiles can be overcome by incorporating textile substrates with a unique class of materials—intrinsically conductive polymers (ICP).

2.2 Synthesis of Conductive polymers

Polypyrrole

Polypyrrole Synthesis Chemistry

Pyrrrole can be readily oxidized to form a polymer which consists of highly conjugated chains of pyrrole linked typically by 2,5 linkages. The polymerization can be achieved in several ways, but common methods include electrochemical oxidation of a solution of pyrrole; in which case a polymer film is obtained for a suitable electrode material or chemical treatment. Commonly pyrrole is prepared by reaction with ferric chloride; in such cases, the resulting material is typically produced as a powder. Pyrrole itself is soluble in a range of organic solvents and is even soluble to a limited extent in water, it also has a relatively high vapour pressure at room temperature (boiling point 131), and thus it can be handled relatively easily, although it is moderately toxic.

Studies carried out by Saut C. et al shows the electrospinning method to produce Ppy-P (AN-co-VAC) composites in a very homogeneously dispersed solution medium. In their experiment, Cerium ammonium, Nitrate, nitric acid, Dimethylformamide (DMF), Acrylonitrile, and Pyrrole was used. Characteristics of nanofibres were observed by FTIR, SEM, and AC conductivity of nanofibres measurement using a Novo control broadband dielectric spectrometer. Due to the high oxidation potential of Ce (IV), a well-dispersed reaction medium, resulting in a homogenous Ppy was obtained. The diameter of P (AN-co—VAC) nanofibres depends on the initial addition of concentrations. The polymerization of pyrrole induces the formation of a more efficient network for charge transport in the P (AN-co-VAC) matrix and it gives higher conductivity. [8]

Madaeni SS has studied the preparation and properties of composite membranes composed of non-conductive membranes and polypyrrole. In this work, they have prepared a conductive composite membrane by oxidation of pyrrole in the commercial membrane matrix, i.e. coating the polypyrrole on the PVDF support which was a microfiltration membrane. Ferric ions and ascorbic acid were used as polymerization oxidation agents, respectively. Two different procedures were applicable, immersing the

nonconductive membranes equilibrated with a ferric chloride solution. The surface resistivity of the membrane was measured using an ohmmeter. The performances of the prepared membranes were characterized by filtration of BSA (bovine serum albumin-charged protein) solution through the membrane. It was observed that higher fluxes and higher rejections were obtained for conductive membranes compared to a non-conductive membrane in the same condition. The electrostatic partial repulsion of BSA from the membrane surface or membrane matrix was responsible for this behaviour. [11]

Polyaniline

The polyaniline (PAn) nanofibres were synthesized by using high gravity, chemical oxidative polymerization (HGCOP) in a rotating packed bed (RPB) for the first time with a wide range of aniline concentration and reaction temperature. In this experiment, aniline, ammonium peroxydisulphate ($(\text{NH}_4)_2\text{S}_2\text{O}_8$), and Perchloric acid (HClO_4), were used for the synthesis of PAn nanofibres. The characterization of these nanofibres was studied by scanning electron microscope (SEM), Fourier transforms infrared spectroscopy (FTIR), UV-visible absorption spectroscopy (UV-vis), X-ray diffractometry, Gel permeation chromatography (GPC) and the conductivity measured by using a four-probe method. [13]

The synthesis of polyaniline (PAn) hierarchical structures in a dilute SDS/HCL solution of nanostructure-covered rectangular tubes. They have reported the synthesis of nanostructure-covered rectangular submicrotubes of polyaniline in the doping state via the oxidation polymerization of aniline in the acidic solution of anionic surfactant. The synthesis of polyaniline was carried out at room temperature (25°C) in dilute sodium dodecyl sulfate (SDS)/HCl aqueous solution and this reaction route are very convenient and low-cost from a chemical point of view. [18]

PANI is synthesized by using a dilute acidic solution of oxidation agents such as ammonium persulfate, potassium dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$), hydrogen peroxide (H_2O_2), etc. -The efficient polymerization of aniline is achieved only in an acidic medium, where aniline exists as an anilinium cation. A variety of inorganic and organic acids such as hydrochloric acid (HCl), sulfuric acid (H_2SO_4), nitric acid (HNO_3), etc., have been used in the syntheses of PANI. The solubility, conductivity,

and stability of PANI largely depend on the acid, which is used during the synthesis of PANI. pH has a crucial role in conductivity and it has been found that there is no conductivity when the solution has a pH value of 3 or higher. [19, 20, 60]

A new strategy to control the cross-linking of polyaniline allows the synthesis of high molecular-weight conducting copolymers. This new method utilizes aniline formaldehyde condensates (AFC) to establish the upper limit of possible cross-link sites in an AFC- polyaniline copolymer. By changing the ratio of AFC to aniline during the polymerization reaction, it was possible to control the number of cross-linking sites and in turn the bulk conductivity and molecular weight. The copolymer was obtained by oxidizing aniline in the presence of AFC where aniline was oxidized to form polyaniline through the cation radical mechanism with varying composition ratios. The conducting form of the polymer was obtained by acidification of polymer with HCl and measurement done by NMR spectra, FTIR spectra and UV- vis spectra. Also, the molecular weight of the polymer was determined on Waters chromatographs. It was observed that AFC acts as a terminating agent in the polymerization process and as it terminates many polyaniline chains, the resulting copolymer has a branched structure.[21]

The supercapacitor properties of materials derived from polyaniline doped by phosphoric acid were studied. Supercapacitor devices consisting of polyaniline on SS electrodes are fabricated and tested for their electrical properties. The effect of surfactant, Cetyltrimethylammonium Bromide (CTAB) on the properties of the capacitor was also studied. The synthesis of polyaniline was performed using chemical and electrochemical synthesis in the presence and absence of CTAB. They have observed lower capacitance values due to the over-oxidation of polymers and the presence of impurities. The electrochemically grown sample exhibited higher capacitance values compared to the chemical synthesis sample. Among electrochemically fabricated devices, supercapacitor devices, supercapacitors with CTAB show higher capacitance values as compared to the ES-PAn-PA capacitor.[24]

2.3 Properties of Conductive polymers

The thermal, spectroscopic and electrical transport properties of processable poly (aniline-co-alkyl aniline) copolymers. They have examined

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the copolymerisation of aniline in the presence of Alkykaniline as comonomers to prepare conductive copolymers of poly (aniline-co- Alkykaniline) type, via the chemical oxidation polymerization route. These copolymers can be coated on insulating surfaces and can be used for corrosion prevention of iron and mild steel under hostile conditions and its application as corrosion inhibitors. The polymerization was initiated by ammonium peroxydisulfate. The characterization of samples was done using XRD, TGA, SEM, and UV-visible spectrophotometer and conductivity were measured by four point-probe methods. It examined, the copolymers of poly (aniline-co- Alkykaniline) improved solubility over polyaniline, even in a doped state and at the low concentration of alkyl aniline moieties in the backbone. It increases solubility without significant loss in electronic conductivities and thermal stabilities. [25]

Ray D. et al [27] have studied the structural and low-frequency dielectric of conducting polymer nanocomposites. The intrinsically conducting polymer polyaniline [PAn] -PVP (0.05m) chemically synthesized by in-situ polymerization of aniline in an aqueous acidic(HCl) medium by using water-soluble support polymer poly (vinyl pyrrolidone) (PVP) and ammonium peroxydisulphate as an oxidant. The characterization of the sample was observed by using X-ray refraction, TEM and SEM and the temperature and frequency dependence of the capacitance and loss tangent of the sample was measured using an LCR meter. It was observed from the XRD that, the sample showed the polymeric nanocomposite was crystalline with an orthorhombic phase. The TEM micrograph of PVP-supported Pan microparticles varies from fine grain-like morphology to somewhat spherical. The SEM micrograph showed a hollow, isotropic morphology. The frequency of the modulus spectra was found with an activation energy of 0.07 eV. These results suggested that there was an increased coupling among the bipolar motion.

Jain N. et al [29] have studied the measurement of thermal properties of polyaniline salt from room temperature 30 to 140°C. The variation in effective thermal conductivity and effective thermal diffusivity of PAn Salt (doped with HCl) in the temperature range of 30 to 140°C at normal pressure using the transient plane source technique was studied. The redox polymerization of aniline using ammonium peroxydisulphate was prepared. The characterization of samples was done using

FTIR spectra. It was observed that the variation in effective thermal conductivity and effective thermal diffusivity of PAn Salt with temperature was due to decreased moisture content and conversion of single-phase crystalline structures into multiphase crystalline structures respectively.

2.4 Various Methods of Manufacturing Conductive Textiles

Deposition of conductive polymers on textiles

Varesano A. and Tonin C. [31] have studied improving electrical performances of wool textiles and the synthesis of conducting Polypyrrole (Ppy) on the surface of the fibre. They worked on the chemical oxidative synthesis and deposition process of Ppy on textile-based on animal fibres (wool) for improving the electrical properties of conductive composite textiles. The samples were observed using a scanning electron microscope. It was observed that the treatment of loose fibres with Ppy leads to the production of a wide variety of conductive wool textiles with different electrical and thermal properties and it also enhances the deposition of conducting polymers. The wear performances of knitted wool fabric treated with electrically conductive Ppy open for potentially producing a composite material for a conventional and innovative application.

Jin X. et al [32] have studied the diffusion-deposition of Polyaniline onto textiles with high electrical conductivity and improved adhesion. In this study, PET fibres and Nylon fabrics were chosen as a substrate for polyaniline deposition by the diffusion-deposition method and HCl was used as a dopant. The conductivity of the composites doped with HCl compared with three organic sulfonic acids. The characterization of this composite was observed by SEM, X-ray diffraction, and Differential scanning calorimeter. For this study, they observed that the conductivity of the composites doped with three organic sulfonic acids 1 or 2 orders of magnitude lower than doped with HCl and the conductivity and interfacial adhesion of composites was improved significantly and also improvement in properties of composite textiles.

Avloni J. et al [33] have investigated polypyrrole-coated nonwovens for electromagnetic shielding. The attenuation of electromagnetic waves with Ppy-coated polyester nonwoven fabrics, prepared with a modified formulation giving superior stability and conductivity was studied. The shielding effectiveness evaluation on several samples with

different surface conductivity was obtained by processing the insertion loss data measured on a dual transverse electromagnetic cell. It was observed that the Ppy fabrics confirmed their greater capability of absorbing electromagnetic radiation and also increased shielding effectiveness which can be determined by increased electrical conductivity in the coating. Ppy-coated fabrics have the advantage of relative shielding efficiency that can be easily controlled by changing the surface electric resistance.

By printing method:

Bidoki S. et al [36] have performed ink-jet printing of conductive patterns on textile fabrics. They showed the feasibility of ink-jet technology to deliver an aqueous metal salt solution and an aqueous solution of reducing agent to print highly conductive patterns with low contact resistance, good adhesion and good resolution on various substrates such as paper, Polyethylene Terephthalate plastic sheets and textile fabrics. It was observed that ink-jet printing was much simpler, environmentally and user-friendly and capable of producing conductive patterns in ambient conditions and also it was one of the most convenient methods of inserting conductive materials into textile texture compared to conventional methods.

2.5 Properties of Conductive Textiles

Xue P. et al and Kim B. et al [39, 40] have evaluated the electrochemical behaviour of fibres coated with an electrically conductive polymer. In this paper, sensing behaviour and mechanical analysis of polymers coated with an intrinsically conductive polymer, i.e. Polypyrrole (Ppy) were investigated. Two fibres were used such as PA6 fibres and Lycra fibres for Ppy coating using the chemical vapour deposition method in the presence of FeCl_3 as an oxidizing agent. For measuring the electrical conductivity of the sample using the four-probe method of Keithley 2010 multimeter and also load and deformation tested on the Instron mechanical system. From this study, it was found that in the same sample preparation conditions, the Ppy-coated PA6 fibres possessed a higher conductivity, good sensing performance, and were much smoother than the Lycra fibres. The resistant variation of the Ppy-coated PA6 fibres results from changes in the dimensions of the fibre and in contrast, the resistance variation in Lycra fibres was mainly attributed to damage to the coating layer. The electromechanical model developed in

this paper successfully correlates the resistance change to applied strain, the damage level of the fibres and the temperature and RH, which provides a theoretical basis for the analysis and design of electrical conductive fabrics.

2.6 Application of conductive Textiles:

Wearable sensors A sensor can be defined as "a device which can identify or measure some conditions or properties and can record, indicate, or otherwise react to the information received [59]. So, sensors can transform external stimuli into a measured signal. For textile applications, sensors should have a fibrous shape and an electrical output, which give the advantages of flexibility, easy integration, and long sensing lines Depending on the electrical conductivity values (10-8 S/cm to 105 S/cm), polymer-based electro-active fibres are being widely used as sensors to calculate humidity, temperature, pressure, the concentration of chemicals, and the intensity of light. Conductive fibres as wearable, sensitized systems can be classified into two categories: active sensors and passive sensors. Active sensors can intrinsically transform the input energy into a useful electrical potential difference. On the other hand, those sensors that convert the input signals into usable output signals, with the help of an external power source, are known as passive sensors. They usually work according to the change in electrical properties in response to an applied stimulus [1]. To use conductive fibres for biomedical applications, they can either be directly integrated into the wearable garments in fibrous form or a more flexible knitted or weaved structure can be made, as shown in it. A 1×1 rib-knit structure shows greater elasticity than other knitted patterns, such as plain and purl. Thus, in this thesis work, rib-knit structures were preferred to check the stretch-sensing properties of conductive yarns.

Jolly R. et al [42] have studied heating panels obtained from conductive textiles by Polypyrrole deposition. For the synthesis of Polypyrrole in an aqueous or alcoholic solution, the electrochemical or chemical method was used and the conductive textiles were obtained by coating either in an aqueous solution containing the pyrrole monomer, FeCl_3 , or alcoholic solution containing the monomer and the dope and then in an aqueous solution containing the oxidant. Synthesis conditions were optimized and the process for making an electrical connection has proposed the evolution in time

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of the performances of this heating element was studied for some time greater than 500 days and compared to the previously established predictive models. Finally, it was observed that increasing the stability in a time of the heating element produced from Polypyrrole coated textiles have been evaluated.

Another key advantage is that the fibres can be made fully polymeric (no metallic electrodes) and very soft for applications in wearable sensing. Because of the fibre's relatively high capacitance (60-100 nF/m), it can be also used for energy storage applications. In terms of capacitance out fibres take an intermediate position between the coaxial cables and supercapacitors. Thus, the capacitance of a coaxial cable with comparable parameters is typically 1000 times smaller than that of our fibres.

Dhawan S.K. et al [43] have studied conductive fabrics as a shield against electromagnetic interference. This paper included the method to design and develop a highly flexible EMI shielding material based on the newly emerging technology of in situ grafting of conducting polymers onto insulating surfaces such as fabrics. The formation of all conducting polymers occurs by the generation of cation radicals of intermediate stability, these cation radicals of intermediate stability get adsorbed on the surface and the interstices of fabrics. The testing of the sample was carried out using SEM, electrical conductivity was measured by the two-probe method and the co-axial transmission line method was used for measuring the shielding effectiveness of conducting polymer. It was observed that the grafted conducting fabrics can be used for antistatic material and the storage of IC chips in software and it is used to control radio frequency range and also improve existing material that not only should have high environmental stability and high electrical conductivity but also should not degrade at high temperature.

The chemical properties, and conducting polymers make them very useful for use in sensors. This utilises the ability of such materials to change their electrical properties during reaction with various redox agents (dopants) or via their instability to moisture and heat. An example of this is the development of gas sensors. It has been shown that polypyrrole behaves as a quasi 'p-type material. Its resistance increases in the presence of a reducing gas such as ammonia and decreases in the presence of an oxidising gas such as nitrogen

dioxide. The gases cause a change in the near-surface charge carrier (here electron holes) density by reacting with surface-adsorbed oxygen ions. [56]

Kumar M. et al [44] have evaluated the preparation and characterization of a solid supercomputer based on a polyaniline- Al_2O_3 layer on aluminium alloy. They studied the constant current method for preparing the solid-state supercapacitor. Three stages were observed in the potential-electrolysis time relation for the simultaneous preparation of the dielectric layer and the conducting polymer on the aluminium foil. The deposition of polyaniline on aluminium foil was carried out by the galvanostatic method. The characterization was done by optical microscope and AC impedance spectroscopy. It was observed that the capacitor shows good capacitance, ranging from 450 to 600nf/cm², a low time constant and also very low resistance hence this solid-state capacitor can be used for the DC-DC converter modules.

X. Cheng et al [45] have studied the polypyrrole-coated strain sensor. In this paper, they have studied the deposition of nanolayer (200 nm-300 nm) of Ppy on the fabric substrate at low temperatures. The thickness and morphology of the conducting thin film on the surface of fibres were examined by scanning electron microscope. The fabricated sensor shows both high strain sensitivity for large deformation and good environmental stability.

Dandekar S S and Kelkar D S [46] have investigated the application of polypyrrole as an electromagnetic interference shielding. Pyrrole has been polymerised chemically using FeCl_3 as an oxidising agent on nylon-6 film. The electromagnetic interference was conducted on this polypyrrole film fabricated into a square shape. The frequency range of 100 to 1000MHz as per MIL STD-285 was used for testing. The results showed quite encouraging and higher attenuation was the possible provided thickness of the sample when increased. The increasing interest in so-called smart garments has resulted in an increased demand for fibrous electronics. An element of each smart garment is transmission lines having the form of conductors connecting individual electronic systems implemented in the garment. In presently manufactured smart garments, conventional electronic elements and circuits and conventional conductors for their interconnection are normally used. This imparts considerable rigidity to such a garment in the locations of positioning both

the electronic elements and the conductors that interconnect them. The progressing digitalisation of electronic systems and the constant increase in the frequency of their operation have made the signals transmitted by those systems distinguished by a high-frequency and/or a wide-frequency spectrum. Conventional conductors (transmission lines) used for the transmission of such a type of signal are characterized by considerable width and rigidity. This largely limits the potential for their use in smart clothing. A model for selected electric properties of textile transmission lines was developed as a tool in the design of new textile transmission lines characterized by a 50-ohm impedance. Hence the minimum application of aniline and polypropylene. [57]

Conclusion

With the rapid development of the electrical and, in particular, the electronic industries, flexible electrical conducting and semiconducting materials such as conductive polymers, conductive fibres, threads, yarns, coating, and ink are gaining widespread attention. They can be used for communication, entertainment, healthcare, safety, homeland security, computation, thermal purposes, protective clothing, and wearable electronics and fashions. Textiles are used as a conductive material because they have several advantages as clothing and are unique in several ways. Electrically conductive textiles are commonly produced using the core-spun method, in which metallic wires are wrapped with textile fibres, conductive fillers are incorporated, or the textile is coated with carbon/metal powders. However, metal-based conductive textiles have limitations such as limited mechanical properties, heavyweight, and corrosion, and thus to overcome these shortcomings, textile substrates are incorporated with an intrinsically conducting polymer (ICP). Electrically conducting polymers and polymer-based conductive composites have gained popularity in recent years for EMI shielding applications due to distinct advantages over conventional metals such as lightweight, corrosion resistance and flexibility, lower cost, and so on.

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Apparel Exporters focus on Japan, Canada & Oz

Apparel exporters of Tirupur and Noida have started tapping the markets of Japan, Canada and Australia amid fears that the deepening downturn in the US and European Union—their main buyers—will hit their trade, which recorded good growth in November 2022.

“Japan at present buys 5% of their apparel requirements from India. But with Covid again spreading in China, it is looking at alternative countries to source readymade garments,” said Lalit Thukral, president of Noida Apparel Export Cluster. “We had a meeting with leading Japanese buyers and it is expected that they may divert 15.20% of their purchase to India.”

India’s apparel exports in November grew by 11.7% from a year ago to \$1.198.0 million. It was \$10,359.4 million for the April-November period, a growth of 7.2% from the same period of 2021-22.

The last few months were a rough patch for Indian apparel exports as most of the traditional markets, including the UK, EU and the US, have been seeing recession and global headwinds, leading to shrinkage in demand in these nations and buyers there asking for 15% discount. Inflation and rising raw material and freight costs aggravated by the Russia-Ukraine war have added to the problem.

Exports of knitwear from Tirupur clocked negative growth in August, September and October at -14.6%, -24.4% and 34.1%, respectively, compared with the corresponding months of 2021, but then turned positive in November to record 10.6% growth compared with November 2021.

KM Subramanian, president of Tirupur Exporters Association (TEA), said he is positive about the future with factors like Economic Cooperation and Trade Agreement (ECTA) with Australia coming into effect from December 29 and the envisaged agreement with the UK likely in another two months.

Subramanian said TEA is also talking to buyers in Canada. “Talks are also underway with Japanese buyers. Japan is a very quality conscious market and we have to take cautious steps so that our products are well accepted there,” he said.

Subramanian said that Australian buyers are interested in placing orders with Indian because of the China Plus-One policy of the respective countries. □

Govt opts to spread awareness among garment textile exporters on advantages of FTAs

To ensure adequate utilisation of the free trade agreements (FTAs) being negotiated by India with partner countries, including the one with Australia already under implementation, the Textiles Ministry is reaching out to export promotion councils and other industry bodies to help spread awareness about the new opportunities, according to officials.

“Indian garments and textiles products face tariffs as high as 10-15 per cent in markets such as Australia, UK, Canada and the EU, India’s FTA with Australia is already under implementation while ones with the UK, the EU and Canada are likely to be finalised soon. So, the tariff walls will now start getting dismantled. The Textiles Ministry is trying to devise ways to ensure that these get adequately utilised,” an official told recently.

While share of India’s textiles exports to Australia is just about 5 per cent, it is expected to rise soon with free movement of textiles and apparels to the country at zero per cent duty under the FTA, according to the Confederation of Indian Textile Industry (CITI).

Australia is the largest importer of garments in the Southern hemisphere and increased garment exports to the country can help in better capacity utilisation in the sector as the seasonal nature of the exports would get addressed, explained T Rajkumar, Chairman, CITI, in a recent statement.

Indian garment exporters, at present, have to suffer four-five months of lean period during the winter season in the western markets when there is no demand for summer clothes.

“It is important to spread awareness amongst exporters of the advantages of the FTAs and also explain to them the processes through which it could be utilised. The export promotion councils and industry bodies can play an important role in doing so and hence the Textile Ministry is roping them in,” the official said.

India’s utilisation of FTAs it signed and implemented in the past with partners such as ASEAN, South Korea and Japan has been low and policy makers are now trying to focus on how this could be improved.

Under the India-Australia FTA, which got implemented from December 29, 2022, Australia is offering zero-duty access to India for about 96.4 per cent of exports (by value) from day one. The two countries hope to double bilateral trade to \$45-50 billion in around five years India's FTAs with the UK are in an advanced stage of negotiation and expected to be finalised this year. Three rounds of negotiations have taken place for the proposed India EU FTA while talks with Canada are also progressing simultaneously. □

Textile exporters up beat on Pick-up in retail sales in US, Europe

Knitwear exports from India are expected to stay in a positive growth curve as international retailers have liquidated most of their inventories and are expected to go for re-stocking.

Even as December export figures are awaited, there is hope that exports would have grown like in November.

After three months of decline, knitwear exports from India grew 15.5 per cent at ₹5,058 crore in November 2022 and Tiruppur's exports grew 10.6 per cent at ₹2,782 crores. Exports suffered during August-October 2022 due to a drop in orders from Europe and US as a result of the Russia-November 2022 period, Tiruppur accounted for about 55 per cent of India's total knitwear exports of about ₹41,847 crore.

Industry representatives are of the view that the decline has bottomed out and their global customers reported a significant rise in retail sales in December.

"All things look positive, and we hope to reach previous high levels in March. Retail sales have grown in Europe as most of our customers have exhausted their inventory during Christmas and enquiries continue to increase," said KM Subramanian, President, Tiruppur Exporters' Association (TEA)

US, one of the largest markets for Indian apparel exports, bounced back in January. After reaching a peak monthly total apparel imports of \$10363 million during August 2022, import volume in the US reduced to \$6300 million during November 2022. December is also reported to have witnessed a similar trend.

"So, we see two positive signs. While retail sale across the US are reasonably good, retailers have also seen exhaustion of inventories. So, naturally, retailers in the US will step up purchase from India.

"They may not rush, but there will be calibrated buying from January," said Prabhu Damodharan, Convenor, Indian Textpreneurs Federation.

In a reflection of improvement sales, US' leading wholesale firm, Costco, reported net sales of \$23.80 billion for the retail month of December, up 7 per cent from \$22.24 billion a year ago.

There are also a couple of other favourable factors for Indian textile exporters. Raw material prices have seen a correction. Secondly, freight rates have come back to pre-crisis levels. "It is a very positive factor for segments such as home textile exporters where freight is a key part," said Damodharan. □

With FTA, garment exports to Australia may surge 30% in 2023

India's garment exports to Australia is likely to jump 30 per cent in the coming year as a result of the free trade agreement between the two countries, according to the Tiruppur Exporters' Association.

As the FTA kicked off on December 29, 2022, various Indian products, including textiles and apparel, will have preferential market access to the Australian market with zero customs duty.

"We are witnessing more order flow from Australia and expect garment exports to see an increase of about 30 per cent this year," KM Subramanian, President, Tiruppur Exporters' Association, told recently.

Garment exports from India to Australia stood at about ₹900 crore in 2021, and is expected to have grown to about ₹1,200 crore in 2022, with the Tiruppur region accounting for about 60 per cent of these exports to Australia.

However, overall textile and apparel exports to Australia were estimated at \$392 million in 2020-21. Over 70 per cent of textile and 90 per cent of apparel from India faced duty on export to Australia. With the elimination of duty under the FTA, India's exports of textiles and apparel are expected to grow from \$392 million to \$1,000 million in the next 3 years, according to estimates.

EXPORT PROSPECTS AND MARKETS

“Australia’s zero import duty access to India (earlier 5 per cent) would likely level the playing field with other countries like Bangladesh, China, and Vietnam,” said Sahil Udani, Assistant Vice President and Sector Head for Corporate ratings at ICRA.

In FY22 and during the first 7-month period of FY23, Australia accounted for about 2 per cent of India’s apparel exports, compared to about 1 per cent in FY 15. Going forward, the share is expected to increase further on account of the added advantages of the Indian-Australia FTA.

“Further, with the increased focus on China-plus-one vendor strategy, the FTA should aid in reducing Australia’s dependence on China (one of the key exporting nations to Australia),” added Udani. □

Textile, jewellery, to gather momentum from India-Australia FTA

Textile, leather, pharma and gems and jewellery are set to gain substantially by the India-Australia Economic Co-operation and Trade Agreement, which came into force on December 29, 2022. This is because there is a lot of headroom for growth in these sectors, as reflected by the very low share of India in Australia’s exports.

In an outreach programme organised in Chennai by the Ministry of Commerce, M Balaji, Joint Secretary, in the Ministry said India’s exports would go up by \$10 billion in 2026-27 (from \$7 billion now); the increased business would result in 10 lakh new jobs.

Under the agreement, Australia is allowing all imports from India at zero duty. Exports worth 96.4 per cent to Australia (98.3 per cent of tariff lines) will get zero-duty benefit immediately and the rest, within five years. At present, Indian goods attract tariffs of about 4-5 per cent. Notably, Australia already has such zero-duty import agreements with China, Vietnam and Japan, which put India at a disadvantage. Now that disadvantage has been removed.

Figures from Balaji’s presentation show that Australia’s pharma market is \$12 billion, while

India’s pharma exports to the country is just \$345 million. After the FTA, approvals for patented, generic and biosimilars will be fast tracked, as will be inspections of facilities. Indian units that are approved by EU and Canada will benefit.

Australia’s total imports of textiles and garments was \$9.3 billion in 2021; India’s share was just \$500 million. The Australian market provides good potential for home textiles, readymade garments and carpets and flooring. Similarly, Australia imported \$6.6 billion worth of gems and jewellery, while India contributed just \$300 million. Again, exports of leather and footwear to Australia was just \$62 million — this would go up to \$100 million in the next two years. □

Indian cotton prices began to align with global prices on demand rebound

Indian cotton prices have begun to align with market fundamentals and global rates now that the demand, including for exports, has rebounded, industry participants and traders say.

Prices, however, have recovered from the lows of ₹56,000-56,500 a candy (of 356 kg) witnessed early in last December week. The reported move of MCX to introduce new cotton contracts has helped buoy the market to some extent. Currently, ginned cotton is quoted at ₹59,500 a candy at Rajkot. In comparison, cotton futures for delivery in March is quoted at 83.1 US cents a pound (₹54,450/candy) on the Inter-continental Exchange (ICE), New York.

“In the global market, the going rate is 20-25 cents more than what the ICE futures quotes. Indian cotton is quoted some 10 cents above ICE. Therefore, prices are at par rather than the premium we witnessed earlier in December, said Anand Papat, a Rajkot-based trader in cotton, yarn and cotton waste.

“Indian cotton is now aligning with market fundamentals of demand. It is a good trend from the industry’s point of view,” said Prabhu Dhamodharan, Convenor, Indian Textpreneurs Federation (ITF).

Trade sources said prices have gained after reports that MCX will likely come out with new

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contract specifications for cotton futures recently. "We hear that MCX will launch futures for February, April, June and August. There will be some changes to the earlier specifications," said Popat.

On August 26, MCX announced it was modifying its cotton contract specification and that no fresh position would be permitted for January 2023 and subsequent contracts. "Cotton prices which had dropped by ₹1,000 a quintal recently have recovered on the news that MCX is set to revive cotton futures," said Anil Ghanwat, President, Swantantra Bharatiya Party, the political wing of Maharashtra farmers' body Shektkari Sanghatana.

China cancelled a record 1.45 lakh bales of contracts, the first since 2012, leading to negative sentiments in the market," said Dhamodharan.

This is because China is facing turbulence in its own market. "China exports textile products valued at \$270 billion and its domestic consumption for textiles is \$300 billion," he said. Such a big player facing problems and staying away from the market has led to a negative trend in the market first in the US and now in India, the ITF convenor said.

"Current prices have dragged the margin for spinners, while there is no parity for ginners. This has affected purchase of cotton," said Popat. "With prices dropping and disappointing growers, they have begun to cut the amount of cotton they bring to the market," said Ramanuj Das Boob, a sourcing agent for multinationals in Raichur, Karnataka.

Cotton prices have dropped globally since there has been a contraction of about 30 per cent in retail sales of global fashion companies. "November-end results show major contraction to the tune of 30 per cent for some global brands in China due to Covid issues," said Dhamodharan.

"Prices have gained a bit now after a sharp fall. Chances of any further sharp fall in cotton prices are remote," said Popat. One of the reasons for the likely trend is that farmers are unwilling to sell cotton at low prices.

With Indian cotton prices now aligning with the fundamentals, export demand has re-emerged. "Demand has come from Bangladesh. We expect China and Vietnam to seek cotton from us soon," said Popat. "We have got only a small order from Bangladesh for exports. Demand is yet to pick up to expected levels," said Boob. □

Textile, apparel exports shrink in April-December on cotton price rise

India's total textile and apparel exports for April-December 2022 contracted almost 11.6%, according to the data available.

In December, exports shrank 21.5%. Shipments of cotton yarn, cotton fabrics, made-ups and handloom products declined 40.4% year-on-year in December.

Cotton Textiles Export Promotion Council ED-Siddhartha Rajagopal said high cotton price was one of the prime reasons for the decline in exports, among other factors.

The import duty on cotton should be removed so that India does not lose its competitiveness in the global textile and apparel trade, he suggested.

According to The Confederation of Indian Textile Industry, share of textiles and apparel in the total merchandise exports from the country declined to 8.73% in December 2022 from 9.77% a year earlier.

Meanwhile, the exports of readymade garments registered a marginal growth of 1.02% in December compared with the year-earlier period.

According to the data, export of readymade garments in December was worth \$1.48 billion against \$1.46 billion in December 2021. In rupee terms, the exports were worth ₹12,214 crore in December 2022, registering 10.53% year-on-year growth.

Apparel exports contracted during July to October but rose 11.8% in November, the data showed. □

Goyal asks textile sector to begin procuring cotton

Textile manufacturers should start securing cotton to meet their requirement, Union Textile Minister Piyush Goyal has said.

According to a statement, Mr. Goyal also urged the cotton-sector stakeholders to discuss strategies to ensure traceability of cotton and get better value for cotton products.

Industry sources said cotton prices were currently ruling at ₹68,000 a candy. Though mills were buying cotton now, there were uncertainties over prices and hence, mills were reluctant to buy in large quantities. The mills were hopeful of a further slide in prices.

EXPORT PROSPECTS AND MARKETS

J. Thulasidharan, president, Indian Cotton Federation, said Indian cotton prices were slightly higher than global cotton prices. Though the new cotton season started on October 1, arrivals were low with just 60,000-70,000 bales arriving daily at the market against 1 lakh bales usually seen at this time of year.

The crop is delayed this year and as prices are falling, it looks like farmers are not bringing the kappas to the market. "Arrivals are expected to pick up shortly," he said.

Meanwhile, at a meeting with exporters, Mr. Goyal said textile exports in 2021-2022 stood at about \$42 billion and the target was to achieve \$100 billion in the next five to six years. □

Tiruppur may see 40% decline in export demand

After posting a 34 per cent increase in exports during 2021-22, India's largest garment hub Tiruppur is staring at a 30-40 per cent fall in export demand during the current financial year. This has been triggered by the economic slowdown in the US and war effects in Europe.

While some units have shut down for short periods, most have reduced total working days from seven to four-five days. They are also working on single shifts.

Tiruppur contributed around 54.2 per cent to the country's textile exports last financial year.

A decline is expected in exports, despite clocking ₹15,800 crore during the April-August period, higher than the last financial year. During financial year 2021-22, exports from Tiruppur increased to ₹33,525 crore from around ₹25,000 crore in 2020-21.

"Despite higher prices, there was an increase in demand during the first five months. Now, we are seeing a higher decline in orders for the coming months. We expect a 30-40 per cent fall in total exports for the year due to the ongoing global scenario," said Raja M Shanmugam, president of the Tiruppur Exporters' Association (TEA).

The peak period in the region for export orders is expected to start.

According to TEA, the US contributed to around 40 per cent of exports from the region, while for Europe it was 35 per cent in 2021.

"Raw material prices have increased and the war between Russia and Ukraine has seriously affected

demand from Europe. And, the US economic slowdown is also causing trouble for advance orders," said M P Muthurathinam, president, Tiruppur Exporters and Manufacturer Association (TEAMA).

According to manufacturers, the domestic market is also seeing a grim situation due to consumption decline.

"Total purchasing power is less in the Indian market. In addition, hitting our profits, yarn prices also increased from around ₹220 per kg in 2020 to around ₹400 per kg now," Muthuraman added.

Yarn mills, too, are feeling the pinch due to a similar rise in cotton prices, which is yet to stabilise.

"Due to a dip in demand, the textile industry is not taking yarn and our stocks have increased. People are not ready to take the stock. Similarly, higher cotton prices are also a cause for concern," K Venkatachalam, chief advisor, Tamil Nadu Spinning Mills Association (Tasma), said.

From around ₹1 lakh a candy, cotton prices reduced to around ₹75,000 now. However, the rates are much higher than the ₹46,000 a candy during the beginning of 2021.

Though India is the largest cotton-producing country in the world, it stands only sixth in garment exports — behind China, Bangladesh, Vietnam, Cambodia and Sri Lanka. □

Tiruppur knitwear exporters concern over Q4 export order trend

Despite improvements in new orders from key markets, the current quarter is unlikely to bring any big cheer for knitwear exporters in Tiruppur, says an industry body.

Exporters say there was a contraction in demand in key markets such as US and the European Union during the December 2022 quarter despite year-end buying such as for Thanksgiving day, Christmas, and New year.

In Q3, the overall decline was about 19 per cent at about \$975 million for knitwear exports from Tiruppur.

"The order placement is gradually increasing and January 2023 has also seen some increases. But those are not promising and we feel that the declining trend would continue in Q4 also," S Sakthivel, Executive Secretary, Tiruppur Exporters Association told recently.

In dollar terms, knitwear exports from Tiruppur declined by 10.1 per cent to \$393 million when compared with \$437 million in December 2021. Overall, knitwear exports from India fell 2.9 per cent to \$737 million during the last December as against \$759 million in December 2021.

The declining trend for Tiruppur exporters started in August 2022 as an impact of the Russian-Ukraine war. Tiruppur accounts for about 55 per cent knitwear exports from India.

“High inflationary conditions and recessionary trends in key markets of the US and EU kept the textile and apparel demand subdued in 2022, especially the later half. Volume growth in most of the markets remained in the negative to nil zone, with market size increase happening due to higher product costs,” according to Varun Vaid, Business Director, Wazir Advisors, a management consulting firm.

China has continued to lose its share in the global textile and apparel exports due to the rising cost of manufacturing and geo-political shifts. Bangladesh and Vietnam emerged as the highest gainers, successfully catering to global fashion buyers looking for supply base diversification.

In its outlook for March 2023 quarter, leading textile company Arvind has said that the US/EU markets are seeing a lower-than-expected slowdown, though wholesale buying is yet to a pick up.

The company’s denim and garments exports dropped in Q3 FY23 as customers continued to postpone purchases.

As dwindling orders have caused some financial stress for exporters in Tiruppur, the industry has requested the Central government to increase interest subvention provided under the Interest Equalization Scheme (IES).

“What we are expecting is that there would be some positive announcements in the ensuing Budget and a support is given by increasing the interest benefit under IES from 3 per cent to 5 per cent to protect the garment exporting sector, particularly MSMEs,” said Sakthivel. □

Global brands placing orders for apparel Cos

Global brands like Guess, Tommy Hilfiger, Zara, Mango, H&M and others have started sending

enquiries and placing orders, though in less quantities compared to last fiscal, with the Indian apparel manufacturers after a gap of four months.

Apparel manufacturers from Tiruppur said brands are keener to buy garments in the price range of \$5-7 and are shying away from fashionable items.

“Apparel exporters are witnessing some movement in the US and Europe unlike the previous months. Enquiries and orders have started coming in from middle of January. A clearer picture on order position will emerge in March and April. The global brands are now putting orders for the Fall season. With the current flow of orders, India will be able to maintain an export of \$16 billion in FY23, which is at par with FY22 or at the best a little more,” said Narendra Goenka, managing director of Texport Industries and chairman of Apparel Export Promotion Council (AEPC).

Apparel exports were to the tune of \$1,481.2 million in December 2022, showing a growth rate of 1% against December 2021. Similarly, cumulative apparel exports for April-December 2022-23 stood at \$1.2 billion, showing a growth rate of 6.4% over 2021-22. Raja Shanmugam, owner of Tiruppur-based Warsaw International, said : “The global buyers are taking less volumes. Also, they cannot stop buying because they need to replenish their stores and come up with new items. But since Europe is reeling under an energy crisis with very little disposable income in their hands, brands are preferring low-cost items. For instance, in FY22, I had sold 5 lakh pieces of high-value items. But, in the current fiscal, it has come down to 2 lakh pieces as of now. We are waiting for order placements and hopefully things will start looking up from April onwards.

“In the last three to four months there were not many enquiries or orders from international buyers. Now Guess, Tommy Hilfiger, Walmart and others are sending enquiries. They were clearing the inventory over the last few months. The Christmas and holiday sales in the US and Europe were not encouraging because of the fear of recession and the energy crisis due to the Russia-Ukraine war. We are now seeing early shoots of revival. But the momentum should pick up by April so that Indian apparel exporters can get some good orders,” said KM Subramanian, chairman of Tiruppur Exporters Association. ■

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CORPORATE NEWS

Navyasa By Liva from the Aditya Birla Group rolls out a #FreeToBeYou campaign

Navyasa By Liva launched the #FreeToBeYou campaign on World Saree Day. One of India's leading saree brands, Deepika Padukone was the face of the brand when it launched in February 2022. Navyasa By Liva was introduced to make sarees an everyday affair for the modern Indian woman.



Aimed at celebrating each women's uniqueness, the #FreeToBeYou campaign encourages them to share how wearing a saree makes them feel. Participants need to post their favorite picture in the saree with the caption, "Wearing sarees make me feel ____". The one-word blank would speak their love and comfort for sarees, and the three best posts will be declared as winners, who will receive Navyasa by Liva sarees. The contest is open for all Pan-India.

The campaign has received an overwhelming response so far. Winners got announced on Jan, 3, 2023.

The campaign is currently live on Instagram from the official handle @navyasabyliva.

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A collaboration between TENCEL™ and RCGD Global bring eco-couture to the spotlight at the US and UK premieres of "AVATAR : The Way of Water"

- » TENCEL™ brand and RCGD Global extend collaboration to spotlight eco-conscious red carpetlooks at the world premieres of the "AVATAR: The Way of Water" in London and Los Angeles.
- » TENCEL™ branded lyocell fibers and TENCEL™ LUXE lyocell filament featured in be spoke looks and styling items by Tyler Ellis, Huntsman and Vivienne Westwood, worn by Zoe Saldaña, Henry Cavill and Hollywood power couple Suzy Amis Cameron and James Cameron.

Lenzing's flagship textile brand, TENCEL™, joined forces with RCGD Global once again to



spotlight eco-couture on the red carpet of the "AVATAR: The Way of Water" premiere. Dressed in sustainable be spoke outfits and carrying items made from TENCEL™ branded fibers and TENCEL™ LUXE filament yarn, Zoe Saldaña, Henry Cavill, Suzy Amis Cameron and James Cameron

represented RCGD Global on the red carpet, following the organization's newly launched sustainable style guide.

"TENCEL™ has a long-standing partnership with RCGD Global to promote eco-couture at the Oscars. We are proud to extend the collaboration to other red carpets and further promote the adoption of sustainable materials in luxury fashion and beyond. Red carpet events not only reach

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a wider audience, they are also great platforms to demonstrate that fashion can be sustainable. Through leading by example, together, we can propel the fashion and textile industry towards a more sustainable and circular future," said Harold Weghorst, Global Vice President of Marketing and Branding at Lenzing AG.

"We are once again delighted to collaborate with TENCEL™ on another momentous occasion for RCGD Global. Avatar II is a film close to our hearts and one with such an important sustainable message. For our first ever red-carpet moment beyond the Oscars, we wanted to shine a light on fabric innovations and showcase eco-conscious fashion in a way that mirrored the film's core theme," said Samata Pattinson, CEO at RCGD Global.



In Los Angeles, leading actress Zoe Saldña stepped out on the red carpet at the premiere in support of the RCGD Global x TENCEL™ sustainability campaign carrying a black clutch bag by Tyler Ellis lined with a fabric made of biodegradable TENCEL™ fibers. Styled by Petra Flannery, the bag's lining was in a shade of blue that plays homage to Avatar.



At the same event, British actor Henry Cavill wore a double-breasted coat with peak lapel and straight pockets, created by Huntsman using TENCEL™ Lyocell fibers, with a strong waistline and high armhole.

"I decided to support RCGD Global, because they are highlighting yet another way for us all to

take a step in protecting the planet and her people. It's highly unlikely that any of us can change an entire lifestyle in one go, but taking small steps, making small changes especially if done in large numbers can make a difference. Sustainable clothing materials is one of those ways. Just as importantly, sustainability in clothing doesn't mean a lack of quality – The textiles that The Huntsman has provided me are indeed sustainable, while their tailoring remains impeccable – even for a moving target such as me!" said Henry Cavill.

Earlier in London, James Cameron wore a beautiful timeless Huntsman black tuxedo, made from TENCEL™ branded lyocell fibers. Suzy Amis Cameron stunned in an ethical and eco-responsible custom-made Vivienne Westwood gown made from a luxurious navy fabric that featured TENCEL™ Lyocell fibers. The gown presents a draped bodice and an elegant train.

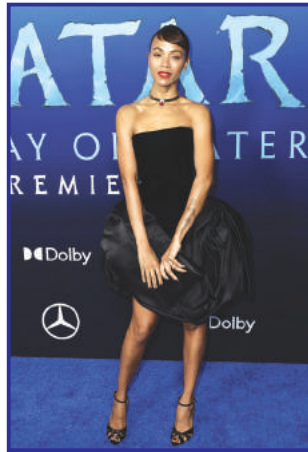


RCGD Global and TENCEL™ continue their partnership to showcase occasionwear using materials made of cellulose-based botanic materials or recycled materials to drive circular economy in fashion. To qualify as an RCGD Global eco-conscious garment, each piece must be made from sustainable materials - including organic, recycled or repurposed fibers. Derived from sustainably sourced natural raw material wood, TENCEL™ Lyocell fibers and TENCEL™ LUXE are fully biodegradable and compostable. The materials are also produced in an award-winning closed-loop process that maximizes resource efficiency with low environmental impact. Apart from its strong sustainability profile, TENCEL™ Lyocell fibers are known to have a luxurious sheen, naturally soft, and breathable, providing the wearer with long-lasting comfort. TENCEL™ LUXE Lyocell filament, a new botanic alternative to silk, is highly versatile and can be woven into a smooth, light weight fabric with liquid-like drape and highly flattering silhouette.

About TENCEL™ and TENCEL™ Luxe

TENCEL™ is the flagship brand under The Lenzing Group that covers textile specialty product

fiber offerings. Since 1992, the TENCEL™ brand has been driving the evolution of fiber solutions for the apparel and home textile segments through several industry-first innovations and environmentally responsible production processes. Product brands under TENCEL™ include TENCEL™ Active, TENCEL™ Denim, TENCEL™ Home, TENCEL™ Intimate, TENCEL™ Luxe and TENCEL™ for Footwear. Featuring botanic origin and biodegradable quality, TENCEL™ branded modal and lyocell fibers are also gentle on skin with smooth, long-lasting softness, color vibrancy and color retention features. TENCEL™ Lyocell fibers are versatile and can be combined with a wide range of textile fibers to enhance the aesthetics and functionality of fabrics. Through moisture management, TENCEL™ Lyocell fibers can also absorb moisture efficiently. Offering endless design possibilities, TENCEL™ Modal fibers can be blended with other fibers and processed using conventional machinery, significantly improving the softness and comfort of fabrics.



TENCEL™ Luxe branded lyocell filament yarn is derived from wood grown in sustainably managed forests, in line with the stringent guidelines of the Lenzing Wood and Pulp Policy. The silk-like continuous filament yarn is produced in an environmentally sound closed-loop process that recycles process water and reuses the solvent at a recovery rate of more than 99%. Registered with The Vegan Society, TENCEL™ Luxe filament yarn offers with its luxurious touch a botanic, biodegradable alternative to silk. Fabrics containing TENCEL™ LUXE filaments drape beautifully while offering natural comfort. Created to be versatile, TENCEL™ LUXE filaments can be made from 100% TENCEL™ LUXE and also blend superbly with other noble filaments and fibers such as silk, cashmere, linen or wool. TENCEL™ LUXE is a unique filament yarn created for the high-end fashion market under TENCEL™, the textile specialty brand of The Lenzing Group.

About RCGD GLOBAL

RCGD Global is a women-led global change-making organisations working from 'moment' to movement, bringing global cultural sustainability to the forefront of conversation and action within the fashion and design world. Celebrating its 10th year of the Red Carpet Green Dress campaign initiative at the Oscars, RCGD Global was initially conceived as a design contest by Suzy Amis Cameron (actress, environmental advocate, and author) when faced with the lack of ethical fashion choices while attending global premieres of husband James Cameron's 'Avatar'. The organisations' work has since developed to include collaborations with global and small independent brands, partnerships delivering sustainable design solutions such as regenerative materials, educational work with the emerging design community - including workshops, internships and work experience, and international design contest initiatives. Alongside a consultancy offering, RCGD Global's R & D division delivers thought-leadership work for the industry, working with leading institutions such as Institute for Sustainability Leadership, University of Cambridge and University of California, Berkeley.

RCGD Global works to draw attention to the importance of more sustainable practices in the design world and to be part of bringing those solutions to a global, culturally diverse market. Leading fashion houses including Louis Vuitton, Vivienne Westwood, Armani, Elie Saab, Swarovski, Christian Siriano, Bulgari, Dunhill and Reformation have joined the campaign to create sustainable red carpet wear. Celebrities including Sophie Turner, Laura Harrier, Emma Roberts, Marlee Matlin, Danielle MacDonal, LaKeith Stanfield, Camila Alves, and Naomie Harris have joined the campaign as representatives of its Oscars red carpet green dress initiative. RCGD Global's work has been featured in VOGUE, Vanity Fair, W Magazine, People, The Hollywood Reporter, WWD, Washington Post, Harper's Bazaar, Refinery29, The Guardian, ELLE, LA Times, The New York Times, Business of Fashion amongst others, across over 100 countries.

Helmed by CEO, Samata Pattinson, a prior winner of the Global Design Contest in 2011 with over a decade of experience, Red Carpet Green Dress unveiled its rebrand to RCGD Global in

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2022, to fully encompass the multitude of spaces that the organisation exists in with a focus on four core pillars:

- ⇒ Collaborating with respected and mainstream platforms to foster sustainable conversations and action
- ⇒ Developing accessible sustainable design solutions which create real effective change
- ⇒ Being part of creating a more socially fair, equitable and representative industry
- ⇒ Helping to find language to create change

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Jeanologia to participate at DTG exhibition in Dhaka Bangladesh from 15-18 February, 2023

At DTG, Jeanologia demonstrates how to attain detoxed and sustainable fabrics to achieve a 100% sustainable textile industry

- ⇒ Its G2 Dynamic and Anubis technologies allow for the production of sustainable fabrics, achieving a perfect combination of fabric and finish.
- ⇒ They guarantee more authentic and enhanced laser results, reducing water consumption by up to 95%, chemical consumption by 100%, energy by 80% and carbon footprint by up to 40%.
- ⇒ Successfully implemented by more than 40 industrial weavers around the world, they are key pieces in Jeanologia's MissionZero: eliminating 100% of the waste generated in the manufacturing and finishing of jeans.

Jeanologia, a leading Spanish company in the development of eco-efficient technologies, will demonstrate how to achieve detoxed and sustainable fabric to achieve a 100% sustainable textile industry at the upcoming DTG exhibition (Stand 7-281).

In this event, taking place at the International Convention City Bashundhara (Dhaka, Bangladesh) from February 15th to the 18th, the company will exhibit its commitment to making the Bangladeshi textile industry one of the world's most productive, competitive and environmentally respectful.

For Jeanologia, sustainable textile production must start with the fabric, reducing its environmental impact in the manufacturing process and carrying out a precise selection to achieve more efficient processes from the fabric.

The company successfully introduced G2 Dynamic ozone technology to the market, as well as Anubis technology, which enables the production of sustainable fabrics and achieves a perfect combination of fabric and finish.

In the opinion of Jean-Pierre Inchauspe, Business Director of Jeanologia's G2 Dynamic, ozone has become an essential element to guarantee a more sustainable and competitive textile industry, and to that end, it is essential to start the process with the fabric in order to prepare it for later processes that are more environmentally respectful.



More efficient and sustainable textile production from weaving to garment finishing

Jeanologia's Anubis technology is based on thermal shock. Using no water, and in a reduced timeframe, it provides maximum shrinkage control and permits fabric relaxation.

In combination with the subsequent ozone treatment with G2 Dynamic, the cleaning effect is maximized, thus becoming the only treatment needed for continuous finishing of fabrics while avoiding the use and spillage of water.

On the same note, G2 Dynamic is an eco-friendly alternative to some of the most polluting and water-consuming fabric finishing processes.

This ozone technology for continuous treatment of fabrics achieves more authentic results more quickly, saving resources both during fabric

production and during the subsequent stages of garment production.

Successfully implanted in over 40 industrial weavers around the world, its high-performance cleaning prevents build-up, improves crocking and color fastness, as well as acting as a laser enhancer.

In addition, it reduces water consumption by up to 95%, chemical consumption by 100%, energy by 80% and carbon footprint by up to 40% compared to conventional finishing methods.

The Anubis and G2 Dynamic technologies are key pieces in Jeanologia's MissionZero to eliminate 100% of the waste generated in the manufacturing and finishing of jeans, from the fabric to the final garment. A mission in which Bangladesh, as a major denim-producing powerhouse, plays an essential role.

20 years accompanying the Bangladeshi textile industry

Jeanologia has been involved in the Bangladeshi textile industry for 20 years. During this time, the company has repeatedly contributed to the socioeconomic development of the country, promoting a more efficient, competitive, and productive textile industry with zero waste due to the implementation of its technologies.

The company works closely with the country's leading jeans manufacturers through its commercial office in Bangladesh. Facilities which serve as a base for over 20 employees, and from which Jeanologia provides advisory services and disruptive technology, as well as comprehensive technical service, support and training.

For further information, please contact :
Jean-Pierre Inchauspe,
Business Director of Jeanologia's G2 Dynamic □

Liva ties up with Miss Universe 2023 as the official fabric sponsor; participants wore Liva capes in the swimsuit round

Aditya Birla Group's fabric brand Liva partnered with the 71st Miss Universe, held at New Orleans, US, as the official fabric sponsor. This year, LIVA personalized the delegate's fashion with its fabric, the way they want to design and express. In this new element of the competition, all the 90 delegates across the world wore LIVA capes during the swimwear round in the competition.

This is the first time in the history of Miss Universe that capes were introduced in the contest, with the countries' avhe freedom to design them basis their creative sensibilities.

"We are proud to be a part of a global event and represent a fabric made in India on an international platform. We are elated and excited to see our fluid fabric being draped around the most beautiful women at such a prestigious pageant", says Sree Charan, Vice President, Head of Branding.



This collaboration echoed out the need of circular and sustainable fashion, and also about strengthening awareness around fluid fashion like Liva, that embodies the message of "LiveYourFlow", at the most prestigious pageant of the world.

"The Miss Universe Organization is thrilled to have LIVA Fluid Fashion join us as the official fabric sponsor for the 71st MISS UNIVERSE® Competition. Our delegates from around the globe are elated to wear these beautiful fabrics for the swimwear round, during which they will don capes hand designed by artisans from their home countries as a method of self-expression. The LIVA fabrics will serve as a blank canvas coverup, which will be used to ultimately spread awareness about the delegate's culture or issues that are present in their home countries," said Amy Emmerich, the CEO of Miss Universe Organization.

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Liva Miss Diva who represented India at the competition, Divita Rai donned her Liva outfit as well, placing herself in top 16 finalists amongst other delegates. Miss USA, R'Bonney Gabriel was crowned as the new Miss Universe 2022 by her predecessor, Miss Universe 2021, Harnaaz Sandhu from India.

**About LIVA:**

LIVA is a new age fabric from the Aditya Birla Group. Unlike other fabrics, that are boxy or synthetic, LIVA is a soft, fluid fabric which falls and drapes well. A promise that is delivered through an accredited value chain. The new-age naturally sourced fiber made into fabric in pure or blended form, transforms not just the outfit but also the person wearing it. It is comfortable, soft, natural, and eco-friendly.

Do let us know your thoughts in taking this ahead.

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What Textile Industry gets from Budget, 2023-24

Let us give recognition to Indian textile industry...

Time has come to press hard button to give recognition & importance of textiles & apparel industry to the Indian government and especially understand the importance of textile ministry.

One side we are showing a very high population as our biggest strength and putting it on canvas to paint a bigger picture to the entire world and on the other side our basic strength of supplying textiles and apparels and creating huge jobs through this industry is neglected by the Indian government for many years.



Avinash Mayekar - MD, SUVIN

We are exporting yarn for many years and showing our weakness by not converting this important raw material into garments. For how many years we can just be a convertor at bottom of the value chain? Time has come to fold our sleeves and use our smartness to take a larger pie.

Somehow, as a hard core textile consultant and understanding the strength our Indian government possess to expand our wings to take global market. Why is it not considering Textile & Apparels?

One more point is that Indian Government should not get pressed with the fibre policies within our country and go all the way for value addition and extend support for all the fibres in whatever way it can. ATUFS or PLI scheme it should be

designed to support all sectors of textile & apparel industry. This will clear all the clouds in the minds



of the industry players and I am sure we can see golden light flourishing our industry.

For further information, please contact :

Mrs. Purva Salgaonkar

Marketing Head

Suvin

Mob : +91 9773494534



Birla Cellulose willing to share on suggested trend story idea

How Indian brands are taking deeper dive into sustainability

As per the latest American Express Trendex report, Indians are getting serious about leaving a positive impact on the planet. While 97% of the consumers are of the view that all products should be environment-friendly, 96% think about the impact on the planet when making purchase decisions. Additionally, 98% of the survey respondents want to spend money on products that can build low-carbon communities around the world. And therefore, brands too have started taking seriously their sustainability promises – be it for the environment or the society. With new technologies the companies in the Indian fabric market has successfully stabilized production of a Recycled Claimed Standard (RCS) certified product, which also contains 70 per cent of dissolved wood pulp from sustainable forests (FSC certified). With Circularity being the key goal and commitment towards contributing to sustainable development.

- ❖ What are the New ways of sustainability methods adopted by Indian brands?
- ❖ How efficient are these sustainable methods?
- ❖ Is environment really benefiting from the methods?
- ❖ The generation of large quantities of textile waste is leading to a significant increase in environmental pollution, what are the ways to reduce it from a clothing brand standpoint?
- ❖ How is technology and sustainability going hand in hand?

Circular fashion : a step forward in the quest of sustainability within the apparel industry

Background : It is estimated that fashion industry generates nearly 92 million tons of waste annually, out of which less than 1% is recycled. Most of it goes to landfill/incineration, and a large amount leaks to the environment leading to land and water pollution. There have been three key challenges to building circular business model in the fashion industry—availability of technology to recycle the fibres, lack of reverse logistics to segregate recyclable fibers and fabrics are not designed with view of circularity. Growing consumer awareness concerning impact of clothing on environment, depletion of resources and climate change has led to the industry exploring and adapting more sustainable raw material options.

1. How can brands ensure circular sustainability ?
2. What are the 4 Rs of circular fashion ?
3. What are the Circular initiatives to tackle fashion's waste problem.

For further information, please contact :

Nafisa Hajiwala

White Marque Solutions

Creative Strategy, Public Relations

Digital Outreach,

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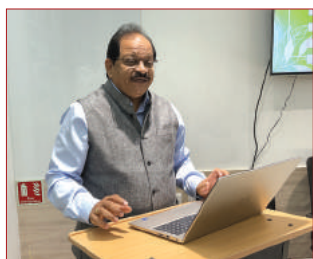


TAI, Mumbai Unit Activities

An Interactive Session with Fashion, Textiles and Apparel Schools Students on “Colour Forecasting & Sustainability in Home Furnishing Textile Materials”

held on 7th January 2023 at TAI, Mumbai Unit Office

The Textile Association (India), Mumbai Unit in Association with SDC International (UK and India)



organized An Interactive Session with Fashion, Textiles and Apparel Schools Students on “Colour Forecasting & Sustainability in Home Furnishing Textile Materials” on 7th January 2023 at the

Office of TAI, Mumbai Unit.

The session was conducted by Dr. V. D. Gotmare, Former HoD, Textile Manufactures Department, VJTI, Mumbai and Mr. Yogesh Gaikwad, Director, SDC International (UK and India).

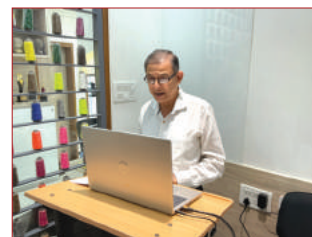
Dr. V. D. Gotmare made the presentation on “Sustainability in Home Furnishing Textiles”. In his presentation he covered Sustainable textile Fibres, Characteristics of sustainable home furnishing materials, Evaluation, Market trends and global manufacturers.



Mr. Yogesh Gaikwad made the presentation on “Colour Forecasting 2023”. He discussed about Colour in branding, Colour forecasting 2023,

Influencers, colour forecasting and Best practices of seeing colour.

Dr. V. D. Gotmare was the Convenor of this session. Mr. Haresh B. Parekh, GC Member, TAI, Mumbai and Vice Chairman, TAI, Central Office welcomed the Speakers & Students and also proposed the Vote of Thanks.



The session was very successful and was attended by 31 Students from Dr. B.M.N. College of Home Science and NAFDI Institute of Fashion Designing & Technology. The response to the session was very enthusiastic.



This activity was exclusively for the students. There was good interaction between speakers and students. TAI, Mumbai Unit given participation certificate to all the students after the session.



For further information, please contact :
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E-mail: taimumbaiunit@gmail.com
Website: www.textileassociationindia.com
GST No.: 27AAATT3351M1Z7
(Subject to Mumbai Jurisdiction) ■

The Textile Association (India), Mumbai Unit jointly organised a Half-Day Seminar on “India ITME 2022 – Glimpses” on 16th January 2023

The Textile Association (India), Mumbai Unit and Veermata Jijabai Technological Institute (VJTI) jointly organized a Half Day Seminar on “INDIA ITME 2022 – GLIMPSES” on 16th January 2023 at Krantijyoti Savitribai Phule Sabhagruha, VJTI, Mumbai. The seminar was inaugurated by the Chief Guest Ms. Seema Srivastava, Executive Director, India ITME Society.



Mr. V. C. Gupte, Chairman, TAI-Mumbai during his welcome address

Mr. V. C. Gupte, Chairman, TAI, Mumbai Unit in his welcome address welcomed the Chief Guest and Key Note Speaker. He also welcomed the speakers, press, media and delegates.



Dr. K. K. Sangle, Dean Academics, VJTI addressing the gathering

Dr. K. K. Sangle, Dean Academics, VJTI while addressing the gathering stressed about the need of collaboration between industries and academic institutes. He urged the industry to come forward and contribute to academics in drafting the curriculum as per NEP 2020 and industry requirements. This would enable to improve the admissions in Textile discipline and also provide manpower as per the industry requirement.

Mr. Haresh B. Parekh, Convenor of the seminar while addressing said that this seminar is organised to share the highlights of the much awaited global textile machinery industry's largest show India ITME 2022 that was held at Greater Noida, UP in December 2022. Those who attended the show were more than satisfied and those who really missed it, this seminar was the right forum to listen from the experts. TAI, Mumbai Unit and VJTI thought it prudent to highlight on the innovations in textile machineries and products displayed at the exhibition. The seminar will cover advances and Innovations shown in ITME 2022.



Dr. A. L. Bhongade, HoD. Textile Mfg. Dept. during his address

Dr. Arvind L. Bhongade, Head, Textile Manufactures Dept., VJTI briefed about various activities of VJTI. He shared brief about the successful participation of VJTI at ITME 2022 and also thanked ITME society for giving this opportunity and support. He further presented his deliberations envisioning the student's preparations and readiness considering the latest developments and digitalization of textile industry. He appealed the Textile Industry for strong Institute – Industry Interaction for the benefit of student community.



Mr. H. B. Parekh, Convenor, TAI-Mumbai addressing the gathering

The Textile Association (India), Mumbai Unit jointly organised a Half-Day Seminar on "India ITME 2022 - Glimpses"

VJTI and TAI, Mumbai Unit signed the MOU for collaborative efforts for enhancing quality learning and research. The aim of this MOU is primarily to establish and encourage both the technological and development activities jointly and perform collaborative programs in the areas of mutual interest of education and industrial outreach. VJTI and TAI, Mumbai Unit will organize Training programs / workshop / Seminars / Conferences etc. jointly for the benefit of Textile Community.



MOU signing ceremony between VJTI-Mumbai and TAI-Mumbai Unit

Mr. G. V. Aras, Strategic Advisor, ITA Group, Germany, Rabatex India and Yamuna Machine Works delivered the Key Note Address. In his address he said that 11th edition of India ITME held at Noida was a great success with 1000+ exhibitors, 118 new product launches and more than 1,10,000 visitors from 73 countries. The venue was excellent in all respects with very good infrastructure and excellent management by India ITME Society.



Mr. G. V. Aras, Strategic Advisor, ITA Group, Germany, Rabatex India and Yamuna Machine Works delivering his keynote address

Alongside exhibition- symposiums, workshops, B2B meetings, Technology awards, Wildlife

photography exhibition, CEO meet, Alumni meets were successfully organized. He also highlighted on various products launched during the exhibition with their features.



Ms. Seema Shrivastava, Executive Director, India ITME Society giving her Inaugural Address as a Chief Guest of the event

Ms. Seema Srivastava, Executive Director, India ITME Society while giving her inaugural address as a chief Guest congratulated the TAI-Mumbai Unit and VJTI-Textile Manufactures Department for organizing such unique event after post ITME-2022. She acknowledged that such initiatives will definitely benefit the people from industry



Mr. Sachin Arora, Executive Director, TMMA during his presentation

and students who couldn't make it to ITME-2022 at IEML, Greater Noida, UP. With examples of trade fairs across the globe, she highlighted the opportunities and significance of exhibitions towards the growth of trade and economy of a nation. She urged the august gathering to take maximum benefit of ITME exhibitions by proactive preparedness and planning to utilize ITME's global platform facilitating India towards 'Atmanirbhar Bharat'.

The Textile Association (India), Mumbai Unit jointly organised a Half-Day Seminar on "India ITME 2022 – Glimpses"

Mr. Sudipto Mandal, Manager-Sales & Marketing, Oerlikon Textile India Pvt. Ltd. presented the highlights of PET Recycling Technologies exhibited at ITME 2022 by their company Oerlikon as a step towards sustainable solutions. He also explained the importance of sustainability and steps taken by various countries for manufacturing various types of recycled PET yarns, it's market and applications.



Mr. Sudipto Mandal, Manager-Sales & Marketing, Oerlikon Textile India Pvt. Ltd during his presentation

Mr. Sachin Arora, Executive Director, TMMA presented the Snapshot on Textile Engineering and comparison of Indian and imported machines presented at ITME. He mentioned that India has exhibited significant developments in spinning segment. The industry should tap the potential of excellent technical knowhow and manpower in the country and work for developments in weaving and processing segment as well.



Dr. Deepa Raisinghani, Former HoD-Diploma Textiles-VJTI presenting Vote of Thanks

Also, few participants including delegates from industry and students from the crowd shared their feedback about the organized event. Dr. Deepa V. Raisinghani, Faculty and Former Head Diploma (Textiles), VJTI proposed Vote of Thanks. The



Delegates

seminar was very successful and was attended by more than 175 participants including VJTI students.

For further information, please contact :
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E-mail: taimumbaiunit@gmail.com
Website: www.textileassociationindia.com
GST No.: 27AAATT3351M1Z7
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ITAMMA has bagged "6th Responsible BMO Award" for outstanding achievements of its Member Companies during the following activities as organized by ITAMMA

Responsible Activity

1. Technology Scouting Mission (through Field Research Globally-exposure to Latest Technologies and Green Process).
2. Technology Awareness & Dissemination Mission (through events at PAN India- Design Awareness, Lean, ZED Certification, publication "ITAMMA Voice" and Factory exposure /Mill visits).
3. Technology Adaptation Mission – (Product developed under NID & Lean Manufacturing Competitiveness Schemes & Pilot plant Projects during Industry interactions with Academia).
4. Technology Marketing Mission – (through Business Delegations & competitive schemes & special publications).
5. Success of "Mission Green Environment - reduction in waste generation, raw material, inventory, labour and rework time; utilization of Ergonomics to reduce manual handling; Health camps solving health issues; Employment drive from suggestions of industry Experts, Lean Consultant and NID Officers.

For further information, please contact :
N. D. Mhatre, Director Generat (Tech), ITAMMA
Bhogilal Hargovindas Buildings
18/20, K. Dubash Marg, Kala Ghoda, Mumbai-400001

TEXTILE EVENTS

ITMA 2023

08-14 June 2023
Fiera Milano RHO
Milan, Italy

Transforming the World of Textiles

Set Up Your ITMAconnect Digital Space Now

ITMAconnect is open to ITMA 2023 registered visitors from 8 March 2023. Maximise your pre-ITMA marketing strategy by setting up your digital space early.

View upgraded plans now

Upgrade to the subscription plan that best meets your needs.

Marketing Opportunities @ ITMA 2023

Final ITMAconnect Onboarding Webinar

Join us next Tuesday, 10am or 3pm CET.

- ✦ Learn to set up your digital space
- ✦ Gain better understanding of front and backend systems

Sign up for webinar now

Activate Your Administrator and Staff Accounts

As the default ITMAconnect administrator, activate your account and start assigning roles and responsibilities to your colleagues.

Contact us for the activation email.

Exhibitor Marketing Kit

- ✦ Announce your participation
- ✦ Invite your customers

This complimentary marketing kit helps you customise invitations to your customers and partners. Templates with your stand number include all-purpose digital banners, shout-out banners for your print ads, a ready-to-send HTML email, a landing page and social media sharing tools.

Access the Exhibitor Marketing Kit from the Exhibitor Centre now!

Call-for-Papers and Award Submissions

A wide array of events is available to exhibitors to increase awareness of your innovations at ITMA 2023. Don't miss the opportunities to maximise your participation at the ITMA organised events.

Register for an account at the events submission platform to make a paper submission and an award application (click below):

- ✦ ITMA Textile Colourants and Chemicals Forum

- ✦ ITMA Nonwovens Forum
- ✦ Innovator Xchange
- ✦ Innovation Video Showcase
- ✦ ITMA Sustainable Innovation Award – Industry Excellence
- ✦ ITMA Sustainable Innovation Award – Research and Innovation Excellence

Platform access is granted to the nominated events person from the collaborator module in the Exhibitor Centre and the main corresponding person (listed in your space rental application form).

Book Your Accommodation

Book your accommodation early with official travel agent MiCodmc. For enquiries, email: itma2023@micodmc.it.

Sustainability @ ITMA 2023

Exhibitors are encouraged to create a positive impact by adopting various ecofriendly practices.

Get Ready to Visit the World's Largest Textile & Garment Technology Showcase Innovation Spotlight

Source and evaluate a wide range of innovative solutions that will transform the world of textiles. Collaborate with participants of the following to put your business ahead of the competition:

- ✦ Start-Up Valley
- ✦ ITMA Sustainable Innovation Award
- ✦ Innovation Video Showcase

Start Your Engagement Early Through ITMAconnect

From 8 March, registered visitors will have access to ITMAconnect - the new one-stop sourcing platform and knowledge hub that connects the global textile community before, during and after ITMA. Connect with the world's largest digital listing of global textile and garment technology manufacturers directly.

Discover more about the platform

Participate in an Exciting Line-up of Events Look forward to several curated events and thought-leadership events. Gain insights on a wide range of trending topics, and explore collaborative partnerships to advance your business objectives.

Check out the calendar of events

Save up to 53% with the Early Bird Rate!

Visitor registration is now open. Check out the visitor badge rates. Register online now to save and to avoid onsite queues!

Register now**Enjoy Preferential Rate for Supporting Organisations**

Members can enjoy a special badge rate when they register by 7 May. Get your promotion code from your association.

View list of supporting organisations**View ITMAlive Season 3**

In its third season, ITMAlive explores the topic of sustainability from the perspectives of various industry experts. Join in the conversations in this 4-part series and let the panellists inspire you to transit towards a sustainable and circular economy.

Fresh Read From ITMA Blog**Energy costs are driving developments**

Escalating energy costs are driving the development of new technologies, especially resource-saving solutions, by Spanish textile machinery manufacturers. Read the latest ITMA blog from Alejandro Gallego, Director of AMEC-AMTEX, to find out more about these innovations.

Expert insights

Brought to you by CEMATEX

Finishing with environmental friendliness in mind

The finishing sector is a significant stage in the textile and garment making value chain. Continuous technological developments have resulted in machinery that can contribute to a smaller environmental footprint without compromising fabric quality. Get insights from Giorgio Cafaggi, General Manager and Head of Sales, Sperotto Rimar, on energy-saving machine development strategies.

For further information, please contact :
marcom@itma.com

10th Edition of Technotex 2023

From 22nd-24th February 2023 in Bombay Exhibition Centre, Mumbai

Technical textiles are high performance textiles which find application not only in clothing but in areas such as agriculture, medical, infrastructure development, automotive, aerospace, sports, protective clothing, packaging etc. Technical Textiles have seen an upward trend globally in the recent years due to improving economic conditions.

The Ministry of Textiles, Govt. India jointly with Federation of Indian Chambers of Commerce and Industry (FICCI) is organizing the 10th Edition of the series i.e., "Technotex 2023" during February 22nd - 24th, 2023 in Bombay Exhibition Centre, Mumbai.

Technotex is one of the largest composite events of Technical Textile industry of the Asia-Pacific region. TECHNOTEX is India's premier event on Technical Textiles. TECHNOTEX exemplifies the immense potential for bilateral trade, investment between India and foreign countries in Technical Textile sector in a mutually beneficial way.

The event witnessed overwhelming participation from 34+ Countries namely Azerbaijan, Bahrain, Bangladesh, Belarus, Cambodia, Columbia, Czech Republic, Ethiopia, France, Germany, Ghana, Indonesia, Iran, Israel, Japan, Kazakhstan, Kenya, Kyrgyzstan, Nigeria, Poland, Russia, Senegal, South Africa, Sri Lanka, Switzerland, Taiwan, Uganda, United Kingdom, USA, Uzbekistan, Vietnam, and Zambia and hosted focused country pavilions from China and South Korea respectively. Odisha was the partner states and other leading states like Gujarat, Jharkhand, Chhattisgarh, Telangana, Andhra Pradesh, Rajasthan, Madhya Pradesh, Punjab, Uttar Pradesh, and NER States participated at the various business forums.

Building on the success, it has been decided to organize this mega event in Technotex 2023 is scheduled to be held from February 22nd - 24th, 2023 at Bombay Exhibition Centre, Mumbai. This mega event in its 10th Edition will attract participation of all major stakeholders from Global Technical Textiles fraternity as well as institutional buyers from Army, Navy, Air Force, CISF, CRPF, Paramilitary Forces, Police, Hospitals, BRO, Agriculture Institutions, CPWD, PWD, Municipality's, Sports Institution, and Others. The event will be also supported by all related Industry Associations.

As your organization is a leading player in Technical Textile Sector. We would like to invite you to participate as a Sponsor or Exhibitor at Technotex 2023 and look forward to your participation. The information about the event is available at www.technotexindia.in.

Hope you will find the above information in order, in case if you need any other details, please feel free to get in touch with me on appended details.

Look forward to hearing from your side and onboarding you with us for our annual exhibition and conference "Technotex2023".

For further information, please contact :
Amit Kakkar, Joint Director
Federation of Indian Chambers of Commerce and Industry

TEXTILE EVENTS

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Messe Frankfurt is privileged to have valued support from the Ministry of Textiles, India

Ministry of Textiles extends its support for the ninth edition of Techtexil India

Messe Frankfurt India is honoured to receive once again the much valued support from the Ministry of Textiles, Government of India for the ninth edition of Techtexil India, which is scheduled to take place between 12–14 September, 2023 in Mumbai. This support from the Ministry of textiles further demonstrates the huge emphasis laid for this key sector in boosting the economy of the country given the enormous scope to grow rapidly apart from the remarkable opportunities present to do business in India.

Techtextil India is the country's leading trade fair on technical textiles, non-wovens, fibres, yarns and machinery. With almost eight months to go, the three-day business event has received an overwhelming response from various companies who will be seen showcasing their latest solutions and products for key application areas.

Commenting on the developments, Mr Raj Manek, Executive Director and Board Member, Messe Frankfurt Asia Holdings Ltd, shared: "We are elated to have received the support from the Ministry of Textiles, Government of India and believe that it will bring in strong value to the technical textiles segment of our trade fair while opening doors to lucrative business engagements for the industry. We are optimistic that it will gain for us a wider reach and increase our credibility among the industry."

The last edition of Techtexil India in November 2021 emerged as a crucial meeting place for the technical textile players. Even though the show

happened to be the first post lockdown edition it garnered an attendance of 4,087 visitors due to live demonstration of latest products and technologies from over 150 technical textile brands.

Heading for its ninth edition, Techtexil India, along with the support of the Ministry of Textiles, Government of India and other supporting associations will continue to play a key role in overall development of this vibrant industry.

For further information, please contact :

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International Textile Technology & Machinery Expo ITGME

19-22 Jan 2024

Codissia Trade Fair Complex

Coimbatore, India

It is our great pleasure to inform you about our forthcoming third edition of ITGME (International Textile Technology & Machinery Expo) at Coimbatore. Popularly known as the Manchester of India, it is also the biggest cotton, blended yarn and fabric production center in south-east Asia.

The Textile & Related industry in India are broadly classified as—

- ❖ Mills sector with 3,400 spinning mills, having an installed capacity of 50 million spindles and 842,000 rotors - its the second largest in the world.
- ❖ Weaving sector with 23,000+ weaving factories.
- ❖ Fabric processing sector with 250 large scale units
- ❖ Garment manufacturing sector with 5,000 units.

It is significant to note that these potentials all are available within a radius of 200 kilometers of the expo center.

The opportunities are endless for manufacturers from China, Asia, Europe and the Americas. Collectively the region buy \$7 billion worth of

equipment and accessories every year to keep the factoris up and running.

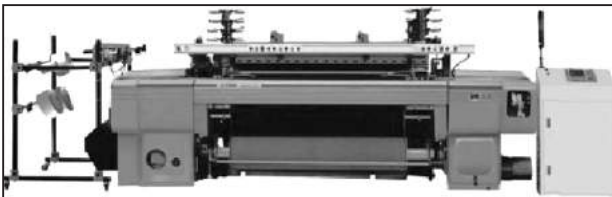
The Coimbatore Hub includes nearby internationally acclaimed production centers such as Tirupur, Erode, Salem and Karur. In addition there are a vast number of textile parks housing textile production units. Together, the hub exports close to \$10 billion worth of textile merchandise around the world. The Government of India supports the Textile industry proactively by infusing subsidized funding, providing support to entrepreneurs and overall helping the industry to constantly innovate and expand production.

ITGME 2024 Expo will open 19 Jan, 2024 at he CODISSIA TRADE FAIR COMPLEX and remain open for industrialists and entrepreneurs till 22 Jan, 2024.

Exhibitors can expect up to 50,000 visitors from all over India. The CODISSIA TRADE FAIR COMPLEX is an ultra-modern permanent expo venue built to international standards covering a total of 25,000 Sq. Mts. of exhibition space in 20 hectare facility close to the Coimbatore International Airport.

Hospitality

When you exhibit in Coimbatore, you are assured of top class hospitality. You can choose from a range of star-rated, executive-class or budget hotels. The quality of food is vast and you can choose from a range of continental, Asian and South and North Indian food. Coimbatore is a safe city and you can travel 24/7 even without a local agent. Most people will speak English, but you can also find French, German, and Chinese interpreters if you want.



ITGME for Whom

- » Spinning Preparatory, Man-made Fibre & Natural Fiber Spinning Machinery, Winding, Texturing, Twisting.
- » Machinery of Finishing Nonwovens and Felting and Accessories.
- » Weaving Preparatory Machinery, Warping, Weaving, Tufting Machinery.
- » Knitting, Hosiery & Garment Making Machinery.
- » Embroidery Machinery, Branding & Label Machinery.

- » Washing, Dyeing, Drying, Finishing Machinery
- » Printing & Digital Printing Machinery.
- » Laboratory Testing and Measuring Equipment.
- » Material Handling, Storing and Packing Equipment.
- » Equipment for Recycling, Waste Reduction and Pollution Prevention, Accessories.
- » (Cad/Cam/Cim) and Integrated Production.
- » Dyestuffs and Chemical Products.
- » Technical Information Services, Educational Research Institutes & Coe's
- » Natural, Man-made, Technical Fibres, Natural, Synthetic, Technical Yarns, Recycled Fibres & Yarns
- » Home Textiles, Integrated Textile Parks.

Bank Details for Payment

Name of the Beneficiary
Hi-Tech International Trade Fair India Pvt. Ltd.
A/c Number : 621405017699
Beneficiary Bank : ICICI Bank,
Thirumuruganpoondi, Coimbatore-641652
IFSC Code : ICIC0006214
GST No. : 33AABCH2973DZ2W
PAN : AABCH2973D

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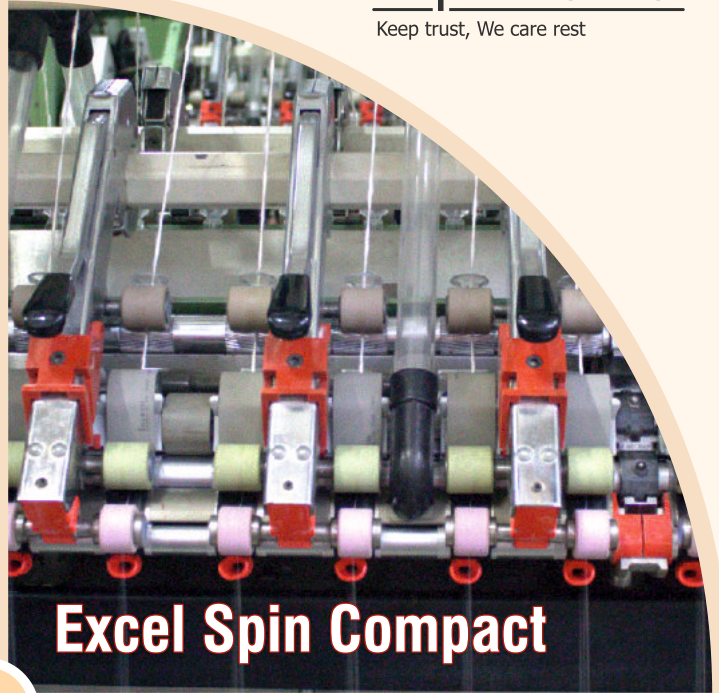
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Mumbai : 178, 2nd Floor,
Sunrays Shopping Centre, Charkop Market,
Kandivali (W), Mumbai-400067
Kolkata : 40, Girish Park North, 2nd Floor,
Near UCO Bank, Kolkata-700006
New Delhi : 2493/13, Ranjeet Nagar,
Near South Patel Nagar, New Delhi-110008
China : Shinning Exhibition (Shanghai) Co. Ltd.
Room No. 1501/5, 1000, East Hongsong Road,
Minhang District, Shanghai-201103, China ■



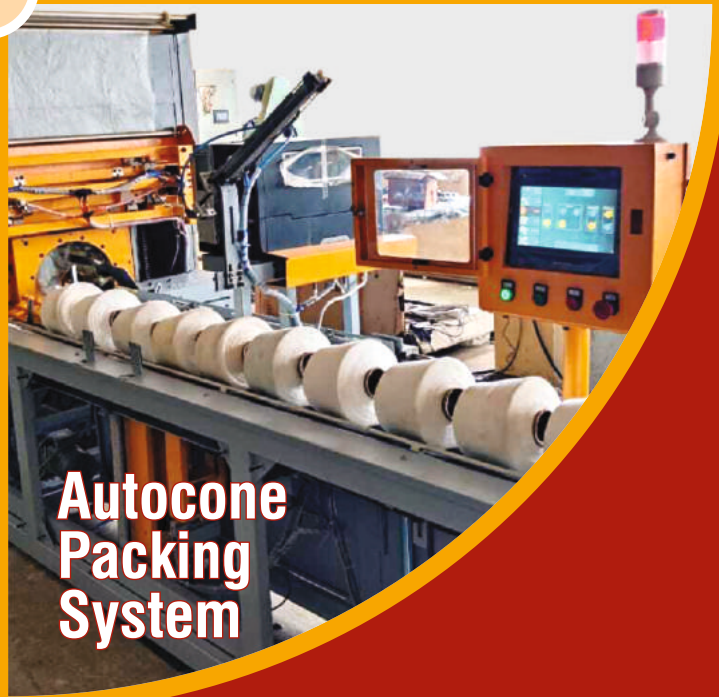
Auto Doffer Retrofit



Excel Spin Compact



Bobbin Transport System



Autocone Packing System

Aspire Excel's understanding and relationship with customers has driven us to create products that add value to your business and increase in productivity. Our renowned, customised products offer Reliability, Flexibility, Space Saving and Low Maintenance.

ASPIRE GRAND EXCEL AUTOMATION

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SOME DAZZLING MOMENTS AT INDIA ITME 2022, GREATER NOIDA, INDIA



View of the stall of Dilo Group at INDIA – ITME 2022, Greater Noida, India



View of the stall of Sieger Spintech Equipments Pvt. Ltd. at INDIA – ITME 2022, Greater Noida, India



View of the stall of Saurer at INDIA – ITME 2022, Greater Noida, India



(From left) Mr. Di Markus Mayr, Managing Director of Lenzing Instruments, Mr. Vishal Masand, Proprietor of Tirupati Technik, (extreme right) Mr. Reinhold Moser, Sales Director of Lenzing Instruments & others in the stall of Lenzing Instruments at INDIA – ITME 2022, Greater Noida, India



(From right) Mr. Pranav R. Jani, Director & Mr. Rajubhai Mehta of PR Texpro Engineering Pvt. Ltd. in their stall at INDIA – ITME 2022, Greater Noida, India



View of the stall of KCI Bearings (India) Pvt. Ltd. at INDIA – ITME 2022, Greater Noida, India

SOME DAZZLING MOMENTS AT INDIA ITME 2022, GREATER NOIDA, INDIA



View of the stall of Premier Evolvics Pvt. Ltd. at INDIA – ITME 2022, Greater Noida, India



Lakshmi Card Clothing Pvt. Ltd. team at INDIA – ITME 2022, Greater Noida, India



View of the stall of Elgi Electric Industries Pvt. Ltd. at INDIA – ITME 2022, Greater Noida, India



Luwa's team at INDIA – ITME 2022, Greater Noida, India



View of the stall of UTM at INDIA – ITME 2022, Greater Noida, India



(From right) Mr. Ketan Panchal, Director, of Prabhat Textile Corporation & other in their stall at INDIA – ITME 2022, Greater Noida, India

SOME DAZZLING MOMENTS AT INDIA ITME 2022, GREATER NOIDA, INDIA



View of the stall of Mag Solvics Pvt. Ltd. at INDIA – ITME 2022, Greater Noida, India



Trutzschler's team at INDIA – ITME 2022, Greater Noida, India



View of the stall of Picanol at INDIA – ITME 2022, Greater Noida, India



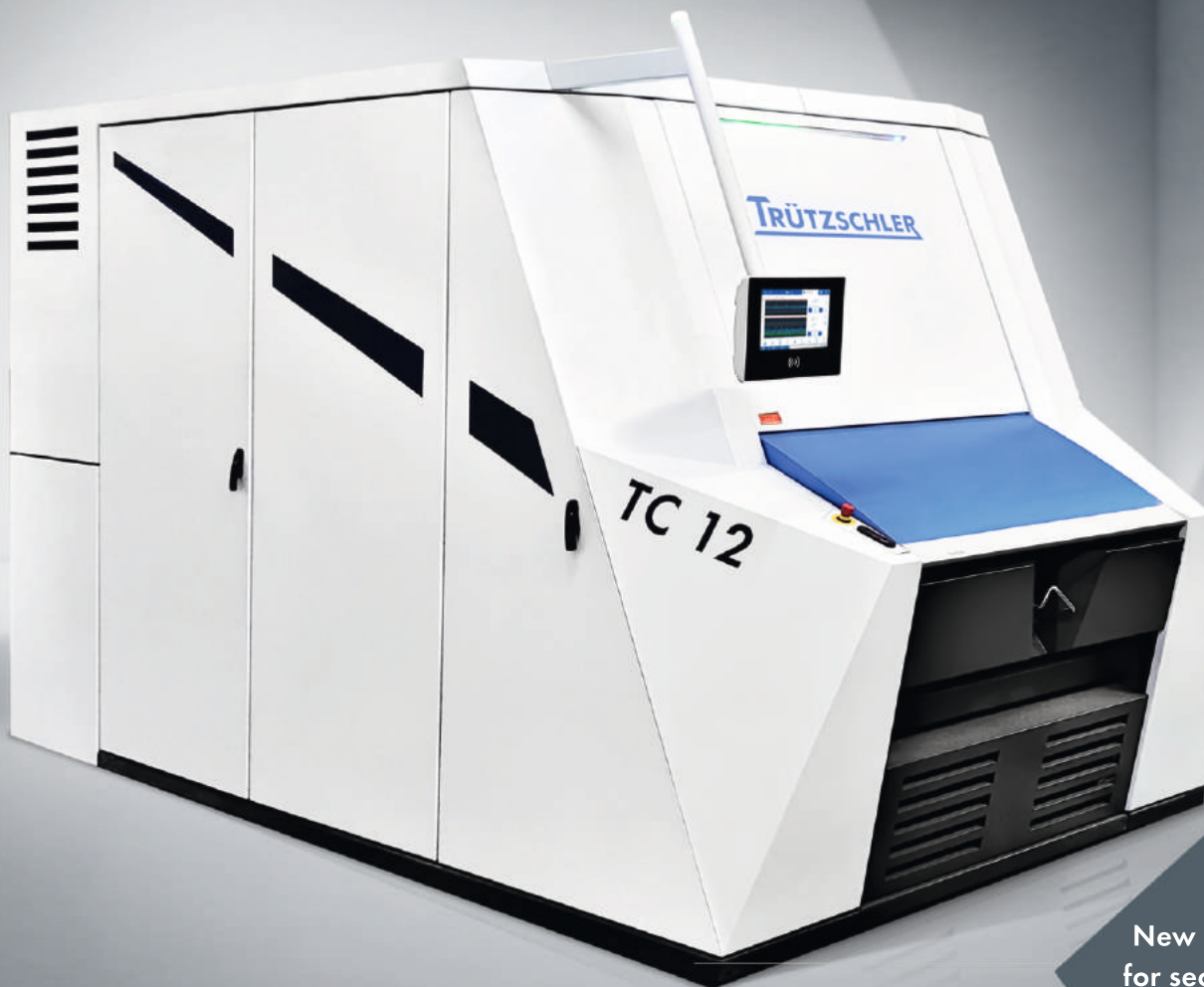
(From left) Mr. P. T. Muralidharan, General Manager of Vetal Textile Electronics Pvt. Ltd. in its stall at INDIA – ITME 2022, Greater Noida, India



View of the stall of SRM Technologies at INDIA – ITME 2022, Greater Noida, India



(From left) Mr. Ashish Shah, CEO & others of Rishabh Sagar Textile Equipments Pvt. Ltd. in their stall at INDIA – ITME 2022, Greater Noida, India



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Rabatex Industries

Rabatex Industries with new technological evolutions has become indispensable part of Fabric industries all over the world

A textile sample is a piece of cloth or fabric designed to represent a larger whole. A small sample, usually taken from existing fabric, is called a swatch, whilst a larger sample, made as a trial to test print production methods, is called a strike off. For plain-dyed fabrics it is called a lab-dip, and for yarn-dyed fabrics (like stripes and checks), it is called a handloom.

The use of swatches has formed an essential part of the design process of textiles throughout different cultures across history. Samples enable designers to display different types of fabric, demonstrating how different colours, materials, trims and methods of weaving will look in real terms—something that may not be readily apparent from a paper of digital design—before the entire fabric is manufactured.

A textile manufacturer may bring together several swatches of materials into a single sample book, which may serve to enable a salesperson to display a wide selection of fabrics to potential customers in a convenient manner. A textile swatch book may also serve as an internal reference for materials that have been made previously and could be manufactured again.

New trend in fashion industry, brand promoter or designer need to feel fabric as actual garment as well as to test market with small quantity of garment, where Advanced Sample warper makes major roll to prepare a short length actual warp with minimum quantity of warp yarn with unlimited design or pattern possibility. This process improves highest success ratio of any new product promotion effectively with actual test market results. Apart from this customisation fabric need is increasing day by day where user need to have specific design or pattern of fabric, which can be fulfilled with use of this technology.

RABATEX Industries have been an indispensable part of fabric industry the world over with new technological evolutions equivalent to any global know how in warp preparation machinery, fabric sampling machinery and material handling and storage equipment for more than 6 decades. Thus, the vacuum which the Indian fabric industry has been subjected to once, could

be eliminated by advanced technological import substitute machinery.

Rabatex experts, have been interacting with the technical experts in textile industry across the world over about their actual requirement with respect to value for investment as well as product output expectation in quickest fabric sampling solution. With patience and creation ability, Rabatex Team have made analysis need of future demand and customer expectation as well as global opportunity of Indian Textile Fabric Manufacturing Industry. Exploring highest opportunity for Textile Industry to display their capability, creativity and value addition.

RABATEX have now come out with a complete range of Fabric Sampling Solutions like Small Width Fabric Weaving Machine, Small Width Single End Warper, Cone to cone sizing and Advanced Sample Warper for short length preparation which has its unique features to submit. Of course, the added advantages or special features which every RABATEX brand products always carry have been fed into this new launch also. More than 6 decades of tradition inspires them to come out with something new every time for their patrons.

Fabric Sampling Weaving Machine (Small Width)



Technical specifications

- ✦ Working Width : 20" (50CM/500mm)
- ✦ Maximum Fabric Sampling length : 30 Meter
- ✦ No of Weft Selector : 8
- ✦ No. of Shaft : 20
- ✦ Auto Weft Selector
- ✦ Close Loop Control for Speed and Tension
- ✦ Fully PLC Controlled

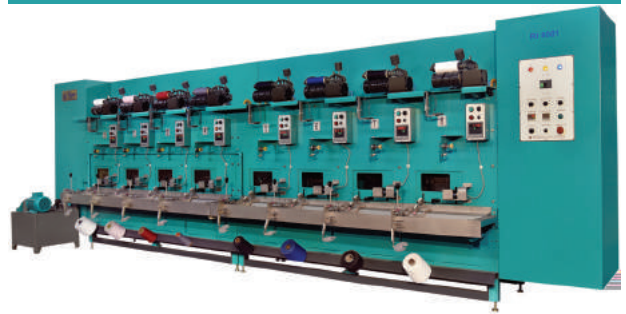
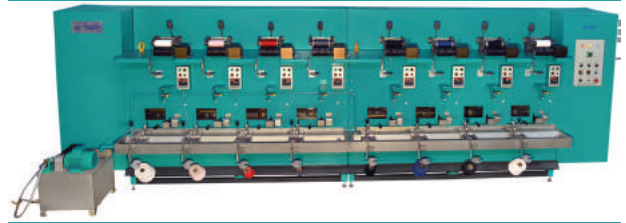
Single End Sample Warper (Small Width)



Technical specifications

- ✦ Working Width : 20" (50CM/500mm)
- ✦ Maximum Fabric Sampling length : 30 Meter
- ✦ No of Weft Selector : 8
- ✦ Leasing Operation : Automatic
- ✦ Thread Selection : Automatic
- ✦ Pattern Entry : Infinite
- ✦ Fully PLC Controlled

Cone to Cone Single End Sizing Machine



Technical specifications

- ✦ Heating Type : Electrical
- ✦ No of Spindles : 1/4/8
- ✦ Maximum Speed MPM : 250 MPM
- ✦ Length Set Control : Yes
- ✦ Temperature Control : Yes
- ✦ Speed Control : Yes
- ✦ Spindle Control : Individual

Advanced Sample Warper



SCIENCE IN INDUSTRY

Technical specifications

- ✦ Maximum Possible Length : 500 Meter
- ✦ Maximum Warp Feeder : 16
- ✦ Maximum Warping Speed : 1000MPM
- ✦ Maximum Beaming Speed : 50MPM
- ✦ Cross Lease Automatic : Yes
- ✦ Know Lease Automatic : Yes
- ✦ 7 Lease Automatic : Yes (Optional)

There are many firsts in Rabatex's cap as they thrive on research and development. They are proud to be part of the progress and value customer's inspiration. This new developed, Rabatex Product were exported recently to USA / CANADA / TURKEY / MEXICO / SOUTH AFRICA / INDONESIA and many more.

Rabatex Industry is the largest supplier of premium warping machines in India. There are already about 3200 Nos. of Sectional Warpers & about 5600 Trollies installed across the world. More details about products can be viewed on www.rabatex.com.

For further information, please contact :
Rabatex Industries
 Plot No. 559 GIDC
 Opp. Road No. 9, G.I.D.C., Kathwada
 Ahmedabad-382 430 (Gujarat), India
 Phone No. +91 79 2290 1367/68/69/70
 Fax No. +91 79 2290 1374
<http://www.rabatex.com>

Itema S.p.A

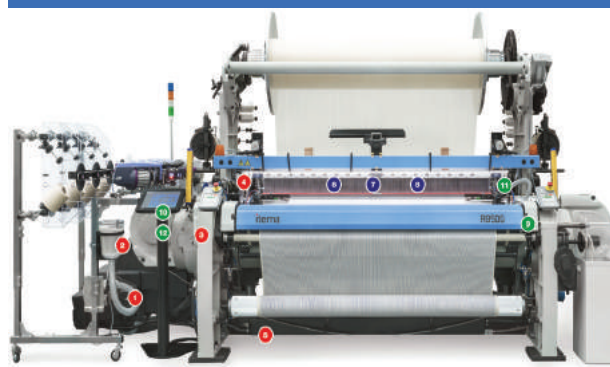
Itema showcased at SITEX Surat International Textile Expo 2023 held from January 7th-9th

Itema, the global leading provider of advanced weaving solutions, including weaving machines, OEM spare parts and integrated services, is exhibiting at SITEX (Booth 226) from January 7th – 9th at the Surat International Exhibition and Convention Centre (SIECC).

Itema confirms its trust and esteem towards the Surat textile entrepreneurs and, for the second year in a row showcases its unique weaving portfolio at Sitex.

2022 has been for Itema a remarkable year in terms of growth and part of this success is specifically linked to the Surat Region. In fact, as Sameer Kulkarni – Itema Weaving India General Manager Sales explains “Itema registered in Surat an unprecedented growth over the last year. We installed an amazing number of Itema weaving machines in the textile mills of the Region. We are proud to cooperate to the creation of some of the most beautiful fabrics in India and to support the talent of the Surat weavers with our advanced weaving technology.”

Itema is by far the leading supplier of rapier weaving technology in the Region, thanks to the excellent versatility and the superior textile mastery of its rapier machines which guarantee to Surat weavers to produce at best their fancy, sophisticated and fashionable Saree and women dress fabrics. The impressive number of Itema rapier R9500 and R9000 family models installed in Surat mills testifies how the Itema weaving technology is preferred by weavers to produce fabrics made with different yarns and weaving patterns.



Itema showcased at SITEX a rapier R9500-2 weaving machine, in weaving width 3800mm and equipped with a StäubliLXM 5376 hooks Jacquard shedding machine. The machine on display in Stäubli booth (booth 243) weaved a fabric traditionally produced in the mills of the Region and is configured to meet the local weavers production needs.

Moreover, the Itema staff was present on place to illustrate all the weaving innovations and the latest company updates to visitors. The Itema (and previous brands – Somet, Vamatex and Sulzer) spare parts and after-sales advanced solutions will have a dedicated focus with the possibility

to discover all the opportunities to give new life to looms, such as customized upgrade kits to optimize machine performance and retrofit latest IteMa innovations on existing looms and electric, electronic and mechanic repairs.

IteMa, with the Itematech division, also featured the widest portfolio in the market to weave technical fabrics, and Sitex is the occasion to discover more about the company technological solutions to producing carbon tape and fibre, fiberglass, coatings fabrics, filter fabrics, just to name a few.

Schoch, the IteMa Group company producing weaving accessories such as weaving reeds, reed dents and drop wires, is present in the IteMa booth to complete the Group weaving offering.

About IteMa

IteMa is a leading global provider of advanced weaving solutions, including best-in-class weaving machines, spare parts and integrated services. Sixty per cent of IteMa is held by Gianni Radici's family heirs (the siblings Angelo, Maurizio, Paolo, Maria Grazia and Bruna) and 40% by the Arizzi and Torri families. IteMa Group business areas include also industrial and innovation. In fact, in recent years the Group diversified into complementary, high-growth markets through stakes in innovation driven companies, such as Lamiflex®, Schoch® and Itemalab®, the IteMa advanced innovation hub created in 2014 that in 2021 evolved into a fully-fledged company dedicated to develop breakthrough textile and industrial solutions. With more than 1.000 employees worldwide, world-class production sites in Italy, Switzerland, China and India (the latter for Schoch products, ndr), IteMa features a global presence with commercial and after-sales services in Italy, Switzerland, China, India, Japan, USA, Hong Kong, Dubai, and Türkiye. More information about IteMa can be found on the website www.itemagroup.com.

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A.T.E. Enterprises Pvt. Ltd.

A.T.E tied up with W+D BICMA, Germany to bring in the latest hygiene textile technologies

The COVID-19 pandemic has brought renewed focus on the importance of medical and hygiene products. To help Indian industry meet the rising demand for textilemedical and hygiene products, A.T.E. has tied-up with W+D BICMA Hygiene Technologie GmbH, Germany –one of the world's leading hygiene textile machine manufacturers.



W+D BICMA feminine care products manufacturing machine

W+D BICMA supplies machines for manufacturing baby diapers, feminine care products, adult diapers, bladder control pads for incontinence, bed underpads, meatpads, pet pads and other specialised products such as surgical face masks and FFP2/N95 masks. Its portfolio comprises of a full range of compact high-speed multi-functional machines for high-capacity production and economical, medium-speed machines for start-up businesses.

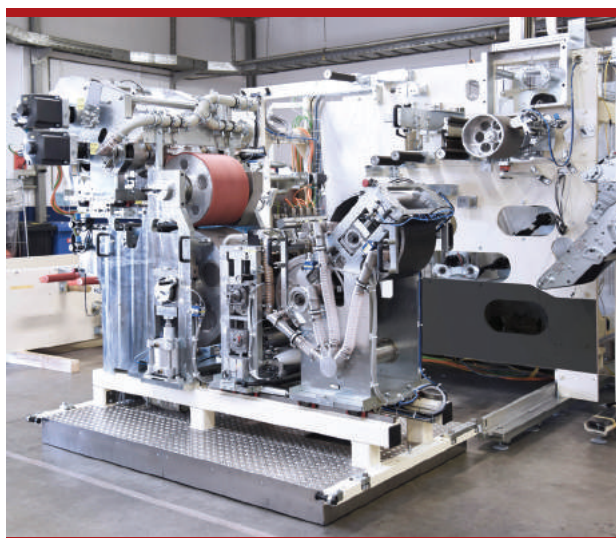
According to Marc Wolpers, Vice President (Sales & Market Development Hygiene Solutions), W+D BICMA, the market changed in 2020 towards a more diversified offering resulting in smaller jobs. "You can clearly see that on the retail shelves as well as on e-commerce platforms," he says. "With this in mind, we need to make sure that our machines work with minimised format change parts and low change times. With our patented Size to Size 'S2S' modules and our rapid forming drum change W+D BICMA is certainly well positioned in the market", Mr Wolpers added.

W+D BICMA finds that the baby pants segment is gaining more and more market share in regions like India. The reason for this shift is certainly the ease of use; ease of putting on a pant, instead of an open diaper.

SCIENCE IN INDUSTRY

This is also the case in the adult diaper segment. Here as well the company sees a strong growth rate for pants since they are similar to underwear, easier to put on and give more comfort in wearing. Of course, the modern incontinence pants also have to be much more discreet than they used to be, in order to meet customers' demands. "Our machines at W+D BICMA have the best prerequisites to fulfil all those demands provided that the appropriate materials are used for production" says Wolpers.

Sustainability is another ongoing trend. W+D BICMA is keeping a close watch on the use of natural raw materials like cotton, bamboo, etc., as well as developments in bio-based spunbond materials to make sure it offers the right equipment to convert sustainable materials into hygiene products.



S2S module

During the pandemic, W+D BICMA had designed a new high-speed machine in a short span of time which has the capability to produce 1 million face masks per day, called the Auxilium FM. BICMA also offers a high-speed machine that produces FFP2/N95 face masks.

"The Auxilium FM is a very successful new offering in our product portfolio which we realized in five months from the first sketch to the first running machine in our workshop," recalls Wolpers, and adds, "It was certainly a type of machine nobody had thought of in Europe before COVID-19. Now we evaluate those experiences to reduce time to market for our future developments."

The company has already installed several Auxilium FM machines in Europe and is currently working on many more new installations.

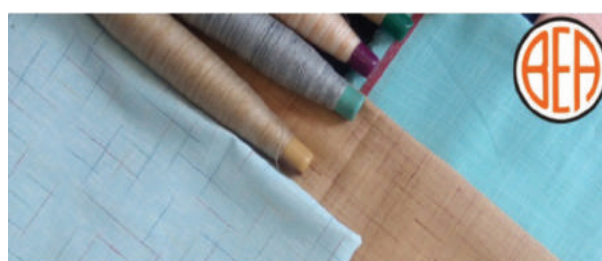
Besides complete machines, W+D BICMA offers upgrades for existing machines of any brand. These upgrades equip existing machines with new features to enhance machine efficiency and product design.

Some examples are :

1. W+D BICMA's preassembled S2S module: This upgrade enables a changeover time of just 2 hours from machine stop to full speed with a good product.
2. HDC (High Density Core): Saves costs by replacing the airlaid core of an absorbent product and increasing its efficiency to absorb more liquid.
3. To-go ministack: Enables wrapping of 4-5 products together in a re-closable flow wrap which saves >80% packing material as compared to single plastic wrapping.

BEA ELECTRONICS

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W+D BICMA has many successful installations globally at some of the well-known brands, both for standalone machines as well as upgrades.



To go ministack

About BICMA Hygiene Technologies GmbH:

Since its foundation in 1995, BICMA has established itself as an internationally recognised engineering company for the hygiene industry. In 2018, BICMA was taken over by Winkler+Dünnebier GmbH (W+D), which is also active in the hygiene solutions area. Both companies belong to the American Barry-Wehmiller Group, a leading global supplier of production technologies and solutions.

A.T.E. ties up with Craftsman Automation to promote automated storage solutions for Textile Segment

A.T.E. has entered into an exclusive agreement with Craftsman Automation for promotion, sales and marketing of Craftsman’s storage systems



Mr Abhijit Kulkarni and Mr Gautham Ram (shaking hands) with the rest of the team from A.T.E.

products and solutions for the entire textile value chain in India, Nepal, and Bangladesh.

Established in 1986 and headquartered in Coimbatore, India, with factories in 7 locations across India, Craftsman Automation is a diversified engineering company with vertically integrated manufacturing capabilities. They are particularly well-known in the automotive sector as an OEM supplier of automotive components such as engine blocks, cylinder heads, and the like. They have diversified into many segments and have products for varied industries.

Craftsman’s storage product portfolio includes Automated Storage and Retrieval Systems (ASRS), vertical storage solutions, stationary racking, shelving, and pallets. Craftsman has in house manufacturing facilities for racking and storage and retrieval Systems, and caters to Ecommerce, FMCG, food & beverage, Retail, 3PL, Pharma, Engineering, apart from textile segments. Craftsman’s VStore vertical storage and retrieval system makes maximum use



Craftsman’s Automated Storage and Retrieval Systems

of existing floor space due to its small footprint which is up to 80% smaller than conventional storage systems. For textile manufacturing, Craftsman provides special solutions like Fabric roll storage, Yarn Storage, trims storage, made up and finished garments storage solutions.

On the tie-up, Mr Abhijit Kulkarni, President, A.T.E. Enterprises, said, “Considering the trend towards automation and storage, our customers have been requesting solutions such as Craftsman’s from us. We feel that Craftsman’s products have enormous potential for use in all textile manufacturing segments. They are a world-class engineering company with a highly trained technical

SCIENCE IN INDUSTRY

team. Tying up with Craftsman Automation therefore makes perfect strategic sense for us.”

Mr Gautham Ram, Director, Craftsman Automation, said, “We are excited for the tie up with A.T.E. for promotion of our storage systems products for the textile manufacturing chain, we are particularly keen on leveraging A.T.E.’s vast experience and technical skillset in textile machinery to jointly work



Craftsman's VStore vertical storage and retrieval system

towards providing reliable, specially engineered storage and material handling solutions for the textile Industry in India and South Asia.”

About A.T.E.

A.T.E. helps its customers create the textile product they desire with a range of world class textile machinery solutions from global leaders that cover production as well as sustainable utilities. With more than 80 years of experience in the Indian textile industry, A.T.E. is renowned for its deep domain knowledge and impeccable customer service.

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Mimaki Europe

To combine productivity & quality with sustainability is a strategic goal of Mimaki at Salon C!Print

With a wealth of outstanding solutions and applications on display, Mimaki Europe will inspire visitors at the show in France

Mimaki Europe, the leading manufacturer of inkjet printers and cutting systems, has recently announced that it would showcase its latest market-leading technologies at Salon C!Print (31st January – 2nd February, Lyon, France). Underscoring the company's steady focus to address the current market needs, Mimaki demonstrated how to achieve top productivity, superior print quality, and sustainability by leveraging its printing solutions.

Visitors to the Mimaki booth (2P24) have been able to view a wealth range of printers operating live, as well as the extensive applications possible, encompassing all sectors from sign graphics, industrial printing, textile, and 3D. "We are extremely excited to participate in the next edition of Salon C!Print, the foremost print show in France," says Martial Granet, Branch Manager at Mimaki France. "We have worked side by side with our partners, customers, and the main market players, and tailored our technology portfolio to their needs. The mix of printing solutions and outstanding applications showcased at our booth has the potential to inspire visitors and enable them to enhance their businesses, refine their market strategies and boost their product ranges."



Standout technology on show includes the CJV330-160, from the recently-launched and already successful Mimaki's 330 series, that delivers higher productivity while setting new standards in print quality.

Standout technology on show included the CJV330-160, from Mimaki's recently launched and already successful 330 Series. The CJV330-160, an integrated printer and cutter, delivers higher productivity while setting new standards in print

quality. With workflow efficiency at the top of Mimaki's and its customers' agenda, in-built cleaning mechanisms and monitoring features ensure seamless production and allow for longer running times. In addition, the printer features a new media changer that allows three rolls of media to be loaded simultaneously, and the XY slitter, which provides in-line X-axis and Y-axis sheet-fed cutting.

Another highlight of the Mimaki showcase was the cutting-edge industrial JFX600-2513, a large-format UV flatbed printer achieving 200 m²/h production speeds –300 percent faster than its predecessor thanks to its increased number of printheads and strengthened hardware. The model also features an expanded colour spectrum with six colour configurations and the ability to work with different ink sets for improved quality.



Mimaki's industrial JFX600-2513 printer, with production speeds of up to 300 percent faster than its predecessor, will be central to the company's booth at Salon C!Print.

Also taking centre stage at Salon C!Print will be the latest UV flatbed printers from the UJF MkII e-series, and the UJV100-160 LED UV printer combined with the new CG-130AR cutting plotter. A high-speed, high-quality direct-to-object UV LED inkjet printer, the former has been designed with performance and creativity in mind, while also fitting seamlessly into an automated production environment. The latter doubles productivity, both through the instant curing of the UV ink and the performance of our new AR series plotters. In addition, Mimaki will also showcase the brand-new CG-60AR cutting plotter, designed to cut and groove a wide range of substrates and media.

"Together with productivity and quality, sustainability is also central to Mimaki's strategy. We position ourselves as a partner in helping our customers achieve their objectives in terms of sustainable practices", explains Martial Granet. "Our UV and solvent inks are GREENGUARD certified, while our printing solutions enable lower CO₂ emissions and reduced energy consumption, which is beneficial both in terms of cutting the overall

SCIENCE IN INDUSTRY

environmental impact down and when facing the current energy costs crisis. We are also making a conscious effort to innovate in the UV printing space, which is emerging as a cost-effective, environmentally friendly printing technology. Visitors to the show who are after sustainable solutions should definitely drop by the Mimaki booth."

Don't miss out on this opportunity to reconnect with Mimaki and the wider industry. To register for free entry to Salon C!Print use Mimaki invitation code E-MIMACPL23 or go here.

For more information about Mimaki's products and services, please visit: www.mimakieurope.com.

About Mimaki

Mimaki is a leading manufacturer of wide-format inkjet printers and cutting machines for the sign/graphics, industrial, textile/apparel and 3D markets. Mimaki develops the complete product range for each group; hardware, software and the associated consumable items, such as inks and cutting blades. Mimaki excels in offering innovative, high quality and high reliability products, based upon its aqueous, latex, solvent and UV-curable inkjet technology. In order to meet a wide range of applications in the market, Mimaki pursues the development of advanced on-demand digital printing solutions. Mimaki Engineering Co. Ltd., (President: Kazuaki Ikeda) Nagano (Japan), is publicly listed on the Tokyo Stock Exchange, Inc.

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S. K. Associates

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4. Pneumafil conversion for individual suction to common suction.
5. Compact spares for spinning.



6. New advanced fully automated smart plucker.

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For more information about conversion of LR & KTTM Ring Frame Rotary Filter to Stationary Filter Rotary Filter

1. The Rotary filter is always having trouble like frequent non-rotation of filter due to heavy waste accumulation (lapping) and failure of piston movement.
2. This results frequent stoppage of Ring frame to clean the accumulated waste and screen changing from the Rotary Filter Box.
3. This also requires compressed air as power to rotate.

Stationary filter

1. To overcome the above said problems in existing rotary filter with piston arrangement and the box will be replaced as "Retrofit" with a stationary filter fitted inside the waste box.

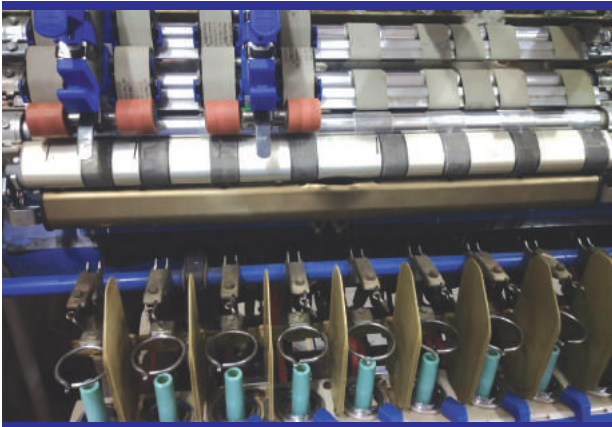


2. The waste collected in this waste pneumafil box can be simply removed manually by opening the side glass doors.
3. Operator can view the accumulated waste by looking into the glassed doors manually clean the waste.

Advantageous Stationary Filter

1. Maintenance free.
2. Complete elimination of Piston movement.

3. No air supply required for cleaning as in Rotary Filter.
4. No bearings, rubber gaskets, No change of filters.



5. Enhanced suction pressure.
6. Less suction leakage.
7. No more sudden stoppage of machine.

For further information, please contact :
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 Ph : +91 422 2916018
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Colorjet India Ltd.

Digitalizing Textile Printing
New innovative products of Colorjet exhibited in India ITME 2022

Relive India ITME Moments
Launched sustainable Pigment Printing Solution – EARTH SERIES

Mr. Madhu Sudan Dadu – Chairman, ColorJet Group along with Mr. Seiji Nakashima Vice President of Inkjet Components Division, Konica Minolta Inc. & Mr. Shu Watanabe Group Leader of Inkjet Components Business Unit, Konica Minolta Inc. Inaugurated the new ColorJet Earth Series - Sustainable textile Printing solutions.

The Day of Interaction

On the second day, Our high profile technological advanced products witnessed

visitors from leading companies such as Raymond, Welspun and many more. It was overall delight meeting our customers and initiating a dialogue with the new ones, metro NXT and Earth Series was definitely the talk of the Exhibition Hall.

Launched METRO NXT, Received Award for 'Textile Engineering' from India ITME Society

Mr. Madhu Sudan Dadu – Chairman, Mr. Arun Varshney - Vice President and Business Head Textiles Business and Mr. Smarth Bansal – GM – Product/Brand Management, ColorJet Group along with their print Head partner Mr Hironobu Fujihashi – General Manager and Mr. Anshul Prashar - Deputy Senior Marketing Manager, Kyocera Asia unveiled the High Speed, High Quality Direct to Fabric Digital Textile Printer - Metro Nxt.



On the same day, Mr. Rohit Kansal - (Additional Secretary, Ministry of Textiles, GOI), Roop Rashi Mahapatra (Textile Commissioner, GOI), Prajakta Verma IAS (Joint Secretary, Ministry of Textiles, GOI) visited and discussed about sustainable Textile Printing Solutions.

We are happy that we got an opportunity to serve our hospitality to clients from all over the globe. Discussions, meetings & client interaction were the highlight of the day.

It was a media day, ColorJet Team Interacted with the media to inform about ColorJet new Products - Metro Nxt and Earth Series, the product demo was also the pinnacle of the day.

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Contact at : +91 7217885728
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Visit : www.colorjetgroup.com

SCIENCE IN INDUSTRY

Gayatri Textile Machines

Some major products of Gayatri Textile Machines
Customers' satisfaction is a major aim of Gayatri Textile Machines

Our prime motto is to satisfy customer in all respects. Only customer's satisfaction is our profit margin. Considering Quality, Prompt Delivery, Price & after Sales Service, we are getting good responses from India and International Market.

Continuous design development / modification are being made in our range of products by studying customer's exact requirement, hence our products are successfully competing with others and exporting regularly in textile global market.

Last but not least, our entire expert technicians are working under one roof-Gayatri Textile Machines.

Cot Grinding Machine

Model GCGHY-200-25-AF

This machine has been sophisticatedly designed and constructed to perform vibration free for high accuracy, high productivity, Superior operability with very less maintenance. Hydro - Pneumatically operated to grind R/F and S/F (Murata Airjet, Sussen, Rocos etc) Top rollers only on pneumatically operated Centreless



Grinding Attachment with 200 min. wide emery having surface finish/accuracy as per international standards. To load 75 to 80 Top rollers of R/F or S/F at a time in adjustable magazine which will come one by one for grinding automatically with auto feeding system which is controlled by digital LCD electronic timer to set grinding time. The machine is equipped with dust extraction unit.

You can use another side to grind longer rollers like Draw Frame, Comber etc are grinded between centre by the help of MT2 Dead Centre with 25mm wide emery and hydraulically operated table traverse motion. Also we have made a provision that we have provided system for 200mm. wide emery attachment with hydro pneumatically operated Centreless Grinding attachment suitable

to grind all kinds of R/F & S/F top rollers as an optional.

Net/Gross weight : 1400/1800 & 250/450 kgs

Size of cage L x W x H : 180 x 150 x 165 cm

Size of cage L x W x H : 180 x 85 x 160 cm

Ultra Violet Treatment Machine

The most advanced environment friendly and world wide accepted treatment for irradiation of all types of cots like Ring Frame, Speed Frame, Draw Frame, Comber, etc. Designed totally maintenance free to reduce lapping on buffed top rollers in spinning department.





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- ☛ No Speed Loss - High production Model.
- ☛ Count Range 6% to 80%.
- ☛ Any Blend, any count, any twist
- ☛ Precise Repeatability, No Chain Drive System.
- ☛ Upto 200 Slubs/Minute.
- ☛ Upto Four Sensitive System & in 10 Million Slubs one slub can be checked. (MOST Advanced Auto mechanism)
- ☛ Cascading of SLUBMOTION Possible.
- ☛ All Models for OPEN End, R/F, Silk, Woolen, Chinese R/F Etc.

Hi-Speed Production Model.




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 Mobile : 94251 09456, 94251 21156

During treatment ultra violet rays improve the surface finish and control roller lapping to save costly rubber cots from damage ensuring consistency of yarn costly rubber cots from damage ensuring consistency of yarn quality and increased productivity, having 2KW, 1400 Volts, U.V. Lamp. For uniform treatment roller rotating system is provided. Treatment time is 6-8 minutes per batch for 35 top rollers of R/F and 20 of S/F. Loading and unloading of top roller is manual, safe and easy. Complete operation is controlled by auto reset timer.

Net/Gross weight : 450/650 kgs.

Size of cage L x W x H : 150 x 95 x 170 cm

Hydraulic Cots Mounting & De-mounting Machine

Machine is designed to mount & demount all types of longer top rollers like Comber, RSB Draw Frame "ALUCORE" cots etc. by horizontal attachment with roller guide, Stroke adjustment will be as per cots length. Separate Vertical



attachment is provided for Ring Frame, Speed Frame & O/E & texturizing cots (Plane, PVC, Easyfit, Alucore) for more productivity. Hydraulic Power Pack is provided to operate both attachment at a time with 2HP, 3 Phase electric motor. Working pressure can be adjustable.

Net/Gross weight : 350/550 kgs.

Size of cage L x W x H : 195 x 105 x 120 cms

Spindle Lubricating Machine

Lubrication machine is designed with 2 separate guns — flushing & oiling guns for perfect flushing/cleaning & oiling of spindle bolster for longer life of bearing, having trolley wheel to move one place to another place.

Due to zero leakage, there is no oil around the bolster which also ensures no fly and fluff accumulation, thus keeping the spindle/ring frame neat and clean.



Model	3 Tanks	2 Tanks
Flushing Tank	20 Ltrs	20 Ltrs
Oiling Tank	12 Ltrs	12 Ltrs
Topping Tank	10 Ltrs	—
Electric Motors	0.5 HP, 1440 RPM Single Phase	
Weight Net/Gross Kgs	110/230	100/220
Size of Case	125L x 60W x 110H cms.	

Flushing Gun (Clearing Gun)

Fitted with S.S. nozzle assembly, which cleans the bolster from neck bearing to footstep bearing and the dirty oil will be sucked out efficiently which will go to the flushing oil tank duly filtered twice by micro filter.

Lubricating Gun (Oiling Gun)

Equipped with adjustable S.S. dual nozzle assembly and easily adjustable auto oil level gauge system to maintain automatic oil level uniformly with no overflow or leakage at all. The same gun can be used for oil topping facility.

For further information, please contact :

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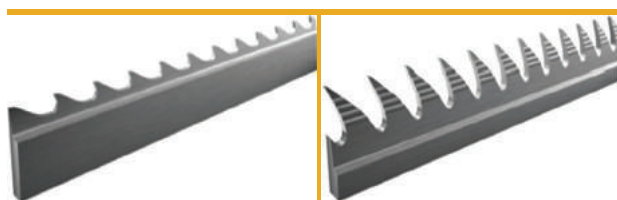
SCIENCE IN INDUSTRY

Unispin Card Clothing India Pvt Ltd**Some major products what put Unispin ahead**

We are delighted to have good response from our customers as they put up more orders of cylinder wire for cotton, high production cards and doffer wires for universal application

Unimax series cylinder wires

Our Unimax series cylinder wires are made of tough alloy steel raw material to withstand higher production loads in the modern high production cards. The tooth design has been modified to keep the fibres always towards tip. This enables intense carding action between cylinder and flat tops there by resulting in better nep removal and opening of fibre tuft. On field trials the Unimax series cylinder wires reported a maximum nep removal efficiency of 85% at the customers required production rate. Unimax also reported consistency in sliver quality even at the various life stages and production throughput.



Available in 2 points per square inch variations,

- ⇒ 860 ppsi – Suitable for count ranges between 20s to 30s counts, 100% cotton
- ⇒ 960 ppsi – Suitable for count ranges 40s and above 100% cotton

Doffer wire Unistar DL 4030X0.9 RC – 310

UCC has launched a innovative doffer around a year back. This doffer wire is having a special curved tooth design with enhanced tooth depth to accommodate and to discharge the air current at high production rates. Due to lesser points per square inch the doffer dissipates the air current better and hold higher volume of fibres. The doffer has been tested successfully up to a production rate of 140 kgs / hour production rate. This doffer has become universal for 100% cotton, synthetics, blends and other applications.

Metallic card clothing for non-woven cards

We offer metallic card clothing suitable for roller clearer carding machines process the below raw materials,

- ⇒ Carbon fibre material

- ⇒ Glass fibre material
- ⇒ High temperature resistant material
- ⇒ Low interior non-woven
- ⇒ Carpet materials
- ⇒ Blended materials
- ⇒ Hot air non-woven
- ⇒ Spun lace non-woven
- ⇒ Island fibre material

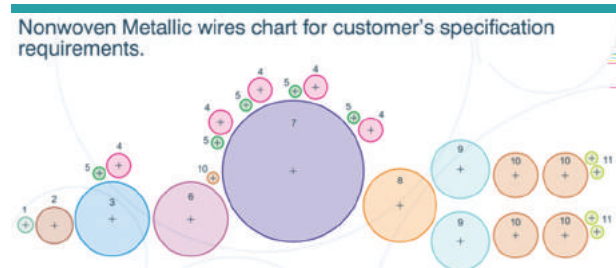
And for other synthetic and natural fibre process as per customer requirement.

Nonwoven Metallic wires chart for customer's specification requirements.

Raising fillets for fabric raising applications

We offer raising fillets for processing the below fabrics,

- ⇒ Knitted fabrics
- ⇒ Acrylic blankets
- ⇒ Raising fillets for U.S.A. type
- ⇒ Brushes for napping machine raising fillet
- ⇒ Raising fillet for Far East type
- ⇒ Brushes



UCC offers card clothing products suitable for ring spinning, open end spinning, and cotton, synthetic and blend applications. Customer can visit UCC website www.unispincardclothing.com 24x7 and can access the product catalogue and download the same. UCC continuously develop the existing products and add new products for the emerging needs of customer and to cater new high production cards. With UCC products you can rest assured of consistent sliver quality, performance and life.

For further information, please contact :

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*Delivering
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Cot Grinding Machine
Model GCGHY-200-25-AF



Cot Grinding Machine
Model GCGHY-200-AF



Hydraulic Cots Mounting &
De-Mounting Machine



Spindle Lubricating
Machine



Auto Feeder with Flocked Clearer
Roller Cleaning Machine



Ultra Violet Treatment
Machine

Our products are specifically engineered and designed for meeting the needs of spinning industry, with our expertise and continued in quality, we are providing leading solutions allowing you to increase efficiency and gain competitive advantage

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- Ultra violet treatment machine
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- Top Roller greasing machine [Automatic]
- Top Roller de - greasing machine
- Clearer roller cleaning machine
- Fluted Roller truing machine
- Cot Mounting machine [Hand/Pneumatic]

GAYATRI TEXTILE MACHINES



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