Textile Trends

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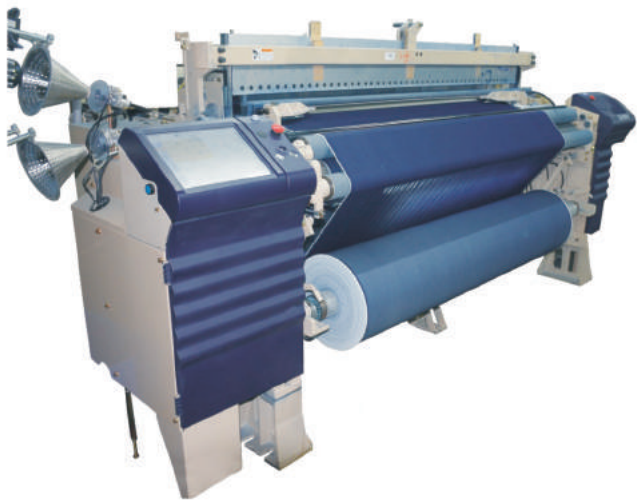

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EDITORIAL

In work-from-homeculture peoples globally search for—'waist-up' trends

Gone are days of formal wear. Video-call life has brought about changes in wear. Now it is mostly a nice shirt up top and PJs or sweats at the bottom. In the initial months of work from home (WFH) zoom suit— a clip-on suit with slide-in arms got introduced. While the kick-starter did not take off as well as expected, designers and brands are gearing up for the waist-up life.

In many acclaimed articles it is getting figured out how the pandemic would impact fashion, many fashion consultants say the trend of dressing from the waist-up would gain traction. The sales of tops—blouses, shirts, sweaters etc. more than bottoms are also being driven by video conferences and the waist-up camera view.

Waist-up fashion is becoming a new design-direction. The freelancer's uniform of formal tops and casual bottomwear came to India in 2018. With self-employment and the freelancer culture growing, more young workers are dressing-up but not dressing formal.

The rise of comfortwear has already impacted the fashion business. Customers are heading towards an increase in the use of natural material that feels good against the skin, softer silhouettes and more soothing colours.

Designers start to look at catering to the waist-up need. In men's wear the waist-up life has shifted focus to the collars—both for blazers and shirts. In April 2020 research, it is found that people mainly searched for 'waist-up' trends. People now are purchasing clothes for their work-from-home looks. For the brand, its collared kurta shirts have garnered good sales during this pandemic. The focus on garments, accessories and grooming has moved waist-up now. It would pick up Jackets, Blazers and ties. These trends brought up due to COVID-19 might stay after the pandemic too—may not be so dramatically, but the elements of these will continue and make their way into designer collections and into the mainstream fashion industry for seasons to come.

China's exports grew 9.9%, imports rose 13%

China's imports grew at their fastest pace this year in Septembr, while exports extended their strong gains as more trading partners lifted coronavirus restrictions in a further boost to the world's second-biggest economy. Exports in September rose 9.9 per cent from a year earlier, customs data showed recently, broadly in line with analysts' expectations for 10 per cent growth and up from a solid 9.5 per cent increase in August. The strong trade performance suggests Chinese exporters are making a brisk recovery from the coronavirus pandemic's hit to overseas orders. As the global economy restarts, Chinese firms are rushing to grab market share as their rivals grapple with reduced manufacturing capacity. China's factory activity has also picked up as international trading gradually resumes. But some analysts warn exports could peak soon as demand for Chinese-made protective gear recedes and the base effect of this year's massive declines wears off. Imports surged 13.2 per cent, returning to growth from a slump of 2.1 per cent in August and much stronger than expectations for a 0.3 per cent increase. ❐

UNCTAD expects 7-9% contraction in 2020 global trade

The United Nations Conference on Trade and Development (UNCTAD) expects a 7-9% on-year drop in the value of global trade in 2020 despite signs of a rebound led by China, due to a possible resurgence of Covid-19 infections in the coming months and the prospect of a deteriorating policy environment, with sudden increases in trade restrictive policies. In its quarterly Global Trade Update, it said that preliminary data for the third quarter suggest that global growth remained negative with a decline of about 4.5% on a year-over-year basis though it rebounded from the second quarter when it shrank around 19% on-year. "Trade in home office equipment and medical supplies has increased in Q3, while it further weakened in the automotive and energy sectors," UNCTAD said, adding that there is a generalised downtrend in the quarter except for some East Asian economies. As per the report, India's exports declined 6.1% on-year for quarter ended September 30. Earlier in October, the World Trade Organization upgraded its forecast for trade in goods due to improvements from June and predicted a 9.2% drop in 2020 but it saw a more muted rebound in 2021. With further lockdowns from a second wave of Covid-19 infections posing risks. "No region has been spared from the decline in international trade in the second quarter," UNCTAD said. While trade in East Asia appears to have fared relatively better than in other regions, the sharpest decline has been for the West and South Asia region, where imports slumped 35% and exports 41%. China's exports rebounded strongly in the third quarter after falling in the early months of the pandemic, and have posted year-on-year growth rates of nearly 10%, UNCTAD said. As per the report, trade in Covid-19 medical supplies has grown by an average of more than 50% since April 2020, but the increase in such trade has primarily benefited residents of wealthier nations. ❐

US economy gatherd record gains, but problems remain

US eocnomic output grew at the fastest pace on record last quarter as businesses began to reopen and customers returned to stores. But the economy has climbed only partway out of its pandemic induced hole, and progress is slowing. Gross domestic product grew 7.4% in the third quarter, the Commerce Department said recently. The gain, the equivalent of 33.1% on an annualised basis, way by far the biggest since reliable statistics began after World War II; the previous record was a 3.9% quarterly increase in 1950. Still, the economy in the third quarter remained 3.5% smaller than at the end of 2019, before the pandemic began. By comparison, GDP shrank 4% over the entire year and a half of the Great Recession a decade ago. The report was the last major piece of economic data before the presidential election. Even before the release, President Donald Trump touted the prospect of a big gain as evidence that the economy had roared back to life after the spring's pandemic induced shutdowns. But economists said the third-quarter figures revealed less about the strength of the recovery than about the severity of the collapse that preceded it. GDP fell 1.3% in the first quarter and 9% in the second as the pandemic forced widespread business closures. A big rebound was inevitable once

the economy began to reopen. The challenge is what comes next. "The reason we had such a big bounce is that the economy went from closed to partially open," said Michelle Meyer, head of US economics at Bank of America. "The easy growth was exhausted, and now the hard work has to be done in terms of fully healing." Already, there are signs that the recovery is losing steam. Industrial production fell in September and job growth has cooled, even as a growing list of a major corporations have announced new rounds of large-scale layoffs and furloughs. Most economists expect the slowdown to worsen in the final three months of the year as virus cases rise and federal aid to households and businesses fades. "We're having a record recovery, but it comes after an even more record collapse, and it looks like economic momentum is fading in the fourth quarter," said Jim O'Sullivan, chief US macro strategist for TD Securities. ❐

China's factory output rose faster than expected

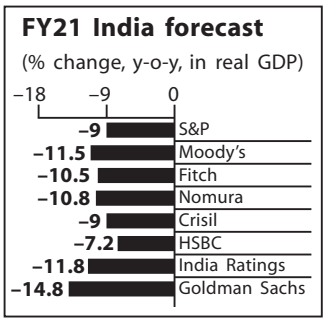
China's factory output rose faster than expected in October and retail sales sped up, as the recovery in the world's second-largest economy from its Covid-19 slump gathered momentum. Industrial production climbed 6.9% in October from a year earlier, data from the National Statistics Bureau showed recently, in line with September's gain and faster than the 6.5% rise expected in a Reuters poll of analysts. The upbeat figures came as other Asian powerhouses also climbed out from their pandemic depths, with Japan's economy reporting its fastest quarterly growth on record. China's industrial sector has staged an impressive turnaround from the pandemic paralysis seen earlier this year, helped by resilient exports. Now, with the coronavirus largely under control in China, consumers are opening up their wallets again in a further boost to activity. "The latest data suggest that the broadbased acceleration of China's economy continued in October," Julian Evans-Pritchard at Capital Economics said in a note. "Policy stimulus continued to boost investment and industrial output while growth in real retail sales and services activity returned to pre-virus levels." Across China, smelters and refineries ramped up production in October with aluminium and crude oil hitting record output levels as the reopened economy stoked demand. Growth is expected to a accelerated in the fourth quarters as the service sector recovery maintains momentum, Fu Linghui, spokesman of the National Statistics Bureau said, told reporters at a briefing. In the consumer sector, retail sales rose 4.3% on-year, missing forecasts for 4.9% growth, but still the fastest growth this year. The improved appetite for spending was seen with China's auto sales growing 12.5% in October, thanks to surging demand for electric vehicles. Domestic tourism saw a strong rebound over the Golden Week holiday in October, although levels were still short of last year's. Fixed-asset investment rose 1.8% in January-October from the same period last year, compared with the 1.6% growth forecast and a 0.8% increase in the first nine months of the year. ❐

UK's economy bounced back 15.5% in 3rd quarter

The British economy bounced back strongly in the third quarter of the year as many of the restrictions associated with the spring lockdown were lifted, official figures showed recently. The Office for National Statistics said the economy grew by 15.5 per cent in the July to September period. Though that was in line with market expectations, the recovery clearly eased in September, with monthly growth of only 1.1 per cent, a clear sign that the recovery was already running out of steam before a resurgence of the coronavirus led to the reimposition of restrictions. That quarterly growth did not make up for the record 19.8 per cent fall recorded in the second quarter when much of the economy was shuttered in connection with the coronavirus lockdown, and the 2.5 per cent fall in the first three months of the year. Despite the third-quarter improvement, the statistics agency said the economy is still 9.7 per cent below where it was before the pandemic at the end of 2019. And the worry is that the economy will shrink again in the fourth quarter of the year after the resurgence of the virus led to fresh curbs on everyday life across the UK England, for example, is in the midst of a four-week lockdown until December 2. "Britain's COVID crisis, and its recovery phase, will take far longer than many people first thought," said James Smith, research director of the Resolution Foundation. ■

India GDP to contract by 9% in FY21 : S&P

Global rating agency standard and Poor's (S&P) recently revised down its forecast of a contraction in India's real gross domestic product (GDP) to a record 9% in FY21 from 5% announced earlier, suggesting that the continued escalation of Covid will likely keep a leash on both private spending and investment for a longer-than-expected period. With this, S&P joins its peers—Moody's and Fitch—and other established agencies in predicting a sharper slide in India's GDP, after the government announced a record 23.9% contraction, the steepest among the G-20 economies, in the June quarter. Recent, Moody's forecast India's GDP to shrink by 11.5% in FY21, while Fitch predicted a fall of 10.5% and Goldman Sachs 14.8%. While most agencies have predicted a recovery in FY22 (S&P projects a 10% expansion next fiscal), some of them have cautioned that it will be greatly aided by a favourable base and a meaningful rebound will take time to materialise. S&P expects a permanent loss of 13% in output over the next three years. India's elevated deficits will limit the scope for large fiscal stimulus, while the potential for further support monetary support is curbed by inflation worries, the rating agency said. S&P said : "While fiscal spending increased during the March-June quarter, the targeted fiscal stimulus measures announced so far amounts to about 1.2% of GDP. This magnitude is lower compared with global averages. The IMF estimates that on average comparable stimulus measures across global emerging markets have been about 3.1% of GDP." The RBI has trimmed the benchmark lending rate by as much as 115 basis points so far in 2020 to 4%. However, retail inflation remained above the its tolerance band of 4(+/-2)% for seven out of the past eight months through July, complicating the central bank's job. Despite easing of lockdown, Covid will continue to weigh on economy and that recovery has been more gradual than anticipated, according to the agency. The agency said although industrial activity is witnessing a faster recovery than services, leading economic indicators suggest that output is still lower than a year ago, so growth for the September quarter will also be negative. "The larger adverse shock to growth will be driven by corporate balance sheet damaged with small and midsize enterprises closing shop, and larger firms holding back capital expenditure, which will constrain their growth capacity," the agency added. ❐



Trade deficit widens in Oct, exports down to 5.4%

India's merchandise exports fell 5.4 per cent in October, while imports declined at a faster pace of 11.5 per cent than a year ago, data released recently showed. However, trade deficit was 25 per cent lower than the previous year at $8.78 billion. Month-on-month, trade deficit widened from $2.72 billion in September, when exports rose six per cent. The fall in imports was moderate compared to previous months, but still substantial. Exports, other than oil and jewellery, rose 6.3 per cent in October. However, this paled in comparison with the 12 per cent rise seen in September. Oil prices were about 33 per cent lower in October than a year ago. Meanwhile, essential non-volatile imports (excluding oil, gold, and jewellery) declined by 8.3 per cent, indicating persistent weak demand. Gold imports rose 36 per cent, and those of pearls and precious stones jumped by 50 per cent. Reflecting rising demand in the segment, electronic goods imports also rose 16 per cent. However, imports of capital goods declined sharply, suggesting that investment demand looks lacklustre as against consumption demand. Transport equipment imports fell 56 per cent, while machinery imports declined by 15.6 per cent in October. Pharma exports grew 22 per cent, rice exports

doubled year-on-year, and chemicals exports rose 74 per cent. Gems and jewellery exports, on the other hand, declined 21 per cent, while leather and leather products fell 3.8 per cent. Exporters have received many enquiries and orders, said Sharad Kumar Saraf, president at the Federation of India Export Organisations (FIEO). He added that the completion of the US presidential elections and the Christmas and New Year festive season would expedite revival. Rise in imports of precious metals as raw material for the gems and jewellery industry augurs well for the sector, FIEO said. Engineering exports, however, fell 3.8 per cent in October. Speaking about this, Mahesh Desai, chairman at Engineering Exports Promotion Council, said India may see headwinds as major European economies such as Germany and France impose fresh lockdowns. Experts said the trend was along expected lines, but cautioned about its sluggish nature. ❐

Core sector's shrinkage narrows to 0.8% in September

In an encouraging sign, the output of eight core industries contracted at a much lower rate of 0.8 per cent in September 2020, collating well with the higher consumer spending seen in early October. This is the seventh straight month of contraction since March when the core industries contracted 8.6 per cent. However, the latest print is much better than the revised contraction of 7.3 per cent sent in August 2020. The eight core industries had contracted 8 per cent in July 2020 and (–) 12.4 per cent (revised) in June this year. For the April-September 2020, the eight core industries output contracted 14.9 per cent compared to 1.3 per cent growth seen in same period last year. The disaggregated performance of the core industries was highly uneven, with sharp improvements in coal, refinery products and cement, amid a worsening performance of fertilisers and natural gas in September 2020. Encouragingly, coal, electricity as well as steel were able to post a YoY expansion in September 2020. The eight core industries are coal (21.2 per cent), crude oil (–6 per cent), natural gas (–10.6 per cent), refinery products (–9.5 per cent), steel (0.9 per cent), electricity (3.7 per cent), cement (–3.5 per cent) and fertilisers (–0.3 per cent). Commenting on the latest core industries data, Aditi Nayar, Principal Economist, ICRA said : "With the shrinking of the contraction of the core sector output, and the growth displayed by both auto production and non-oil exports, the IIP may well be able to eke out a small growth in September 2020." While many lead indicators have displayed signals of a strengthening economic recovery in September 2020, ICRA has cautioned that the sustainability of the upturn may not be universal, and await signs of its durability. The substantial improvement in the core sector performance in September 2020 was driven by the base effected uptick in coal production, related to heavy rainfall and labour issues in some mines in September 2019. Accordingly, the expansion in coal output is unlikely to sustain at this robust pace beyond the October, Nayar said. With improved mobility of people and goods, the contraction in refinery products halved in September 2020, an encouraging trend that may continue in the immediate term, she added. Madan Sabnavis, Chief Economist, CARE Ratings, said that core sector data reflects work in the infra space, and the fact that coal, electricity and steel have registered positive growth does indicate that the unlock programme has had a positive impact in this segment. Higher growth in power of 3.7 per cent can be linked with more business activity in operation while coal growth of 21.2 per cent goes along with higher demand for electricity as well as steel, he said. While cement growth remains negative at 3.5 per cent, steel has turned over marginally at 0.9 per cent. This corroborates the picture revealed by some of the steel companies which have seen good demand especially from construction and auto sectors, Sabnavis said. Negative growth in the oil segment—oil, gas and petrol products—is reflective of absence of revival in the transport segment. This should improve in the coming months with relaxation in lockdown measures, accordign to Sabnavis. ■

Textile and paint makers announced ads of their antibacterial products

In the last week of October, Asian Paints put out a half-page advertisement in some leading news dailies, announcing its anti-bacterial paint.

In the advert, which featured Ranbir Kapoor and Deepika Padukone, it claimed the paint killed 99 per cent bacteria. A prominently positioned stamp on the ad also claimed that the paint was 99 per cent effective against the Covid-19 virus as well and killed it within 30 minutes of exposure to the surface.

Asian Paints isn't the first company to roll out and advertise a product line that claims efficacy against microbes, and often also the virus that has brought the world to its knees.

Over the last few months, several businesses have advertised such products. Textile-to-retail conglomerate Arvind, Aditya Birla group (with Peter England), Donear, Raymond, Siyaram's, JSW Paints... the list is long and growing. And why not? The antimicrobial textiles market alone is likely to surpass $20.5 billion by 2026, according to Delaware-head-quartered Global Market Insights Inc.

Almost each of these companies has a different technology to show for the effectiveness against microbes.

Peter England, for instance, says it collaborated with Switzerland-based HeiQ to launch antiviral work wear, lounge wear and face masks. HeiQ Group's Co-founder and CEO Carlo Centonze has said the fabric remains resistant to common viruses and bacteria for up to 30 gentle washes in the case of masks and 20 for apparel. Peter England has, however, been careful to put out a disclaimer in its add: "Resistance to Covid-19 is yet to be assessed."

Raymond meanwhile, turned to Japan to bring out a ViraSafe range to target microbes through a "built-in Silver Technology" and an antiviral chemical, which, its spokesperson says, is safe for the human body.

The fabric's antiviral properties, the spokesperson adds, last 30 washes and are effective even post that, and have been tested at centres such as Bureau Veritas, ITS Laboratories and Biotech Testing Services.

For Donear Industries, which tied up with men's wear brand Zodiac to launch Securo (its range of antiviral shirts), sales in this segment have been unprecedented, says Managing Director Rajendra Agarwal.

The company, he adds, expects 10-15 per cent—approximately Rs. 50 crore—of its annual sales to come from antiviral products, which include wool blends, synthetic blends, cotton blends and others.

Moving from clothes to walls, JSW Paints recently launched a new range of antibacterial paint, Halo Safe Home, for walls, wood and metal. The paint, which the company says uses Zn2+ zinc ions to fight bacteria, fungus and virus and complies with Japanese Industrial Standards, is currently priced at Rs. 300-350 a litre. And, so far as the film remains intact, its antimicrobial properties can last 5-7 years, says A S Sundaresan, joint MD and CEO, JSW Paints.

While information and research on antiviral products is limited gobally, anti-bacterial coatings are far more evolved, Sundaresan adds. A virus does not survive on its own and needs a host. Bacteria (good or bad), on the other hand, is a widely present microorganism. So if a coating is anti-microbial and doesn't allow anchorage to bacteria, then it should be effective against viruses too, he explains.

Products with ad-on properties such as these also come for an added cost. Donear, for instance, charges 15 per cent more for its antiviral fabric. Peter England's antiviral collection is priced at Rs. 1,700-2,000 a metre (the regular range costs Rs. 735-1,500). In the paint industry, such value-added products are offered at a 5-10 per cent price premium by leading companies, says Sundaresan.

Whether people who use these products as an added layer of protection get infected less than those who don't is, however, debatable. There are peerreviwed researches on dressings for wounds made of fibres and bandages that are bacteriostatic (capable of inhibiting the growth or reproduction of bacteria), bactericidal (capable of killing bacteria outrightly), anti-viral, fungistatic and such. But "we don't have enough scientific data on this (antimicrobial wearables)," says C Jagadeesh, senior consultant-Internal Medicine, Apollo Hospital, Chennai. "Besides," he adds, referring specifically to textiles, "for infections such as Covid-19, clothes are not the main mode of transmission."

And then, what might work in foreign conditions might not hold true in the Indian environment, where ambient temperature, humidity levels and so on are different, says K Srinath Reddy, president, Public Health Foundation of India. So these antimicrobial products—whether textiles, paint or UV radiations—must stand scrutiny by independent laboratories in Indian conditions, he adds.

Asian Paints, in fact, declares in its ad that its Covid-19 claim is based on a study by the Rajiv Gandhi Centre for Biotechnology, a government-certified lab in Thiruvananthapuram, Kerala.

Meanwhile, the Advertising Standards Council of India (ASCI) is keeping a close watch on such advertisements by companies, big and small, including those for air conditioners, air purifiers, healthcare items and such.

"So long as brands deliver what they promise, these could be useful to consumer," says ASCI Secretary General Manisha Kapoor. "What we don't want is for them to take undue advantage of consumer fears." ■

Growing demand for winterwear, kidswear drives V-Mart Retail sales

With increasing demand for winterwear and kidswear, mid-sized hypermart V-Mart Retail is witnessing "month-on-month" recoveries across stores in small towns.

Although sales are yet to reach pre-Covid levels, Diwali "saw a very good business" and H2 sales (October-March) are expected to be "much better" than the first half.

A report by Edelweiss Securities said, "the early part of Pujo was slightly weak", but Diwali sales "went by very strongly, especially in Tier-II/III towns. The company continues to see very strong offtake across regions." During the festival season last year, V-Mart had Rs. 550-crore worth of inventory; while this year it had Rs. 350 crore. But the company clocked similar sales.

However, sales are not consistent across regions, and on an aggregate, the company is clocking 75-80 per cent of pre-Covid-19 revenues. According to Vineet Jain, COO, V-Mart Retail, the company saw "sequential recoveries". However, not just the festival demand, but the early onset of winter and subsequent demand for related items like sweatshirts, hoodies, active wear, jackets and sweaters led to "increased activity among customers". Good buys are happening in kidswear too. The wedding season is expected to be another demand driver.

"There is renewed activity in the market because of early on-set of winter in the Hindi heartland and in North India—a core market for us. Eastern markets have recovered post *Pujas* driven by demand for winterwear. We saw a bigh rush for winter merchandise and kidswear; and were adequately stocked," he told recently.

"Gradual shift is also happening from unorganised to organised players thereby leading to increased footfalls in V-Mart stores," Jain added.

Sources say, V-Mart has already carried out rental renegotiations and these savings will be accounted for in Q3 numbers. It had also closed down four unprofitable stores in the July-September period.

The retailer will look at more store openings, each store being around 8,000 sq ft in size. New stores are planned in Ranchi, Varanashi and in other tier-II towns. Stores will be company-owned and operated. ■

Maha cotton seed companies asked to specify production tech of hybrid varieties on packs

The government of Maharashtra has directed the companies selling hybrid cotton seeds to specify in detail the technology used in production of seeds on the pack. Seed companies in Maharashtra and other cotton producing states have expressed displeasure at this decision.

Dilip Zende, director, quality control, Department of Agriculture, Maharashtra, told recently that the decision has been taken to empower farmers and give them the opportunity to bargain for better prices with dealers depending on the method of production used by companies. One of the methods is more expensive than others, and therefore, should get the benefit.

From the next cotton season (Kharif 2021), seed companies will have to mention whether hybrid cotton seeds have been produced by the conventional emasculation method or the male sterility technique, he said. The emasculation method is much more expensive than the male sterility technique, Zende explained.

Indra Shekhar Singh, director (policy and out-reach) of National Seed Association of India, said there is no clarity in how farmers will benefit by such a move. What advantage farmers will have by knowing that a particular packet of seeds has been produced by using a certain technology," he asked. The data which are being sought to be printed on the packets, are already with the government. ■

Cold wave brings cheer of Apparel business

The National Capital Region (NCR) recorded the coldest November temperature in 17 years of 6.9 degree Celsius on 22nd November while as even colder weather gripped hilly parts of northern India. That has brought some welcome cheers to fashion and apparel retailers reeling under low sales and high inventories due to the prolonged pandemic.

The cold wave is fuelling demand for big ticket winter-wear items like jackets, sweaters, woollen items and hoodies among other thick apparels.

After a better-than-expected sales in Diwali, cold weather is helping retailers to accelerate the recovery with brands from Arvind Fashions, Lifestyle, Benetton and Levi's reporting up to 85% of last year's business level in November, up from about 75% in September.

"Generally there is a drop in sales after Diwali. We saw some bit of drop this year as well, but we managed to recover due to the demand for winter wear," said J. Suresh, MD of Arvind Fashions that sells a host of brands including US Polo, Aeropostale and Flying Machine among other labels. "So the sharp drop did not happen this year as winter wear played its part. That is a good sign."

The pandemic has been a roller coaster ride for retailers. First was the shutting of malls, then months of lockdowns and since June as spate of mini-lockdowns in many states and cities. Even now, they are facing sporadic worries like a spike in Covid-19 cases in the most important Delhi market and mini lockdowns in cities like Ahmedabad.

"The early winter is absolutely a blessing in disguise," said Lalit Agarwal, CEO of value retailer V-Mart that has about 210 out of their 270 outlets in the northern parts.

Retailers were already keeping their fingers crossed for a good winter this year. Some of them had consulted weather experts to gauge the winter to align their inventories this year, especially the last two winters in north India had set in only by December.

"The demand is huge as the winter is very strong this time," said Sanjeev Mohanty, MD for South Asia, Middle East and North Africa for Levi Strauss. "My theory is that winter is one of the biggest fear factors for contracting cold and Covid. They don't want to catch cold, so people are taking this winter more seriously than any other winter earlier. So that is having a major impact on our business."

Brands said sweatshirts have been particularly popular among consumers since August and saw an uptick for the product for brands from Levi's, Benetton and Allen Solly among other labels. Japan's largest fashion retailer Uniqlo said it has already sold more than 50,000 fleece jackets, loungewear and long sleeve T-shirt in since August.

"Our sales in November are more than triple those from November last year, mainly due to the increase in the number of stores in Delhi NCR and the launch of our 'Shop From Home' online shopping service," said Shantanu, who uses only one name, marketing director for Uniqlo India.

Vishak Kumar, CEO of Madura Fashion and Lifestyle that sells brands including Allen Solly, Louis Philippe, Van Heusen and Peter England among other labels, said an early onset of winter certainly helps retailers to align the overall seasonal calendars. ■

Elegant Banarasi Silk seeks help of National and International markets

Under Chief Minister Yogi Adityanath's ODOP scheme, the world-famous silk industry of Varanasi is reaching new heights. After the launch of ODOP in 2018, the silk industry of Banaras took a new turn. Under ODOP that encourages self-employment, the state government is providing loans with subsidies to weavers, exporters and traders associated with the Varanasi silk industry, in turn encouraging the demand for silk both nationally and internationally. Even when the world was facing a slowdown during Covid-19 pandemic, the demand for Banarasi silk products went up by 75% internationally and 70% in the domestic market in the last seven months with the help of incentives and policy support of the ODOP scheme. In 2019, the export value of Varanasi silk products was Rs. 216 crore under the ODOP scheme. The government has disbursed loans of Rs. 20 crore under the ODOP margin money scheme while 450 weavers were given training and tool kits under a scheme for it.

Artisans are also being reimbursed for participating in any state, national or international fair through the ODOP MDA scheme. The CM has also laid the foundation stone of a common facility centre which will train weavers in modern techniques of weaving, screen printing etc. ■

Good bye T-shirts, hello collars—CA Institute rolls out new 'Professional' dress code for students

In a globalised working world, CA Institute is now going the extra mile to inculcate professionalism among its students (articled clerks and audit assistants), right from the start of their training period.

It has now come up with a Code of Conduct for its students, which among other things specifies a "formal dress code" for those pursuing the chartered accountancy course. This, it feels, will give them a professional look and help them present themselves in a confident manner.

The advisory dress code for male students is full sleeves shirts and trousers. For female students, it is sarees/salwar kurta/suit. Here's the crucial part—while appearing before Appellate Authority, the student may also wear formals !

At a time when the world is dressing down to fit into WFH mode, students that medias spoke to are taken aback by the insistence of a "formal dress code". However, many seniors among the CA fraternity see a lot of utility in mandating a formal dress code during articleship (training years).

Former CA Institute president G Ramaswamy said this move is a positive to bring professionalism during student life itself.

"This will better prepare the student and be useful for their future career in employment or as a practising chartered accountant or in appearing before regulatory and tax authorities," he said.

Former CA Institute president R Bupathy felt this dress code could be a value-add for a student in the accountancy profession, which has increasingly become globalised.

"Today we are going global and more international exposure is coming. Even as an articled clerk they may have to participate at international level discussions. Having a dress code could be useful as a sort of value addition. This is also going to improve the image of the profession," he said.

Atul Kumar Gupta, President, Institute of Chartered Accountants of India (ICAI), sought to downplay the Code of Conduct for students and asserted that a formal dress code will only help inculcate professionalism among students.

There is a perception in student circles that by bringing the code of conduct, the CA Institute is trying to send a message to those actively using social media to malign the profession to "be aware and cautious".

The Code will be applicable to all students including those in foundation, intermediate and final courses. The Code is so elaborate that it even prescriptively requires students to maintain "decency and decorum" while attending programmes like seminars, conference and mock tests organised by the Institute or its regional councils/branches. ■

Irani : Financial support to cotton farmers by cash transfer

The government has transferred Rs. 6,314 crore to over half a million farmers after procuring cotton valued at over Rs. 7,500 crore, textiles minister Smriti Zubin Irani said recently.

On the recently approved production-linked incentives for the textiles sector, she said this is the first form of financial support given by the government to the emerging industry where competitiveness and competence will be valued and awarded. "The government has stepped up with labour reforms and also given enough space for states to aid industrial growth," Irani said at an event organised by CII.

The minister said the government has undertaken agricultural reforms. "Agriculture reforms tell the industry that it needs to grow, but not at the cost of the farming community," she said, asking industry to become self-reliant in the wool segment and overcome challenges related to silk processing.

Irani said from zero units in March, India now has over 1,100 companies that make personal protection equipment suits and the country has become the second-largest exporter of PPEs. ■

ECO FRIENDLY PROCESSING OF COTTON

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Abstract

Textile industry is the largest one next to agricultural in the country where most of the people are employed. Wet processing of cotton required high quantity of water and energy for desizing, scoring and bleaching process. Conventionally these processes are carried by using harsh chemical which is give water pollution. In order to control water pollution enzyme can be used of processing of cotton. At a same time, enzyme required low temperature which is give energy conservation. This study is focused on comparative analysis between alkaline scouring with bio scouring, and conventional combine scouring bleaching with bio combine scouring-bleaching. So, advantages of bioprocessing can be described in terms of ecology as well as economy.

For these results of scouring absorbency time, tensile strength and tear strength of conventional sample and enzyme methods sample are compared. Also, for combine scouring bleaching absorbency time, whiteness index, tensile strength and tear strength for conventional sample and enzyme sample are compared. The results of the conventional process are compared with the enzyme process.

All enzymes are well known ecofriendly products, all enzyme process is ecofriendly process. In bioscouring temperature reduces from 85°C to 50°C. Hence 60% energy saved in bioscouring method.

Keywords : Enzyme, Conventional processing, Bio scouring, Bio bleaching.

1. Introduction

Cotton is the most important cellulose fibre in textile. But natural cotton fibre contains some impurities. Cotton fibre is highly hydroscopic also slightly coloured. In further processing cotton should absorb water to get satisfactory result. At a same time colour of cotton should be white before dying to achieve final required colour. Hence in order to get absorbency and whiteness scouring and bleaching process become important one.[1]

Traditionally scouring of cotton was carried out by using caustic soda and sodium carbonate. Both this chemical having high pH and increase load on ETP and because of higher concentration of alkali tenacity of cotton decrease. Bleaching of cotton also required high alkaline pH and high concentration of H_2O_2 reduces tenacity of cotton. Hence in order to save water this two-process carried out in one bath. As this two-process done in one bath load over ETP get reduces but effluent which is generated having higher pH and total organic compound.

To reduce the water pollution in textile wet processing, we have to reduce the use of such high concentrate chemical. Also, such chemicals are available in market which does not affect the properties of cotton. One of the chemicals which can be used in wet processing is enzyme. Use of enzyme in wet processing reduces the water pollution. Also required temperature is low as comparative to conventional processes hence use of energy is also low. Enzyme work on specific substrate it will not affect the properties of cotton and most important thing is there is less effluent generation. If bio-scouring can be combined with conventional bleaching process, large amounts of water, energy, time and auxiliary agents would be saved.

Enzyme desizing

Fabric is padded through solution containing 1 gpl amylase and 0.5 gpl sodium chloride at 40°C. For this process required pH is acidic (5.5). Fabric is padded by using padding mangle (100% expression) and batched for 24 hours at ambient temperature. The Desized fabric washed twice with hot water and once with cold water and then dried [2]. Desizing by exhaust method is also possible where fabric is treated with 1gp amylases enzyme at 70°C for 60 min with acidic pH (5.5) [3].

Enzyme scouring

Cotton could not absorb water during processing within specific time (3 Sec) because of 0.4-1% oil fat waxes in their structure. Removal of oil fat and waxes become so important to get satisfactory results in further processing. Conventionally scouring of cotton is done by using sodium hydroxide which is highly alkaline in nature. Along with impurities it breaks the bonds cellulose causes reduction in tensile strength. Use of highly alkaline chemical causes high COD (chemical oxygen demand), BOD (biological oxygen demand) and TDS in wastewater [4]. Conventional scouring process is commonly used in industry but now-a-day it gives bad effect on environment. Conventional can be replaced by eco-friendly enzyme scouring process [5]. Fabric is treated with pectinase 5 gpl enzyme at 55°C in alkaline pH (8) for 60 min. this

give satisfactory results and absorbency is depend on concentration of enzyme. Weight loss is less than the conventional scouring which means no strength loss in fabric [3]. Enzymatic scouring of cotton fabric can be done by using various enzymes like cellulose, lipase, pectinase etc. Whiteness index obtained by the enzyme scouring is 8-10% more as compare to conventional scouring also no loss in tensile strength. Enzyme scouring give less BOD, COD, TDS as compare to conventional process. This method can be used for cotton as well as cotton blends by changing the enzyme [6]. Alkaline pectinase enzyme can be combined with cellulose enzyme to get more absorbency. This process gives more absorbency but decrees the tensile strength of fabric [2]. Advantages of enzyme scouring are less energy required, less water required, low cost of chemical, good absorbency, less strength loss, better dyeing effect. Lower effluent load soft feel same depth of colour. Also, it can be combined with peroxide bleaching which reduce the cost of process [5] [7] [8].

Enzyme combine scouring-bleaching

One bath bio scouring and bleaching of cotton give better results of absorbency, reduce load ETP and gives less degradation of cotton than alkali scouring and bleaching [9] Combine scouring and bleaching by using scouring enzyme and hydrogen peroxide give same effect that of individually process [8]. Traditionally scouring and bleaching process carried out at the temperature 120°C in higher alkaline pH. It took lots of energy as well as water in further washing process of fabric which is converted in an effluent. In order to save energy and water higher alkaline chemical should be replace by ecofriendly chemical. Pectinase enzyme is an alternative to sodium hydroxide in scouring which give same result at low temperature. H_2O_2 can be replacing by using peroxidases, laccase / mediator or glucose oxidase. Bio-scouring and bio-bleaching can combine in one bath. Fabric is treated with scouring and bleaching enzyme at 65°C for 60 min. Increase in temperature of this bath give better degree of whiteness. This process leads to less time, less energy, better results than conventional process [10].

2. Materials and Method

2.1.1 Material

100% cotton well singed fabric was taken for a study with particular are as below mentioned in table

Table 2.1.1 : Fabric Particulars

Sr. No	Fabric Particular	Parameter
1	Material	100% cotton fabric
2	Weave	Plane
3	GSM	115
4	EPI	72
5	PPI	72
6	Warp count	32
7	Weft count	32

2.1.2 Chemical Used

The chemicals used for bio bleaching were purchase from "Fumes chemical Kolhapur" and used without any further purification. Whereas remaining chemicals used from facility available by D.K.T. E'S TEI ICHALKARANJI.

Table 2.1.2 : Chemical used for study

Sr. No	Name of chemical	Grade	Purpose
1	Amylase enzyme	LR	Desizing
2	Sodium Hydroxide	LR	Scouring
3	Sodium Bicarbonate	LR	To adjust pH
4	TRO	Industrial	Wetting agent
5	Hydrogen Peroxide	LR	Bleaching
6	Bactosol co ip.liquid	LR	Bioscouring

2.2 Methods

2.2.1 Enzyme Desizing

A well singed 100% cotton fabric was treated with 5 gpl enzyme at 60°C for 90 min. followed by cold wash. The air-dried fabric was checked for absorbency, weight loss, tensile strength and tear strength.

Table 2.2.1: Recipe for Enzyme desizing

Sr. No	Chemical/Parameter	Particulars
1	Amylase enzyme	5 gpl
2	Common salt	10 gpl
3	Wetting agent	1 gpl
4	pH	6-6.5
5	Temperature	60°C
6	Time	90 min

2.2.2 Conventional scouring

100% cotton fabric was treated with sodium hydroxide and sodium bicarbonate at 90°C for 4 Hour followed by cold wash, hot wash and neutralization. The air-dried fabric was checked for absorbency, tensile strength and tear strength.

Table 2.2.2 : Recipe for conventional scouring

Sr. No	Chemical/Parameter	Particulars
1	Sodium Hydroxide	4%
2	Sodium Bicarbonate	1.5 %
3	Detergent	0.1%
4	Sequestering Agent	0.1%
5	Temp	900C
6	Time	4 Hour

2.2.3 Bioscouring

100% cotton fabric was treated with various concentration of pectinase enzyme at 60°C for 2 Hour followed by cold wash and hot wash. The air-dried fabric was checked for absorbency, tensile strength and tear strength.

Table 2.2.3 Recipe for bioscouring

Sr. No	Chemical/Parameter	Particulars
1	Pectinase Enzyme	2, 3, 4, 5, 6 %
2	Wetting Agent	1 gpl
3	Temperature	30, 40 50, 60°C
4	Time	90 min

2.2.4 Conventional combine scouring bleaching

100% cotton fabric was treated with sodium hydroxide and hydrogen peroxide at 85°C for 2 hours followed cold by wash, hot wash and neutralization. The air-dried fabric was checked for absorbency, whiteness index, tensile strength and tear strength.

Table 2.2.4 Recipe for conventional combine scouring-bleaching

Sr. No	Chemical/Parameter	Particulars
1	Hydrogen Peroxide	3 Vol
2	Sodium Hydroxide	2%
3	Stabilizer	2%
4	Sodium Carbonate	1%
5	Sequestering Agent	0.1%
6	Temperature	80°C
7	Time	2 hours

2.2.5 Enzyme combine scouring-bleaching

100% cotton fabric was treated with various concentrations of hydrogen peroxide and bactasol co ip liquid at 80°C for 2 hours followed by cold wash and hot wash. The air-dried fabric was checked for absorbency, whiteness index, tensile strength and tear strength.

Table 2.2.5 Enzyme recipe combine scouring-bleaching method B

Sr. No	Chemical/ Parameter	Particulars
1	Hydrogen peroxide	1.75, 2.0, 2.25, 2.50, 2.75, 3.0 Vol
2	Pectinase Enzyme	5%
3	Temperature	80°C
4	Time	2 Hour

2.3 Testing

2.3.1 Absorbency (AATCC TM 79)

Prior to test, the specimen shall be conditioned to moisture equilibrium in the standard atmosphere of 65±2% relative humidity and 27 ± 20C temperature. Absorbency is to be tested by stretching the fabric is an embroidery ring and by putting distilled water from a burette from a distance of 25mm. stop watch is to be used to note the time from falling of drop on fabric to spreading of drop i.e. disappearance of the gloss of water drop

2.3.2 Whiteness index (AATCC TM 110)

Prior to test, the specimens were conditioned to moisture equilibrium in the standard atmosphere of 65% relative humidity and 27 ± 2°C temperature. The CIE whiteness index was measured after calibration of spectrophotometer spectro 3000 using D65 Illuminant at 10-degree observer.

2.3.3 Tensile Strength (ASTM D 5035)

Prior to the test specimens were conditioned to moisture equilibrium in the standard atmosphere of 65% relative humidity, 27 ± 2°C temperature. Samples (fabric strip) were cut by using the given template. Cut threads were removed from both side of the sample (raveling) to get strip of exactly 5 cm width. Clamp was set on testing machine at distance of 20 cm. and strength indicating pointer to zero position. Sample was clamped between two jaws, with some length of fabric extending beyond the jaws at each end. Sample was elongated at a constant rate of 300mm/min till a rupture. Breaking load in Kgf was noted. Same procedure ware repeated for all samples.

2.3.4 Tear strength (ASTM D 2261)

The specimen was cut in a dimension of given template shape and dimensions. After cutting, 20mm slit extended from bottom side, leaving a length of 43.0 ± 0.15 mm. to be torn. Pendulum (3200 gm attached load) was raised to the starting position and pointer set against stop. The specimen

secured in clamps, so that it was well centered with the bottom edge carefully against the stop and upper edge was parallel to the top of the clamp and widthwise yarn was exactly perpendicular to them. Clamps were closed by tightening the screws, using approximately the same torque on both the clamps. Pendulum stop was depressed as far as it will go, thus pendulum released. Stop was hold still getting tear completed and pendulum complete its rightward swing. Pendulum is catch on the return swing by the hand without disturbing the position of the pointer read the scale to the nearest whole division.

3. Results and Discussion

3.1 Scouring

The results of absorbency of conventional and enzyme scouring samples are tabulated in table 3.1.1. Absorbency of conventional scoured fabric is 1.89 second which is slightly low as compared to enzymatic scouring. As temperature increase absorbency also increases. But increase in absorbency is not up to mark. As we increase the concentration of enzyme absorbency increases and which in considerable. Both temperature and concentration are directly proportional to absorbency. The absorbency achieved by the enzymatic method at 5% enzyme is near about same and also within acceptable limit. When we compare to conventional results 5% enzyme at 50°C gives the better results.

The results of tensile strength of conventional and enzyme scouring samples are tabulated in table 3.1.2. Tensile strength of conventional scoured fabric is 22.1 kgf in both warp and weft direction. This tensile strength is less as compare to all enzymatic method. This is because of high concentrate chemical used in conventional method. As concentration and temperature increase, tensile strength slightly decreases. But this does not affect the scouring results. Also, this is inacceptable limit. As concentration increases maximum hydrophobic impurities get remove which causes slightly reduction in tensile strength of fabric. A highest concentration of enzyme (5%) gives better tensile strength as compared to conventional scouring method.

The results of tear strength of conventional and enzyme scouring samples are tabulated in table 3.1.3. Tensile strength of conventional scoured fabric is 72.4 and 72.2 in warp and weft direction respectively. This tear strength is less as compare to all enzymatic method. This is because of high concentrate chemical used in conventional method. As concentration and temperature increase, tear strength slightly decreases. But this does not affect the scouring results. Also, this is inacceptable limit. As concentration increases maximum hydrophobic impurities get remove which causes slightly reduction in tensile strength of fabric. A highest concentration of enzyme (5%) gives better tensile strength as compared to conventional scouring method.

Table 3.1.1 Absorbency time in second

Sr. No	Sample Name	90°C	30°C	40°C	50°C	60°C
1	Conventional	1.89	—	—	—	—
2	2% enzyme	—	5.0	4.2	3.0	3.0
3	3% enzyme	—	4.8	4.1	2.5	2.3
4	4% enzyme	—	4.5	3.9	2.3	2.2
5	5% enzyme	—	4.3	2.20	1.90	1.89
6	6% enzyme	—	4.2	1.95	1.90	1.90

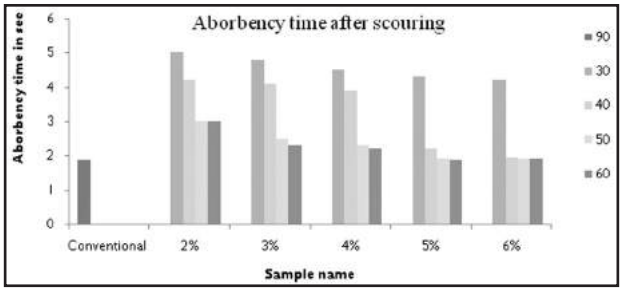

Fig 3.1.1 Absorbency time in second

Table 3.1.2 Tensile strength in kgf after scouring

Sr. No	Name	Tensile Strength (Warp)					Tensile Strength (Weft)				
		90°C	30°C	40°C	50°C	60°C	90°C	30°C	40°C	50°C	60°C
1	Std	22.1	—	—	—	—	22.1	—	—	—	—
2	2%	—	26.0	25.9	25.8	25.7	—	25.9	25.7	25.5	25.5
3	3%	—	25.8	25.6	25.0	25.0	—	25.7	25.5	24.9	24.8
4	4%	—	25.5	24.0	24.4	24.3	—	25.4	24.1	24.0	23.9
5	5%	—	25.1	24.5	23.5	23.4	—	25.0	24.3	23.4	23.2
6	6%	—	24.5	24.0	23.5	23.5	—	24.3	23.9	23.3	23.3

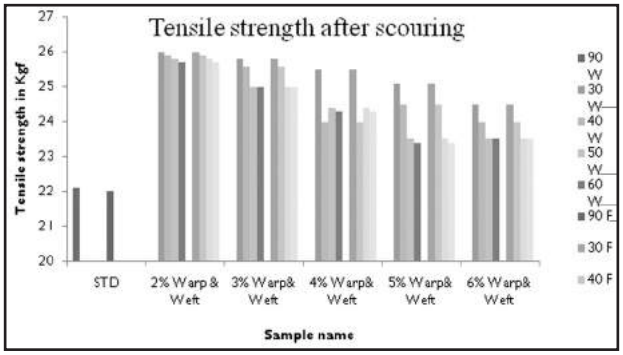

Fig 3.1.2 Tensile strength in kgf after scouring

Table 3.1.3 Tear strength in kgf after scouring

Sr. No	Name	Tear Strength (Warp)					Tear Strength (Weft)				
		90°C	30°C	40°C	50°C	60°C	90°C	30°C	40°C	50°C	60°C
1	Std	72.4	—	—	—	—	72.2	—	—	—	—
2	2%	—	77.0	76.8	76.4	76.3	—	77.1	76.8	76.5	76.5
3	3%	—	76.1	75.8	75.5	75.4	—	76.8	76.1	75.3	75.2
4	4%	—	75.8	74.0	74.3	74.2	—	76.1	75.3	74.5	74.4
5	5%	—	75.3	74.8	73.6	73.2	—	75.3	74.5	73.8	73.5
6	6%	—	74.9	74.3	73.5	73.2	—	74.8	74.2	73.8	73.8

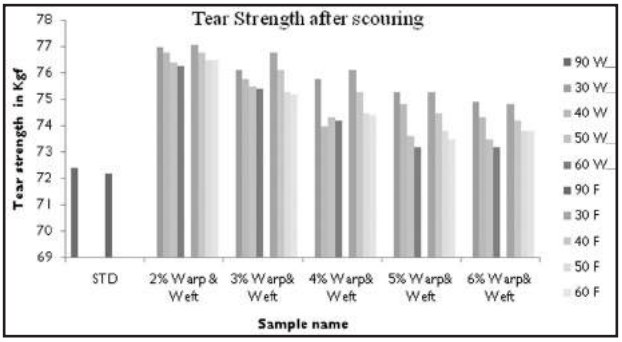

Fig 3.1.3 Tear strength in kgf after scouring

3.2 Combine scouring bleaching

Combine scouring bleaching is a combination of two processes that is scouring and bleaching. Conventional combine scouring bleaching is carried out by using hydrogen peroxide. Sodium Hydroxide and sodium carbonate. Further all enzyme method is carried out by combination of fixed concentration (4%) of scouring enzyme and various concentration (1.75, 2.0, 2.25, 2.50, 2.75, 3.0) hydrogen peroxide. All three enzymatic combine scouring-bleaching were compared with conventional combine scouring-bleaching method. The samples were tested for absorbency, whiteness index, tensile strength and tear strength.

An absorbency for conventional and all enzyme method are shown in table 4.2.1 For this results absorbency time for conventional sample and all enzyme methods sample are near about same. Because we take same concentration of scouring enzyme for all the method. All enzyme method gives same absorbency as compare to conventional method. Hence 5% percentage of enzyme gives same absorbency that of conventional method. Addition of hydrogen peroxide decreases the absorbency time.

Whiteness index for combine scouring bleaching for all method are put in table 4.2.2. The whiteness index for conventional method is 72. Whiteness index in enzyme method increase with increase in concentration. 3 volume concentration gives whiteness index near about same. Hence pectinase enzyme can be combining with hydrogen peroxide as well as addition of hydrogen peroxide in enzyme bath give same whiteness as conventional method.

Tensile strength in combine scouring bleaching method for all method are arrange in table 4.2.3. Tensile strength in conventional method is less as compare to all enzyme method. This is because of breaking of hydrogen bonds in cellulosic structure due to use of concentrate chemical. Tensile strength in enzyme method are some higher as compare to conventional method. It is because of removing of high concentrate chemical.

Tear strength in combine scouring bleaching method for all method are arrange in table 4.2.3. Tear strength in conventional method is less as compare to all enzyme method. This is because of breaking of hydrogen bonds in cellulosic structure due to use of concentrate chemical.

Table 3.2.1 Absorbency after combine scouring bleaching

Sr. No	Sample name	Absorbency
1	Std	1.92
2	Enzyme 1.75	2.2
3	Enzyme 2.0	2.2
4	Enzyme 2.25	2.0
5	Enzyme 2.50	1.95
6	Enzyme 2.75	1.90
7	Enzyme 3.0	1.90

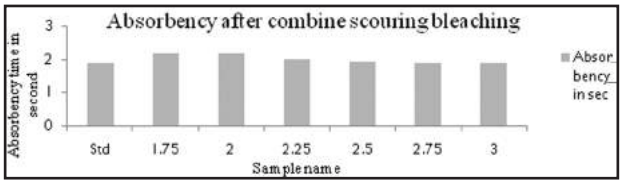

Fig 3.2.1 Absorbency after combine scouring bleaching

Table 3.2.2 Whiteness index after combine scouring and bleaching

Sr. No	Sample name	Whiteness Index
1	Std	72
2	Enzyme 1.75	62.5
3	Enzyme 2.0	64.0
4	Enzyme 2.25	66.1
5	Enzyme 2.50	69.5
6	Enzyme 2.75	70.8
7	Enzyme 3.0	72

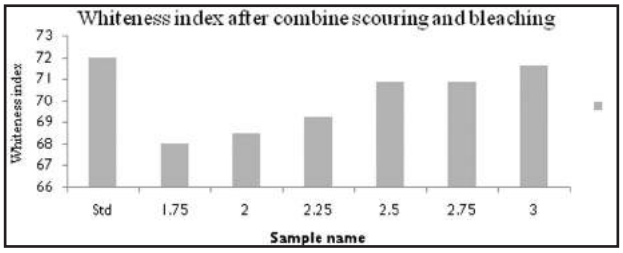

Fig 3.2.2 Whiteness index after combine scouring and bleaching

Table 3.2.3 Tensile Strength in kgf after combine scouring bleaching

Sr. No	Sample name	Whiteness Index	
		Warp	Weft
1	Std	20.10	20.20
2	Enzyme 1.75	22.20	22.10
3	Enzyme 2.0	22.10	22.00
4	Enzyme 2.25	21.70	21.80
5	Enzyme 2.50	21.40	21.30
6	Enzyme 2.75	21.10	21.15
7	Enzyme 3.0	20.80	20.70

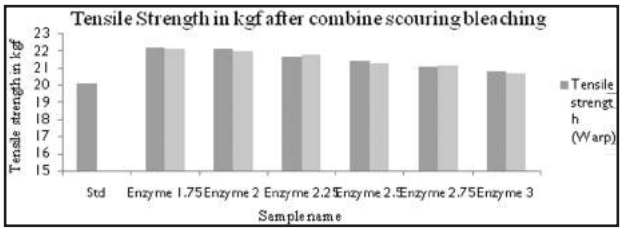

Fig 3.2.3 Tensile Strength in kgf after combine scouring bleaching

Table 3.2.4 Tear Strength in Kgf after combine scouring bleaching

Sr. No	Sample name	Tear Strength	
		Warp	Weft
1	Std	56.8	56.7
2	Enzyme 1.75	65.5	65.8
3	Enzyme 2.0	65.3	65.1
4	Enzyme 2.25	64.9	64.6
5	Enzyme 2.50	64.5	64.5
6	Enzyme 2.75	64.4	64.4
7	Enzyme 3.0	62.3	62.4

Fig 3.2.4 Tear Strength in Kgf after combine scouring bleaching

4. Conclusion

1. Absorbency of conventional scoured fabric is 1.89 second which is slightly low as compared to enzymatic scouring. The absorbency achieved by the enzymatic method at 5% enzyme is near about same and also within acceptable limit. Tensile strength of conventional scoured fabric is less as compared to enzymatic scoured fabric. Tear strength of conventional scouring method is less as compare to enzymatic method in both warp and weft way. It is because of degradation of cotton due to high concentration of alkali at higher temperature.
2. For the results of absorbency time for conventional sample and all enzyme methods sample are near about same. The whiteness index of 3 volume enzyme samples are also near about same. Tensile strength in conventional method is less as compare to all enzyme method. Tear strength for conventional fabric is less as compare to all enzymatic method. It is because of combination or two enzymes which is does not degraded cotton.
3. All enzymes are well known ecofriendly products, all enzyme process are ecofriendly process.
4. In bioscouring temperature reduces from 85°C to 50°C. Hence 60% energy saved in bioscouring method.

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HERITAGE OF RAJASTHAN : A SOURCE OF INSPIRATION FOR TEXTILES

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Abstract

Rajasthan is very traditional state, where paintings were used by common people to decorate their surroundings. Paintings were always been very significant in their culture. Even in various monuments which attracts both domestic & international tourist these magnificent wall paintings can be witnessed. In the present paper wall paintings of Haroti region were explored from total 2 cities and 4 monuments. It was observed that various factors affect these wall paintings some of them are natural like air, water others can be manufacturing faults like, weak walls and dissimilarities of raw material as reported by curators and restoration experts. Hence beauty of these paintings are getting faded with time on the other hand we can't deny that these wall paintings are invaluable and precious heritage. Therefore an effort is done to draw textile designing inspiration from these wall paintings. Thus collection of motifs was done and selected motifs were modified through Computer aided designing (CAD) to develop new range of motifs for textiles. Also by keeping the original form of motifs these motifs were selected by experts on various stages in terms of color scheme, unit of motif. Experts also suggested best placement, and product prototype for these motifs. Also a group of youth choose best color combination of product prototype according to pantones color forecast. In future these designs can be applied on textiles with printing, embroidery or through other way. Textile designing is the most demanding and emerging field as it is full of scope and creativity hence these paintings can become a great source of inspiration for any designer or artist and it will help in documentation of wall paintings.

Introduction

India has a rich heritage of craftsmanship, which is clearly visible in our monuments, folk art, embroideries and paintings. Paintings were always been very significant in Indian culture because it is one of the best way for cultural expression as well as self-expression for people. Hence it occupies eights place in the 64 traditional arts. In India we have various types of painting styles as miniature paintings of Rajasthan can be seen today on canvas, wooden handicrafts or on paper however previously these paintings were done on walls of forts and other monuments. Because people of Rajasthan had a strong desire to decorate their surrounding hence art of wall painting flourish there from 6 to 8 century in four regions Marwar, Mewar, Shekhawati and Haroti. According to the development of wall paintings Haroti is oldest region were the art of wall paintings flourish, also it has maximum number of paintings, and hence it is considered as treasury of art when it comes to study Rajasthan's wall painting styles. According to resources oldest artists used a wide range of natural earth, mineral, metallic, vegetable or animal colors for such paintings. The techniques of wall paintings were so scientific that it prevent the growth of insects and help to maintain low temperature of buildings.

Paintings are pleasant visual way to communicate culture from one generation to another therefore it is important to preserve them and document them in any possible method. When we talk about Rajasthan's wall paintings styles then Haroti style of wall paintings occupies a very significant roll. Although Mewar style of wall paintings occupies first place in Rajasthan's wall painting styles but Haroti style of wall paintings is always been considered asmost elaborated style of wall painting. Haroti style of painting is majorly divided into two parts Budi style and Kota style, also both styles have some similarities and some differences which are explain here. Likewise mainly two techniques are used to make these wall paintings fresco buono and fresco secco. In Haroti painting style artists mostly preferred to use two techniques fresco buono and fresco secco. fresco buono is that technique of wall painting in which artist work on wet plaster wall. In this method moisture of lime wall and pigments creates a special bond as a result lime wall act as an adhesive. Best part of this technique is that the pigments and designs become a part of wall after the wall gets dry. To make colors everlasting special manual treatments were given to walls such as beating, burnishing and polishing. Consequently the fresco becomes almost as durable as the building. According to Sharma (1988) painting in fresco secco/tempera should be of interest to many painters because of the ease of technique. Through by using this method, one can work more at leisure time because painting is done on dry wall with wet pigments. The painting is done in combination with a lime wash and pigments over the well finished lime and sand wall. Also when we see these wall paintings their impressive color combination is something that people can't avoid. Also one can notice that, every

monument has its own dominating color Scheme. Mostly we can found Indian red, Persian blue, indigo blue, turquoise, verdigris, saffron, mustard, honey, golden yellow, leaf green, in paintings but which color will be dominating in which area is totally dependent on availability of color in that area for example blue color is dominating in Bundi and red color is dominating in Kota. To penetrate these color to the depth of wall special brushes were used by artists those brushes were made up by squirrel hair. However various factors affect these wall paintings. Here in the present paper an attempt was made to explore glorious wall paintings of four monuments 2 from Kota and 2 from Bundi both are in Haroti regions in respect to its current condition to document, select & modify the most suitable one for the application on textiles.

Objectives

- To explore the wall paintings
- To document wall paintings
- To select the most appropriate paintings useful for textile designing
- To modify these paintings for textile application

Research methods

This section provides an overview of the methodological approaches and research design selected for the present study. It gives an insight about the tools and techniques adopted. Here in present paper exploratory research design was followed.

- **Selection of inspirational source :** the prime object was to select right monuments for the study therefore, four most frequently visited monuments which are not listed in, State or Centre government protected monument list were selected from the governmental website of Rajasthan tourism. Selected monuments were Garh palace and Abheda mahal from Kota, Sukh mahal and Taragarh fort from Bundi.
- **Development of source board :** the monuments were visited with the permission of authorized personals. Also photographs of those monuments were clicked, which was further used for the development of source board. According to Malik, B., S. & Azhar, N. source boards provide a constructive information just in a look such as from which region, city and monument inspirational sources were collected as regards with date and year.

Figure 1 : source board

- **Observation of wall paintings :** Questionnaire was designed to bring out the realities regarding restoration work and hence covered aspects like funds available, availability of experts in the field of restoration and time consumed to restore any damaged wall painting. Check list was used to observe details of the wall paintings, their placement in the monument, type of colors used, painting style, condition and technique of painting, motifs used in paintings.
- **Collection and screening of wall paintings :** the first step during the field work was to take photographs of wall paintings with right technique. Hence camera without flash light effect was used to click photographs with an aim not to harm these precious wall paintings and to still collect them in their original condition. After collecting the photographs they were screened twice. In first screening all damaged, blur and impropriate wall paintings, which cannot be recreated were discarded. Before the second screening motifs were extracted.
- **Extraction of motifs from wall paintings :** motif are the main elements of wall paintings. When motifs are arranged within parts of the wall paintings with background, patterns are created on wall paintings. But it is not possible to arrange entire wall painting on a textile material, therefore textile significant motif were extracted from collected photographs and for this persistence Corel Draw software was used for extraction of motifs. To extract motifs, steps given in flow chart were followed and the process of extracting motifs with CAD eraser tool on Corel draw X5 is shown in Figure 2.

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Flow Chart of extraction steps of motifs from wall paintings

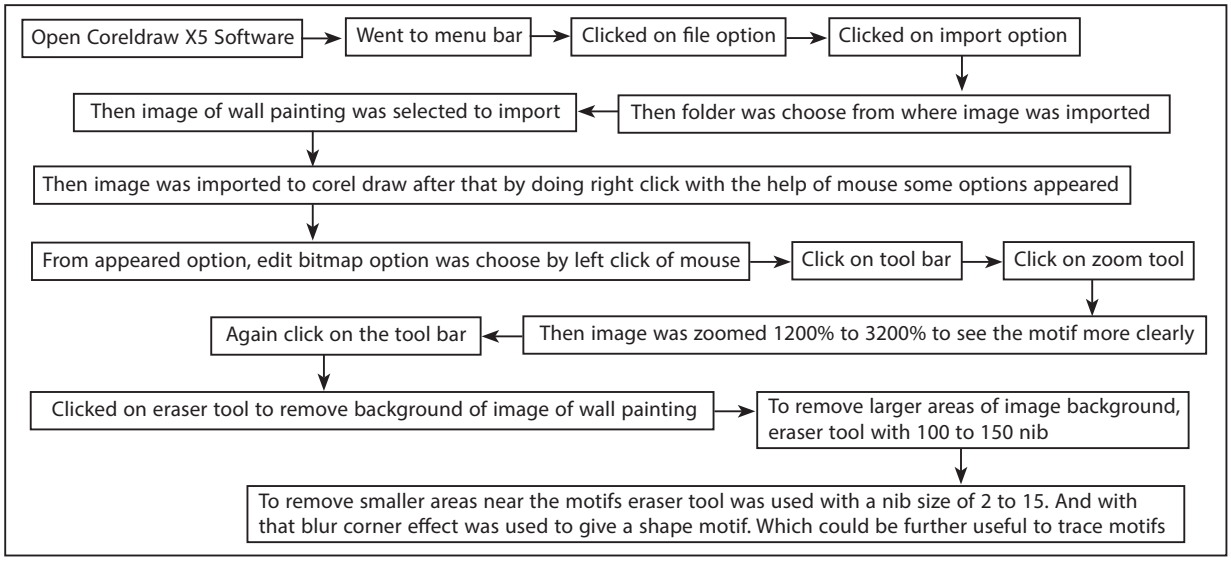

Figure 2 : extraction of motif from wall painting of Haroti, Kota, Abhera Mahal

- **Creation of mood boards :** after the extraction of motifs were arranged on mood boards. While making mood boards motifs extracted from one monument were placed together with a count of maximum 5 motifs per mood board according to three categories 1) floral and foliage, 2) figurative and 3) floral foliage & figurative. After that in the second screening in which all similar, non-textile appropriate and motifs with blur outlines were discarded. Then best screened motifs in all three categories 1) floral and foliage, 2) figurative and 3) floral foliage & figurative were arranged in second mood boards according to region. Mood board are inspirational boards that keep in touch colors or motif influencing one's mood throughout the research. Hence after the categorization of motifs, mood boards were prepared with the help of Picasa 3. Software (Figure 3) Region, city, monument name category and motif number was also mentioned on mood boards. That was helpful to document that, motifs of which region, city and monuments were more preferred by experts.

Figure 3 : creation of mood boards with 4 floral foliage & figurative

- **Selection of appropriate motifs for textile application :** a 5 point rating scale was developed and 10 experts were asked to rank the given motifs on the basis of appeal, color and shape of motif from 1 to 5 in each category in order of their preference. Extracted motifs were converted into mood boards with black color background, to create a neutral effect and in order to reduce the biasness. All mood boards were shown to judges by spreading them in front of judges on a table covered with white table cloth again to build a neutral effect and it also helped judges to focus on motifs by not leading eye from one direction to other.

- **Recreation of motifs :** fully extracted motifs, which got the best ranking among all motifs of Haroti region were recreated with the help of corel draw X5 software. Same shape of motifs were created, because that's the beauty of monumental motifs. After that for each motif 3 color schemes were created. First color scheme was as of original colors of motifs as shown in figure…., second color scheme was similar to that motifs color scheme for example; if original motif has monochromatic color scheme then same color scheme was reproduced with different colors as shown below in figure 4 (3) And third color scheme was produced with most dominating colors used in motifs of that region. For example; blue, yellow, red and leaf green are more commonly used in Haroti region as shown below in figure 4 (2).

(1) Original motif

(2) Recreated motif with dominating colors of wall paintings of Haroti region

(3) Recreated motif with same monochromatic color scheme as original motif

Figure 4 : Recreated motifs with developed color schemes

- **Selection of appropriate color scheme of motifsand right products for textile application :** another 5 point rating scale was prepared in which experts have to give ranking to color combination of motifs from the ranking of 1 to 5. Also for overall motifs they have to choose right product among clothing, home furnishing, and accessories. With this rating scale, 8 selected motifs were printed on photo print quality paper with all the color schemes. Example is given below in figure 5.

Figure 5 : selected color scheme of motif

- **Creation of units of motifs :** after the selection of preferred color schemes of motifs through experts, units of motifs were created. Unit creation was actually done to see the creative possibilities of motifs. In this process Corel draw X5 was used, and tools like rotation, mirror horizontally, mirror vertically, angle of rotation or duplicate were used as per the requirement. These all tools helped to create more complex form of motifs. As given in figure 6 for every motif 3 units were created 1 was single unit, 2 was little bit intricate and 3 was most intricate.

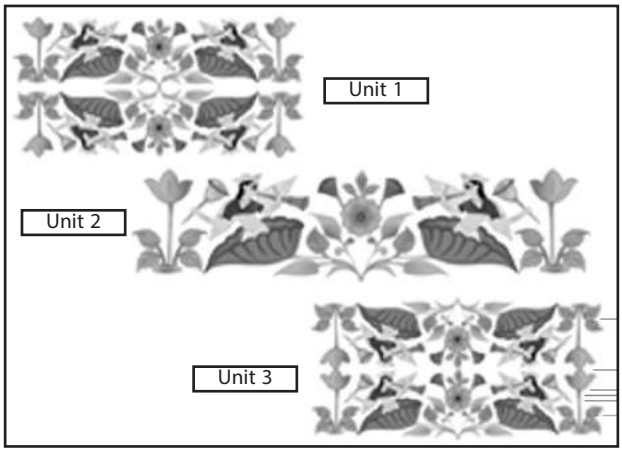

Figure 6 : creation of Units of motif selected by experts

- **Selection of appropriate unit of motif and right prototype selection :** A final analysis of motifs was done by experts, for that a 5 point rating scale was constructed. In which experts were asked to give ranking "between" 1 to 5 for most preferred unit they can give maximum 5 points and for least they can give minimum 1 mark. Also for all 3 units they have to choose right placement of that unit, which includes choices like; 1) placement layout repeat, 2) border layout, 3) brick layout, 4) diamond layout. To choose most likely placement experts had to click in given rectangle columns. Also in the same tool experts were asked to choose right prototype of clothing products. Hence a list of clothing products was attached to rating scale. In this list choices like; 1) one piece, 2) a symmetrical dress, 3) topper, 4) skirts, 5) pants, 6) palazzo, 7) jumper, 8) saree and 9) kurti was given.

Figure 7 : Selected unit of motif by experts for border layout for development of kurties

- **Creation of 2D kurties with pantones color forecast :** pantones is a nonprofitcompany which forecast fashion colors every year for home furnishing, textile and garments. Hence for year 2020-2021 pantones give a color list including Black, white, mint leaf, vibrant yellow, zinnia, cayenne, power blue, hot coral, astral aura and mushroom. Hence for 2D kurti designingone vibrant, one soft color and two neutral colors are selected. Therefore powder blue, vibrant yellow, black and white color is choose for design creation. Hence for every motif same prototype 2D kurties were designed on CAD. Consequently for 8 motifs 32 Kurtis were designed on Corel draw. And placement of motifs was kept as responded by judges in previous rating scale. Also these designs were printed on white photo quality A3 size paper with motif code along with dress design number. One A 3 size colored print of dress design had 4 same design in same color as given in figure 8.

Figure 8 : created 2D kurti design with forecasted pantone colors

- **Selection of Kurti design and color combination :** 60 girls who were designing students of different designing colleges from the age group of 18 to 25 were approached to select preferred color combination of kurtieson the basis of appeal, placement of motif and color combination. Students were also asked to rate silhouette of kurties. For that a 5 point rating scale was used. Which had 5 point for every aspect. Color combination; 5, appeal 5, placement of motif 5 and silhouette 5. Hence 20 was the maximum score and 4 could be the minimum score given by designing students.

Figure 9 : selected kurti design and color combination through youth

Result & Discussion

The results obtained from the present investigation and relevant discussion have been summarized under following heads :

1) Development of source boards : In present research one source board was prepared with the software Picasa 3. Therefore create picture collage' option was used and selected photographs were converted into source board (Figure 1).

2) Details of wall painting and their present condition : all observed paintings were truly a heritage item which were getting damaged with the passage of time due to the various factors. Innumerable factors which affected the magnificent heritage were climate, sunlight, water, humidity, algae and fungus. It was also reported by curators and restoration experts that manufacturing related faults like, weak walls, defected plaster layers and dissimilarities of raw materials were the factors which diminishes the beauty of wall paintings. However the major issue is maintenance related faults such as unwanted use of varnishes, lime wash on paintings excessive use of chemicals during restoration. Besides birds, animals, and visitors (frequent touch by hands and flash of cameras was also responsible for damaging the painting).

It was also observed that in haroti region around 15% wall paintings of Abheda mahal (Kota) and approximately 82% wall paintings at Garh palace (Kota) were highly damaged, nearby 86% of wall paintings were found damaged at Sukh mahal (bundi), 77% wall paintings of Taragarh fort (Bundi) Chitrashala was highly damaged, through it was

restored in year 2007 but due to the lack of funds it was not possible to restore all the paintings and because of climate and poor maintenance wall paintings were found in highly damaged condition.

Table : 1 Condition of wall paintings of Haroti region

Sr. No.	Region	City	Monument	Damage %	Condition	Restoration
1	Haroti	Kota	Ghar palace	82%	In some area paintings were looking totally new, but most of the paintings were highly damaged.	Some part is restored once. But not continue
			Abhedamahal	15%	Very few paintings which were in outdoor area little damaged	Recently restoration is done
		Bundi	Sukhmahal	86%	Only few paintings were not damaged	Continue
			Taraghar fort	77%	All paintings were highly damaged	Done once, planning for future

Table : 2 Details of the wall paintings in Kota monuments from Haroti region

Sr. no.	Various factors observed	Abheda mahal	Garh palace
1.	Type of colors used in wall paintings	Natural : earth, mineral, vegetable	Natural : earth, mineral, vegetable
2.	Type of Embellishment frequently used	No embellishment	Glass, gold
3.	Motif type	Floral and foliage, figurative and combine floral foliage & figurative motifs.	Floral and foliage, figurative
4.	Dominating motifs	Stylized lotus flower and leafs, simplified sunflower and leafs, flower pots, stylized rose flower, stylized marigold flower, dancing lady, simplified peacock, realistic ducks, Indian pond heroin, crane, great egret seating near river and flying, simplified ox, cow, parrot, hen, pigeon, elephant, horse, angel sitting in lotus and playing music, King on horse and elephant with worriers after winning the war, mud planters with flowers, Krishna with Radha, female warriors, female in Muslim outfit.	Kings in darbar, war and hunting seen, day today life, females in group, Krishna with gopies, all Vishnu avtars, male and female angels, lord sun, goddess durga, parrot, geometrical peacock, stylized lotus flower and hibiscus, geometrical flower borders.
5.	Theme used	Stylized & simplified	Stylized & simplified
6.	Painting type	Secco	Fresco buono
7.	Type of wall	Stone	Stone

Table : 3 Details of the wall paintings in Bundi monuments from Haroti region

Sr. no.	Various factors observed	Sukhmahal	Taragarh fort
1.	Type of colors used in wall paintings	Natural : earth, mineral, vegetable	Natural : earth, mineral, vegetable
2.	Type of Embellishment frequently used	No embellishment	No embellishment
3.	Motif type	Figurative	Floral and foliage, figurative
4.	Dominating motifs	Simplified peacock, and pigeon, female doing dance, walking in garden, dancing Krishna.	Krishna dancing, playing with Radha and gopies, Rajput females, Mira baaisa, female worrier, Kings in battle, and his worriers with horse and elephant, musical melodies, love stories, simplified flowers of hibiscus, planters with flowers, female angels worshipping lord sun.
5.	Theme used	Stylized	Stylized & simplified,
6.	Painting type	Secco	Fresco buono
7.	Type of wall	Stone	Stone

3) Collection of wall paintings, screening, and creation of mood boards : photographs of paintings were collected from door arch, side wall, lower panel, celling, front and back wall, Total 145 clicks were done from Haroti region.

At Abheda mahal (Kota) 34 clicks were done and 54 clicks were done at Garh palace (Kota). After the first screening no wall paintings from Abheda mahal was rejected and 42 paintings from garh palace were discarded. 8 wall paintings were clicked at Sukh mahal and 49 wall paintings were clicked at Tara ghar fort. 5 Wall paintings from Sukh mahal and 42 from Taraghar fort were discarded in first screening. After first screening 18 mood boards were prepared. Then second screening was done and total 15 mood boards were prepared according to motif type with selected 70 motifs.

Table : 4 Motif Screening one and two

Sr. No.	Region	City	Monument	Total click	Wall painting discarded in first screening	Extracted motifs	Second screening
1.	Haroti	Kota	Ghar palace	14	4	22	9
			Abhedamahel	8	6	2	-
		Bundi	Sukhmahal	77	70	10	-
			Taraghar fort	13	4	10	1

Table : 5 Sights of collection of wall paintings

Sr. No.	Region	City	Monument	Sights and number of wall paintings clicked										Total
				Pillar	Side walls	Front wall	Show case	Door arch	Door sides	Celling	Corner	Front lower area wall	Front upper area wall	
1.	Haroti	Kota	Ghar palace	4			7	7	7	7		13	9	**54**
			Aberamahal		9		12	1	7			4	1	**34**
		Bundi	Sukhmahal				3						5	**8**
			Taraghar fort		10	2	2	9	1	6	2	7	10	**49**

Table : 6 Details of extracted, discarded and selected motifs

Sr. No.	Region	City	Monument	Total clicks	Appropriate clicks	Discarded clicks	Extracted motifs for first mood boards	Motifs selected in different categories after first screening			First mood boards	Motifs selected in different categories after second screening		
								Floral and foliage	Figurative	Floral foliage and figurative		Floral and foliage	Figurative	Floral foliage and figurative
1.	Haroti	Kota	Ghar palace	54	12	42	19	19	—	—	4	15	—	—
			Aberamahal	34	34	—	42	18	20	4	9	18	20	**4**
		Bundi	Sukhmahal		8	5	3	—	3	—	1	—	3	—
			Taraghar fort	49	7	42	11	4	7	—	3	4	6	—

4) Selection of appropriate motifs for textile application : motifs with rating of 5 (excellent) from all judges were selected for further development. In total not more than $\frac{1}{6}$ & not less than $\frac{1}{8}$ were selected from the 3 categories. Hence 10 experts selected 8 motifs from Haroti region.

From Abhera mahal (Kota) 7 motifs were selected by experts, which were as followed 3 floral and foliage, 3 figurative and 1 floral foliage and figurative. One figurative motif was selected from Sukh mahal (Bundi). Consequently it is visible that figurative motifs of Haroti were more preferred by experts with 4 motifs, for textiles followed by 3 floral and foliage and least preferred motifs from Haroti was floral foliage and figurative with only 1 selected motif.

At the same time no motifs were got selected from Ghar palace (Kota), Taraghar fort (Bundi).

Table : 7 Region wise details of selected motifs

Region	No. of second mood boards	No. of motif selected by all experts with a rank of 5	Selected motifs in different categories		
			Floral and foliage	Figurative	Floral foliage and figurative
Haroti	15	8	3	4	1

Table : 8 Monument wise detail of selected motifs in three different category

Sr. No.	Region	City	Monument	Selected motifs in different categories			Total selected motifs monument wise
				Floral and foliage	Figurative	Floral foliage and figurative	
1.	Haroti	Kota	Ghar palace	—	—	—	—
			Aberamahal	3	3	1	7
		Bundi	Sukhmahal	—	1	—	1
			Taraghar fort	—	—	—	—

5) Selection of appropriate color scheme of motifs for textile application : color combination with highest ranking was selected for further development. In total 3 figurative motifs 2 from Abhera mahal (Kota) and 1 from Sukh mahal (Bundi) were most preferred by judges in their original color scheme. 1 motif from Abhera mahal (Kota) was preferred by judges in modified color scheme. Also 1 floral foliage and figurative motif was selected by experts in modified color scheme. Similarly 1 floral foliage motif from Abhera mahal (Kota)was preferred by experts in modified color scheme, and 2 floral foliage motifs from abhera mahal were preferred by experts in their original color schemes. Hence original color scheme was more preferred by experts in Haroti region.

Also clothing was most preferred product by experts for these motifs. 7 out of 10 experts choose clothing for motifs whereas 3 judges choose home furnishing and none of the experts preferred accessories of given motifs.

6) Selection of appropriate unit of motifs for textile application : 7 out of 8 motifs from Haroti region were selected in original unit only 1 motif was selected in modified unit. 1 figurative motif from Kota (Haroti region) was selected in its modified unit at the same time experts selected placement layout/repeat for same motif. Also it was clear from results that experts preferred 3figurative motifs from haroti region, for placement repeat and 1 figurative motif was selected for brick placement. 1 Floral foliage and figurative motif was preferred by experts in its original unit and for border placement. Similarly 2 of floral foliage motifs were preferred in original unit as well as for border placement.Whereas 1 floral foliage motif was preferred by experts for brick repeat. Also 8 out of 10 experts choose Kurties as a product prototype and only 2 experts give preference to topper.

7) Selection of Kurti design and color combination : 1 figurative motif of parrots from Kota (Haroti region) was selected by respondents for brick repeat with vibrant yellow color combination for kurti prototype. 1 figurative motif of pair of birds from Kota (Haroti region) was selected by respondents for placement repeat with powder blue color combination for kurti prototype. 1 figurative motif of rag-ragini was

selected by respondents from Kota (Haroti region) with placement repeat and white color combination for kurti prototype. 1 figurative motif of rag-ragini was selected by respondents from Bundi (Haroti region) with placement repeat and powder blue color combination for kurti. 1 floral foliage and figurative motif from Kota (Haroti region) was selected by respondents for border placement with vibrant yellow color combination for kurti prototype. 1 floral foliage motif of Kota was selected for white color kurti for border placement by respondents. 1 floral and foliage motif was selected by respondents for vibrant yellow color kurti for border placement. 1floral and foliage motif was selected by respondents for vibrant yellow color kurti for placement repeat. All selected motifs, with their selected colors and units with selected placements are given below with prototype designs in figure 10 to figure 17.

Figure 10

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

Figure 16

Figure 17

Conclusion

It can be concluded from the above study that Rajasthan's monumental wall paintings are great national heritage, but various factors are destroying these glorious paintings. Simultaneously it is also found that, because of various factors 100% restoration of these paintings is not possible. Also these paintingsare beautiful source of inspiration for any creative filled, and one can use these motifs in their original form, or in modified form. These designs have potential to satisfy the needs of the national and international market. Thus, in present paper collection of motifs was done, and with the help of experts' best motifs was selected and modified for the application on textiles. Also it is clearly seen that, wall painting motifs of Rajasthan can be easily adapted for textile and fashion purpose. Similarly others can alsocapture the demands of consumers and experiments can be done by designers, with these designs in the new area of designs development. The monumental designs once adopted on apparel can fulfill the desire of the modern consumers who are looking for a change. Such experiments will not only enhance the aesthetic appeal of textile but also conserve tradition of India.

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Silk exports drop as pandemic hits demand

Shipments of silk products have taken a major beating as the Covid pandemic has shrunk the demand in key markets of Europe and the United States, exporters said.

The exports are down by 28 per cent in dollar terms during the April-September period this year over corresponding last year. Shipments stood at $79.16 million or Rs. 591.72 crore during April-September as against $111.19 million or Rs. 791.89 crore in the same period last year.

"The spread of Covid and lockdown in the US and Europe are the main reasons for the decline in exports. The outlook for the rest of the year is not that great as the spreading of a second Covid wave in these regions is a big worry," said Bimal Mawandia, Chairman of the Indian Silk Export Promotion Council. Mawandia further said that for the current financial year, exports of silk goods could be lower by 40-50 per cent over last year's $350 million.

"In the first three to four months of the current financial year, the exports were down by 80-90 per cent due to the lock-down and other logistics issues. As silk is a luxury item, buyers are very cautious," he said.

India, the second largest silk producer in the world after China, also has a big domestic market. In fact, India imports raw silk to meet its domestic demand.

Moreover, it's not just the silk goods exports that have been impacted. Even the imports of raw silk, yarn and fabrics have taken a beating due to the Covid. Silk goods imports fell sharply to Rs. 272 crore ($36.22 million) during H1 this fiscal from Rs. 781 crore ($110.15 million) in the same period last year, on account of sharp decline in import of raw silk and yarn. H1 raw silk imports were valued at Rs. 203.92 crore ($27.17 million) as compared to Rs. 588.45 crore ($82.92 million) in the same period last year. ❐

Garment exporters need pre-FTA deal with UK

Garment exporters have asked the Centre to strike a preferential trade deal on apparels with the UK, prior to negotiating a full-fledged free trade agreement (FTA) with the country, to remove the tariff disadvantage faced by Indian apparels in the UK market.

In a letter to Commerce and Industry Minister Piyush Goyal, the Apparel Export Promotion Council (AEPC) stated that after the implementation of Brexit in January 2021, 47 least developed countries (LDCs), including Bangladesh, were likely to continue to enjoy preferential trade benefits in the UK. This will lead to continued disadvantage for Indian apparels in the UK, which is an important market for India and has a lot of potential for growth.

"India has been losing out to its competitors in the UK and hence we request to initiate discussions for an early trade pact for apparels in the run-up to an FTA," AEPC Chairman, A Sakthivel, wrote in the letter.

AEPC said that apparel exports to the UK, which is India's third-largest export destination after the US and the UAE, have been facing a tariff disadvantage of 9.6 per cent compared with countries like Bangladesh due to the EU's Generalised Scheme of Preferences (GSP).

"Bangladesh is equally competitive now and its exports grew at 11.7 per cent during 2009-18, when our exports stagnated at 0.5 per cent. Bangladesh exported apparels worth $40.4 billion, whereas we did $16.5 billion in 2019. It's a labour-intensive sector and we need to ask for a special consideration in our bilateral relations with the UK," Sakthivel said. ❐

CAI sees cotton crop down at 356 lakh bales for 2020-21

India's cotton crop for the current year 2020-21 is expected to be lower by about 4 lakh bales (each of 170 kg) at 356 lakh bales.

The Cotton Association of India (CAI) recently released its first estimate of cotton crop for the new season starting from October 1, 2020 and ending on September 30, 2021.

"The reduction in cotton crop for the season is on account of damage reported to the crop in some pockets due to the excess rains and pink bollworm infestation," Atul Ganatra, President, CAI, informed in a statement.

However, the crop size projected by the CAI is lower by about 15 lakh bales (lb) from the Government's first advance estimate of 371 lb made in September. The government, in its fourth advance estimate for 2019-20, put the fibre crop size at 355 lb against CAI's estimate of 360 lb for last year.

The Crop Committee of CAI held its meeting in recent past week, where it also projected India's cotton exports for the season at 60 lb—about 10 lb from the export estimate of 50 lb in the previous crop year. Cotton imports are likely at 14 lb for the season, lower from 15.50 lb reported last year.

EXPORT PROSPECTS AND MARKETS

Cotton prices are hovering in the range of Rs. 38,700-40,200 per candy (each of 356 kg of ginned cotton), which is considered favourable for the export markets, which are ruling higher at approx 71.21 cents per pound for New York cotton futures.

The CAI has estimated annual cotton consumption at 330 lb—up by about 80 lb compared 250 lb of the previous cotton season.

As on October 30, total arrivals of the fibre were recorded at 27.16 lb.

The CAI has estimated the closing stock by the end of the cotton season at 87.50 lb, down by 20 lb in the last year. However, last year was an exceptional one with closing stocks at a record 107.5 lb. ❐

China's pain leads to India's gains in Garment exports

After a washout in the first quarter, garment exporters in India are picking up the threads to effect an unexpected recovery by seizing an opportunity offered by souring Sino-US trade relations.

Exporters say their capacity utilisation has reached almost 70 per cent and that big firms have brought it up to as high as 85 per cent. In many cases, the order book is up 10-12 per cent over pre-Covid-19 levels.

The demand recovery has been led by the US market, which accounts for 27 per cent of India's garment exports. According to a report by Wazir Advisors based on the US Census Bureau, between January and October apparel store sales in America were at $100 billion, around 33 per cent less than the same period last year. But the dip was punctuated by sharp recovery of sales in June and September. In April, monthly apparel sales were down by 88 per cent over April 2019, but recovered steadily month-on-month. In September 2020, the drop was only 13 per cent over September 2019.

The increase in demand has led to spurt in imports, including from India that accounts for 4.6 per cent of US garment imports. From January to September this year, the US imported apparel worth $47 billion, around 28 per cent less than the same period last year. After reporting a 60 per cent drop in May 2020 over May 2019, the slump was only around 15 per cent in September.

Besides demand from existing customers, Indian suppliers have started getting new orders and enquiries that traditionally went to China.

For example, a recent Motilal Oswal report said that China's market share (as a percentage of US imports) of terry towels and bedsheets fell by 350 basis points (to 21 per cent) and 510 basis points (to 15 per cent) between January and September. In the same period, India's market share in these two products jumped 360 and 90 basis points to 43 and 50 per cent, respectively.

This transition can be seen in Tiruppur, India's export-oriented knitwear capital, where orders flows have jumped 15-20 per cent in the last three months.

Raja M Shanmugham, president, Tiruppur Exporters' Association, attributes the surge to China. "Our traditional markets—US and Europe—continue to be in the red, though they are improving month on month. We don't have any other reason except the Chinese factor to attribute for this growth," he sad. Tiruppur exports apparel worth around Rs. 27,250 crore a year.

Textile firms confirm this development. During an investors' call in September, the management of Raymond, the branded fabric and fashion retailer, said, "We have witnessed some of our large B2B customers indicating and evaluating shifts in the supply chain from China and we are becoming sort of a natural choice to them... We have identified about 18 partners around the world, and we are working closely with them and we are hopeful that we will grab opportunities with a few of them."

Sivaramakrishnan Ganapathi, managing director of Gokaldas Exports, the country's leading apparel exporter, also confirmed that his company had this year bagged orders that used to go to China earlier.

However, old challenges remain. Countries such as Cambodia and Vietnam continue to leverage the raw material value chain in China and aim to expand their market share in the near term.

Exports from these countries are technically through Chinese companies, which have invested directly or indirectly as part of China Plus One (a strategy to cater to global markets by avoiding investments only in China), explained an official at a leading export house.

Vietnam and Bangladesh are late entrants compared to India and they do not have raw materials, which they import from China or India. Despite these short-comings, they are growing faster than India.

For instance, Bangladesh has raised garment exports from $26 billion to over $33 billion in the past five years, while India's export has remained stagnant at $36 billion.

As the exporter noted, India is dependent on China for synthetics, certain kinds of fibres, yarns and fabrics because the capacity here is limited. India imports nearly $460 million worth of synthetic yarn, $360 million worth of synthetic fabric (nylon) and around $140 million worth of accessories like buttons, zippers, hangers and needles, apart from machinery, a bulk of it from China.

However, the official is optimistic that India can grow and get a larger share of the pie, especially due to the circumstances.

For instance, the US government imposed sanctions on Xinjiang cotton—which accounts for 20 per cent of all the cotton in the world, nearly 20 per cent of all the cotton in the world, nearly 80 per cent of China's cotton production and 50 per cent of the global spinning capacity. The curbs are likely to benefit India, which is well-equipped with producing cotton-based garments, thanks to the availability of raw material for manufacturing all kinds of products.

But it's in synthetics where major gains lie and where India lags. The recent Production-Linked Incentive scheme of the Indian government is expected to accelerate growth as it provides incentives for manufacture and export of specific textile products made of man-made fibre. But that capacity will take time to come on stream.

"It's high time Indian industry and the government woke up to the fact that orders have started moving away from China and to India," said Shanmugham, adding that the cost differential of around 10-15 per cent between the two nations is not a big constraint for overseas buyers.

The problem with Indian suppliers are quality and non-fulfilment of orders in time. Shanmugham attributed these to lack of mass skilling. ❐

Will the recent increase in prices impact cotton exports ?

Recent uptrend in cotton prices is likely to impact the projected exports of cotton.

Parts of cotton growing regions in Maharashatra and Gujarat have faced pink-bollworm infestations in cotton crop, which have dented the crop outlook. On the other hand, the ongoing farmers' protest has impacted the cotton arrivals in North India triggering surge in prices to Rs. 41,400 per candy each of 356 kg of ginned cotton of 29 mm variety).

"Prices have surged quite significantly and we have crossed the pre-lockdown rates of 89,000 last year. Now we are closing towards Rs. 42,000 which is around 70 cents per pound. It looks like this will stop increasing and stabilize at this level. At this rate, there is no parity in exports so it is difficult to achieve the export target of 60 lakh bales," Atul Ganatra, President, Cotton Association of India (CAI) told recently.

Earlier this month, CAI had projected India's cotton exports to touch 60 lakh bales for the season 2020-21, about 20 per cent higher from 50 lakh bales estimated for the previous season.

Cotton prices have been on the rise for the past month. In September-October, cotton prices ruled in the range of Rs. 38,700 to Rs. 40,200 per candy, which worked out to about 66 cents for a pound.

This was considered much lower than key markets of US (75.40 cents), West Africa (73.40) or Brazil (70.40). Looking at this favourable price proposition, cotton trade was betting big on exports. Trader sources, however, maintained that even after the recent spurt in the prices, India's cotton would continue to remain competitive in the international market. Thus the overall exports of the fibre may not fall below the previous year's levels i.e. 50 lakh bales (each of 170 kg).

Vinay Kotak, Director, Kotak Commodities, said : "We will continue to be cheapest in the world. Don't see any impact of recent fluctuations in prices on overall exports. We may retain last year's 50 lakh bales, if not more."

Currently, there are no big inquiries from overseas markets but China and East Asian markets including Vietnam and Bangladesh are buying from India. "There is going to be some arrival pressure in the market in the coming months. So prices will stabilise," said Kotak. ICE December Futures are hovering in the range of 71.5 to 71.68 cents per pound, whereas far month contract for May and July 2021 quoted at 74.12 and 74.65, respectively pointing at a further room for an upside in the international cotton market.

Exporters hinted that rains, pest infestations and North India's farmers' agitation has temporarily pushed up prices in the domestic market. "The prices are expected to go down as the cotton production is expected to be more than last year. And there is not much demand from the end consuming sectors in the rest of the world. So there will be some respite in prices after about two weeks," said a cotton exporter from Ahmedabad. ■

Minimum space, maximum potential: the new autoleveller draw frame TD 10

Better blending from the beginning: **TD 10**

With the **TD 10**, an ultramodern autoleveller draw frame featuring the latest digital levelling technology comes to the market. The **TD 10** incorporates technical highlights more compact than ever. Due to its clever design, the **TD 10** requires on average 20 % less space than comparable competitive models. In addition its intelligent SMART CREEL, combined with the T-LED remote display, offers unparalleled functional reliability and transparency.

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GOTS's new appointee in South Asia

New GOTS Staff and new GOTS Position

GOTS appoints Regional Representative in South Asia and Head of Quality Assurance and Implementation

Ganesh Kasekar has been appointed as the new GOTS Representative in South Asia (India, Pakistan, Bangladesh and Sri Lanka). Ganesh, based in Mumbai, takes over the role of Sumit Gupta, the previous GOTS Regional Representative in India and Bangladesh with the additional countries Pakistan and Sri Lanka. Sumit will from now on serve as Head of Quality Assurance and Implementation.

Ganesh is a Textile Chemistry alumni of the prestigious institute VJTI in Mumbai and he holds over 17 years of experience in the textile industry with a special background in inspection and certification in supply chains. In his former position as Business Development Manager, he has already been involved with supply chain stakeholders internationally, contributing to quality assurance requirements in the textile and leather goods industry.

The newly created position as Head of Quality Assurance and Implementation is taking account of the increasing workload GOTS is facing because of fast growing numbers of certified operations. Given Sumit's substantial long experience within representing GOTS as well as contributing substantially to GOTS Quality Assurance and Implementation, we are happy that he is taking this next step with us.

About GOTS

GOTS is the stringent voluntary global standard for the entire post-harvest processing (including spinning, knitting, weaving, dyeing and manufacturing) of apparel and home textiles made with certified organic fibre (such as organic cotton and organic wool), and includes both environmental and social criteria. Key provisions include a ban on the use of genetically modified organisms (GMOs), highly hazardous chemicals (such as azo dyes and formaldehyde), and child labour, while requiring strong social compliance management systems and strict waste-water treatment practices. GOTS was developed by leading international standard setters - Organic Trade Association (U.S.), Japan Organic Cotton Association, International Association Natural Textile Industry (Germany), and Soil Association (UK) to define globally recognised requirements that ensure the organic status of textiles, from field to finished product. GOTS is a non-profit organisation which is self-financed.

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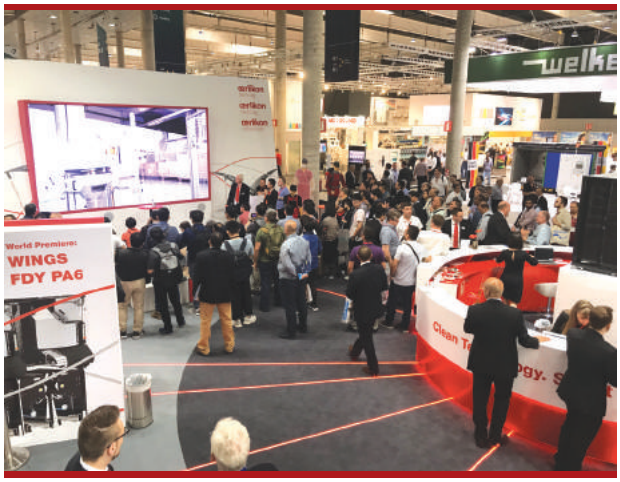
"Trade fairs in 2021 will probably find a more national character"

The trade fair calendar for the textile machinery industry is already well filled for the coming year. Almost all trade fairs, events, conferences and meetings that could not be held online in 2020 have been moved to 2021. Now they are one date after the other. But in times of the corona pandemic this has its advantages.

The Manmade Fibers segment of the Swiss Oerlikon Group is currently resuming its concrete planning for the coming trade fair year. "In 2021, we are seeing above all trade fairs and events that will probably have a more national or regional rather than an international character," says André Wissenberg, Head of Marketing, Corporate Communications and Public Affairs. The accumulation of dates, especially in May and June 2021 with TECHTEXTIL in Frankfurt, Germany (May 4-7, 2021), DOMOTEX in Hanover, Germany (May 20-22, 2021), ITMA Asia, Shanghai, China (June 16-18, 2021), ACHEMA in Frankfurt, Germany (June 14-18, 2021) and ITM in Istanbul, Turkey (June 22-26, 2021) also offers the segment advantages during the corona pandemic, which will continue next year: "We can present almost all innovations of our product lines to a broad public in the regional markets in a short, concentrated period of time," Wissenberg explains.



Reminiscences of 'good old times' – Oerlikon Manmade Fibers Segment plans to fully resume trade show participation in 2021.

"DOMOTEX Asia and CINTE in Shanghai at the beginning of September proved that trade fairs and events are already possible again, at least in some countries," Wissenberg continues. "This gives us all justified hope that we will be able to stage upcoming events again next year to a certain extent. We want to offer our customers and sales staff 'real' communication platforms again", he says.

In addition to the leading trade fairs in early summer 2021 and other regional fairs, the Manmade Fibers segment is also planning to participate in INDEX in Geneva, Switzerland (September 7-10, 2021) and SHANGHAITEX in China (November 23-26, 2021) as well as ITME in New Delhi, India (December 8-13, 2021). All trade fair participations of the Manmade Fibers segment are available on the Oerlikon website: https://www.oerlikon.com/manmade-fibers/en/about-us/events/.

About Oerlikon

Oerlikon (SIX: OERL) develops modern materials, systems and surface technologies and provides specialized services aimed at securing high-performance products and systems with long lifespans for customers. Supported by its technological core competencies and its strong financial footing, the corporation continues its medium-term growth plan by implementing three strategic factors: focusing on attractive growth markets, ensuring structural growth and expanding through targeted M&A activities. Oerlikon is a globally-leading technology and engineering corporation, operating its business in two segments (Surface Solutions and Manmade Fibers) and employing around 11,100 members of staff at 182 sites in 37 countries worldwide. In 2019, Oerlikon generated sales of CHF 2.6 billion and invested more than CHF 120 million in research & development.

For further information: www.oerlikon.com

About the Oerlikon Manmade Fibers segment

With its Oerlikon Barmag, Oerlikon Neumag and Oerlikon Nonwoven brands, the Oerlikon Manmade Fibers segment is one of the leading providers of manmade fiber filament spinning systems, texturing machines, BCF systems, staple fiber systems and solutions for the production of nonwovens and – as a service provider – offers engineering solutions for the entire textile value added chain.

As a future-oriented company, the research and development at this division of the Oerlikon Group is driven by energy-efficiency and sustainable technologies (e-save). With its range of polycondensation and extrusion systems and their key components, the company caters to the entire manufacturing process – from the monomer all the way through to the textured yarn. The product portfolio is rounded off with automation and Industrie 4.0 solutions.

The primary markets for the product portfolio of Oerlikon Barmag are in Asia, especially in China, India and Turkey, and – for those of Oerlikon Neumag and Oerlikon Nonwoven – in the USA, Asia, Turkey and Europe. Worldwide, the segment – with just under 3,000 employees – has a presence in 120 countries with production, sales and distribution and service organizations. At the R&D centers in Remscheid, Neumünster (Germany) and Suzhou (China), highly-qualified engineers, technologists and technicians develop innovative and technologically-leading products for tomorrow's world.

For further information: www.oerlikon.com/manmade-fiber

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Myntra offers a sustainable clothing range in teaming-up with LENZING™ ECOVERO™ this festive season

Roadster, Dressberry, Mast & Harbour, and House of Pataudi (HOP) have created sustainable lines made with LENZING™ ECOVERO™ branded fibers

Myntra and LENZING™ ECOVERO™ fiber brand have joined hands this festive season, to provide apparels made of the environmentally responsible viscose fibre. As a part of this collaboration, Myntra's in-house fashion brands have created a range of eco-friendly outfits for women's and men's wear.

The drive to go-green is accelerating lately, and Indian fashion brands strive to stay two steps ahead. The partnership between Myntra and LENZING™ ECOVERO™ brand brings high on fashion products to the online market. A legion of innovative minds has worked on this collection to offer a wide range of innovative designs across brands. Outfits made of LENZING™ ECOVERO™ fibers will be offered by top brands like Roadster, Dressberry, Mast & Harbour, and House of Pataudi (HOP). The reasonably-priced apparels offer a wide range of choices for buyers with various tastes in fashion.

Tailored to a sustainable lifestyle, LENZING™ ECOVERO™ fibers are derived from certified renewable wood sources using an eco-responsible production process meeting high environmental standards. LENZING™ ECOVERO™ branded specialty viscose fiber has been certified with the EU Ecolabel which is awarded to products and services meeting stringent sustainability requirements throughout their life cycle.

Speaking on the partnership Amar Nagaram, CEO, Myntra said ''As one of the leading fashion retailers in the country, we are curiously conscious and committed to working towards serving the evolving fashion preferences of our customers with holistic offerings. This collaboration will further enhance Myntra's commitment towards the ecosystem.''

Speaking about the association, Mr. Avinash Mane, Commercial Head, South Asia, Lenzing Group said, "As global industry leader in sustainability and innovation, we at Lenzing fibers are pleased to collaborate with Myntra to power eco-friendly fashion for Indian consumers. This collection brings a perfect mix of fashion and

sustainability. Through this we hope to create a larger outreach among consumers as well as industry on adopting alternative resources and processes in their brands."

About LENZING™ ECOVERO™

With 80 years of experience, the Lenzing Group is the only company in the world which produces significant volumes of all three wood-based cellulose fibre generations. The Lenzing Group is an international company that produces high-quality fibres made with wood pulp from sustainable tree farms. Derived from certified renewable wood sources using an eco-responsible production process by meeting high environmental standards, LENZING™ ECOVERO™ fibers tailor to a sustainable lifestyle, contributing to a cleaner environment.

About Lenzing Group

The Lenzing Group stands for the ecologically responsible production of specialty fibers made from the renewable raw material wood. As an innovation leader, Lenzing is a partner of global textile and nonwoven manufacturers and drives many new technological developments. The Lenzing Group's high-quality fibers form the basis for a variety of textile applications ranging from elegant ladies' clothing to versatile pieces of denim and high-performance sports clothing. Due to their consistent high quality, their biodegradability and composability Lenzing fibers are also highly suitable for hygiene products and agricultural applications.

The business model of the Lenzing Group goes far beyond that of a traditional fiber producer. Together with its customers and partners, Lenzing develops innovative products along the value chain, creating added value for consumers. The Lenzing Group strives for the efficient utilization and processing of all raw materials and offers solutions to help redirect the textile sector towards a closed-loop economy.

About Myntra

Myntra is India's leading platform for fashion brands and pioneer in m-commerce play. An integral part of the Flipkart Group, Myntra brings together technology and fashion to create the best experience in the fashion and lifestyle space in India. The company has partnered with over 5000+ leading fashion and lifestyle brands in the country such as Nike, adidas, Puma, Levis, Wrangler, Arrow, Jealous 21, Diesel, CAT, Harley Davidson, Ferrari, Timberland, US Polo, FabIndia, Biba and many more, to offer a wide range in latest branded fashion and lifestyle wear. Myntra services over 27,000 pin codes across the country. With the largest in-season product catalogue, 100% authentic products, Cash on Delivery and 30-day Exchange/ Return policy, Myntra is today the preferred shopping destination in India.

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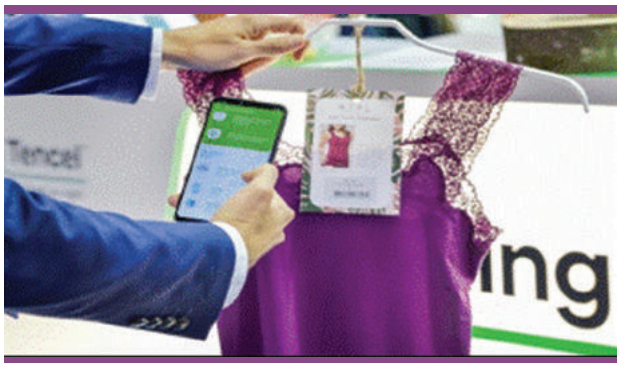
Lenzing introducing complete suply chain 'Traceability'

Lenzing creates unprecedented supply chain traceability – incorporating Lenzing E-Branding fabric certificates and blockchain-enabled traceability platform powered by TextileGenesis™

- Complete supply chain traceability will be available for TENCEL™ and LENZING™ ECOVERO™ branded fibers, from fiber to spinning, weaving, knitting, dyeing, up to garment-making processes.
- Brand new blockchain-enabled traceability platform, TextileGenesis™, to be rolled out to Lenzing supply chain partners in South Asia in Q4 2020, followed by China and Turkey in Q1 2021.

- Incorporation of Lenzing E-Branding fabric certificates in the TextileGenesisTM platform to be launched in November 2020, where Lenzing supply chain partners and co-branding partners can upload their digitally signed Lenzing E-Brandingfabric certificates.

With the COVID-19 pandemic, more changes have been brought to the already transforming fashion and textile industries. To date, supply chain traceability has become a top priority for apparel and home brands. To address both consumer demand and compliance risks increasingly faced by brand partners, Lenzing is introducing a brand-new blockchain-enabled supply chain traceability platform powered by TextileGenesis™. The platform will go live from 5 November 2020 onwards, accessible by all brands using TENCEL™ and LENZING™ ECOVERO™ branded fibers, and supply chain partners globally across Asia, Europe and the Americas.



Phased onboarding and new digital certificates to ensure traceability and sustainability

A follow-up of a 12-month pilot program and field trials with fourleading sustainable brands (H&M, Armed Angels, Mara Hoffman and Chicks) and supply chain players from 10 countries in three regions, the global roll-out of Lenzing's blockchain-enabled supply chain traceability platform will be conducted in phases. During the first phase, Lenzing's supply chain partners based in South Asia (India, Bangladesh, Pakistan and Sri Lanka) will complete the onboarding process within Q4 2020. An estimated 300+ supply chain partners in China and Turkey will also join the program in Q1 2021. It is estimated that by Q2 2021, most eligible Lenzing supply chain partners will be onboarded into the platform, ensuring full supply chain traceability.

One of the core components of the platform powered by Textile Genesis™ is integration with the Lenzing E-Branding fabric certification system, which allows brands and retailers not only to access the full supply chain traceability for TENCELTM and LENZINGTM ECOVEROTM branded fibers but also to view the results of forensic (physical) verification of fabric samples via the digitally signed Lenzing E-Branding fabric certificates.

"Over the past year, during the pilot program andfield trials we have been receiving very positive feedback from brands and supply chain partners. Our brand partners have also been encouraging us to accelerate the global roll-out for traceability of Lenzing fibers. With this new system and the integration with Lenzing E-Branding fabric certificates, the entire Lenzing ecosystem will create an unprecedented level of transparency. This will provide consumers with the most sustainable and climate-friendly clothing and home textile products that are made of TENCEL™ or LENZING™ ECOVERO™ branded fibers.", says Robert van de Kerkhof, Chief Commercial Officer and Member of the Board at Lenzing.

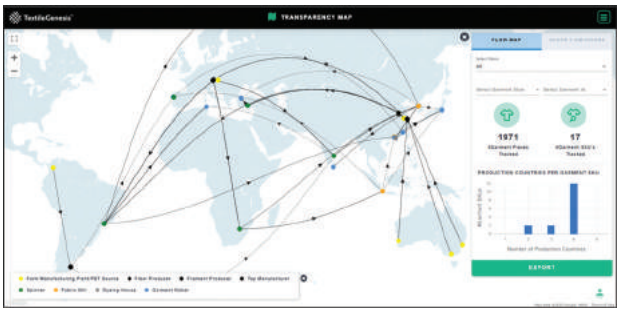
"With increasing compliance and reputational risks, CEOs and Boards of top 100 fashion brands have committed to using 100% sustainable and traceable fibers over the next 5 years, with transparency being a core part of business priorities. Sustainability and traceability are twosides of the same coin, and it's great to see Lenzing paving the way for the entire fashion industry to follow. Our supply chain traceability platform will create digital accounting for Lenzing's innovative and sustainable fibers across the entire supply chain using Fibercoins™ traceability technology." says Amit Gautam, Chief Executive Officer and Founder of TextileGenesis™

Fibercoin™ technology to ensure traceability across supply chain

Through using the innovative Fibercoin™ technology of the TextileGenesis™ platform, Lenzing and other brand partners are now able to issue digital tokens (blockchain assets) in direct proportion to the physical shipments of TENCEL™ and LENZING™ ECOVERO™ branded fibers. These digital tokens provide a unique "fingerprint" and authentication mechanism, preventing adulteration, providing a more secure, trustworthy, digital chain-of-custody across the entire textile supply chain, and most importantly, ensuring the materials are sustainably produced.

For more information about the Lenzing Blockchain-enabled supply chain traceability platform and the Lenzing E-Branding Service, please visit https://textilegenesis.com or https://brandingservice.lenzing.com/

CORPORATE NEWS



About TENCEL™

TENCEL™ is the textile specialty brand under The Lenzing Group that covers textile specialty product fiber offerings for apparel and home. The TENCEL™ product brand portfolio defines a new evolutionary step in terms of sustainability, functional benefits, natural comfort and caters for distinctive everyday usage or application. 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™ Modal and TENCEL™ Lyocell fibers can enhance the breathability of fabrics and have a minimal static charge when used in fabrics. Fabrics made of TENCEL™ 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. Exhibiting high flexibility, TENCEL™ Modal fibers enhance textiles with a naturally soft quality. 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.

Fibers used under the TENCEL™ brand are derived from certified and controlled sources following the stringent guidelines of the Lenzing Wood and Pulp Policy. Namely, TENCEL™ Modal and TENCEL™ Lyocell fibers, both cellulosic fibers are produced via environmentally responsible production processes and are compostable and biodegradable, thus can fully revert back to nature. TENCEL™ Modal and TENCEL™ Lyocell fibers are designated by the USDA (U.S. Department of Agriculture) BioPreferred® Program.

About the Lenzing Group

The Lenzing Group stands for ecologically responsible production of specialty fibers made from the renewable raw material wood. As an innovation leader, Lenzing is a partner of global textile and nonwoven manufacturers and drives many new technological developments.

The Lenzing Group's high-quality fibers form the basis for a variety of textile applications ranging from elegant ladies clothing to versatile denims and high-performance sports clothing. Due to their consistent high quality, their level of biodegradability and compostability, Lenzing fibers are also highly suitable for hygiene products and agricultural applications.

The business model of the Lenzing Group goes far beyond that of a traditional fiber producer. Together with its customers and partners, Lenzing develops innovative products along the value chain, creating added value for consumers. The Lenzing Group strives for the efficient utilization and processing of all raw materials and offers solutions to help redirect the textile sector towards a closed-loop economy.

Key Facts & Figures Lenzing Group 2019
Revenue: EUR 2.11 bn
Nameplate capacity: 1,045,000 tons
Employees: 7,036

About TextileGenesis™ platform

TextileGenesis™ is a pioneering supply chain traceability platform for the fashion and textile industry, enabled by blockchain technology. Our award-winning Fibercoin™ traceability technology creates real-time digital accounting of sustainable fibers across the entire supply chain from fiber-to-retail creating an entirely new level of traceability for brands and retailers. The platform is custom-built for all sustainable fibers such as man-made cellulosic fibers, wool, recycled polyester and organic cotton. The technology is highly scalable with first of its kind fiber-to-retail traceability data protocol (based on GS1 standard) to drive seamless exchange of data across the textile value chain. The modular design ensures easy integration with various forensic (physical) verification methods used in the fashion industry.

Our global network of leading sustainable brands, fiber producers, textile suppliers, and key industry organizations ensures rapid deployment and implementation of end-to-end traceability. The cloud-based delivery model ensures easy accessibility from any device

and is available globally in all major textile producing countries in three different languages. The TextileGenesis™ platform goes beyond traceability to incorporate Scope 3 emissions for full value chain, and creates strong business incentives for textile suppliers to pro-actively share supply chain traceability data.

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Italian Textile Machinery : ACIMIT general meeting confirms industry slow down

The world that awaits us in this post Covid-19 era was the dominant theme discussed at the annual general meeting of ACIMIT, held in Milan on October 6th. "In the coming years, the climate of uncertainty we are experiencing will worsen, and health emergencies will combine with further geopolitical tensions which are already heavily affecting business," stated ACIMIT president Alessandro Zucchi, as he submitted 2019 figures for the Italian textile machines industry and 2020 forecasts.

In 2019, Italy's production output of textile machinery dropped by 11% compared to 2018, while exports fell 12%. The sharp decline in manufacturing activity in 2019 was common to both foreign and domestic markets in Italy. This widespread lessened demand in the main Asian and European markets has weighed heavily on machinery sales abroad, also affecting the United States and South America. A similar scenario was observed in Italy, where both imports of machinery of foreign origin and deliveries by Italian manufacturers decreased significantly.

This precarious economic situation, which in early 2020 hit Italy's textile machinery industry - already affected by a weaker global demand - then suffered from the strong impact brought on by the pandemic. The repercussions are highlighted by a severe scaling back in orders for Italian producers, as monitored by our Association on a quarterly basis. The order index

for the first six months of the year dropped 39% compared to the same period for January to June 2019; a recessionary picture that remains confirmed for the whole of 2020, despite some timid signs of recovery in the third quarter. A recovery towards export levels resembling those of the period prior to Covid-19 can only be expected in 2021.

General information on Italy's textile machinery sector and ACIMIT

ACIMIT represents an industrial sector that comprises roughly 300 manufacturers (employing around 12,000 people), which produce machinery for an overall worth of around 2.3 billion euros, of which 82% are exported. Creativity, sustainable technology, reliability and quality are the hallmarks that have made Italian textile machinery worldwide leaders.

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CORPORATE NEWS

Birla Celluloses's eco-enhanced products achieved by collaboration with Sappi Ltd

Birla Cellulose now maps 100% forest sources on Traceability platform GreenTrack™

Birla Cellulose has advanced the capability of the well-established blockchain-enabled traceability platform, GreenTrack™, which now enables the consumers to see the forests from where the wood is sourced and thus providing a complete end-to-end visibility of forest to fashion. The visibility of forest sources for all the Birla Cellulose's eco-enhanced products has been achieved by collaboration with Sappi Ltd., the largest supplier of dissolving pulp. The forest information of pulp produced by Birla Cellulose was available on the platform thus far.

The GreenTrack™ platform was introduced in early 2019 and has since been used widely to trace and track the material flow in the fashion value chain, and is currently being used by over 20 leading global brands & retailers and their respective supply chain partners across the globe, while many others are in the process of onboarding it. In addition to brands, many large garment producers and exporters are also using this platform to trace their supply chains. The traceability of the value chain through the use of this platform comes without any additional cost to the supply chain partners or to the brands & retailers. This unique platform already handles thousands of 'live' transactions and has a potential to reach millions of consumers across the globe. Brands have started to pass on the power of traceability to their end consumers through QR codes on their garment hangtags.

"Expanding the capability of the GreenTrack™ platform and our collaboration with Sappi to provide the visibility of sustainably managed forests from where the wood was sourced, would help the sustainability focused consumers, brands and retailers to make a more informed buying decision, said Mukul Agrawal, Chief Sustainability Officer of Birla Cellulose. He informed "this initiative simplifies the verification of sustainability of complete supply chain, from forest to retail, validation of which otherwise would be a cumbersome process involving compilation of many certifications and manual tracking of the material in a long complex value chain".

This is one more step towards our commitment for building fully transparent supply chain and creating visibility to the sustainably managed forests, that are among the most important aspect of responsibly produced viscose. Birla Cellulose leads sustainable wood sourcing practices in MMCF industry and ranks no. 1 in Canopy's Hot Button Report 2020 that ranks the MMCF producers on sustainable wood sourcing practices and next generation solutions.

According to Krelyne Andrew, General Manager - Sustainability for Sappi Verve, "we are committed to enhancing trust and creating shared value within our supply chain, working closely with our partners to promote and shape the sustainability of the MMCF sector towards a Net Positive vision." Traceable and transparent supply chains are integral stepping stones to providing brand owners and consumers with the confidence that their products originate from sustainable and renewable sources of wood, free from deforestation, where biodiversity is promoted and customary, traditional or civil rights of people are upheld.

The platform is unique in the sense that it tracks orders as well as shipments (actual material flow) at the same time, thereby, eliminating any chance of inconsistent practices in the supply chain. The platform ensures information access only to relevant parties and full details of transparent supply chain is visible to end buyers or brands only. In addition to live tracking of material, the platform offers a series of value added features such as auto-generation of transaction certificates, easing quality management efforts, business analytics, amongst other features.

About Birla Cellulose

Birla Cellulose, the Pulp and Fibre business of Aditya Birla Group, is a leading sustainability focused man made cellulosic fibre producer. Its nature based fibers come from renewable wood

sourced from sustainably managed forest. Birla Cellulose operates 12 pulp and fibre sites that apply closed loop processes and environmentally efficient technologies that recycle raw materials and conserve natural resources. It's five global advanced research centers are equipped with state of the art facilities and pilot plants. It's new generation innovative products like Livaeco™, Liva Reviva, Birla Excel (lyocell), Liva Antibac and Birla Spunshades are designed with superior sustainable credentials. With an aim to create bigger and broader impact, Birla Cellulose collaborates actively with its value chain partners and works closely with organizations like, Canopy Planet, Sustainable Apparel Coalition (SAC), Zero Discharge of Hazardous Chemicals (ZDHC), Changing Markets Foundation, Textile Exchange, WBSCD, Fashion for Good amongst others to continually learn and apply the best practices within its global operations and across its value chain.

www.birlacellulose.com

About Sappi Ltd.

Sappi is a leading global provider of powerful everyday materials made from woodfibre-based renewable resources. Together with our partners, we are quickly moving toward a more circular economy.

As a diversified, innovative and trusted leader focused on sustainable processes and solutions, Sappi is powered by the expertise of more than 12,000 people worldwide; with headquarters in four key regions: South Africa, Europe, North America and Asia.

Our raw material offerings (such as dissolving pulp, wood pulp and biomaterials) and end-use products (packaging and specialties papers, graphic papers, casting and release papers and forestry products) are manufactured from woodfibre sourced from sustainably managed forests and plantations, in production facilities powered, in many cases, with bio-energy from steam and existing waste streams. Many of our operations are energy self-sufficient.

Sappi works to build a thriving world by acting boldly to support the planet, people and prosperity.

www.sappi.com

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An Idea of Interesting affairs

Story idea - Trends to play and slay this Navaratri!

Background : The splendour of Navaratri is just a few days away and festive vibes as we see are already doing the rounds. But as we are guarded by the restrictions this year due to Pandemic, to gear up the spirit of inhibited fun and irresistible dance moves might not be the priority but we surely want to tap into that festive season spirit with colourful yet classy outfits. While the pandemic has dulled the overall spirit, celebrating these festivals virtually offer some relief to our otherwise mundane lives.

Mr. Nelson Jaffery shares tips to style the Navartri colours and styles in most sophisticated and simplistic manner!

1. Pair white shirt with colourful skirt (Scheduled colour)
2. Sequenced waist coat, on kurti with leggings
3. Kundan Jwellery and straight cut kurtis
4. Pallazos with shiny belt

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Smart Production Strategies, Sustainability and Stronger Customer Network—All Elements for Business Success @ India ITME Virtual Event for Textiles

3rd-5th December 2020

India ITME Society got honored to welcome Ms. Roop Rashi Mahapatra, IA&AS, Textile Commissioner, Govt. Of India as Chief Guest to inaugurate largest virtual business event this year for Textile Technologies and Engineering products.

282 technology & engineering companies, 400+ Textile technology & engineering products from 18 countries have been available for 2 days of interactions on 4th, 5th Dec 2020 making it one of the largest virtual platform for trade, investment & sourcing solutions for textile industry. Participants from 50 countries who were looking at expanding, developing their textile industry registered to connect and explore opportunities for expanding their business network. Keeping in mind different time zones of 50 countries the virtual event was opened from 11.00 Hrs to 19.00 Hrs (IST) enabling exhibitors and visitors to connect during respective working hours.

Year long pandemic crisis has brought unexpected disruptions and calls for changes in the way business are conducted. Sustainability, changing consumer preferences, best production strategies-practical and key topics for today's challenging business environment have been discussed in depth at virtual seminar organized by India ITME Society on 3rd Dec 2020. Best of best from Industry came together on 3rd December 2020 to share their expertise and knowledge for the collective benefit of Textile Industry. The knowledge session got followed by focused Business interactions, meetings and networking on 4th & 5th Dec 2020 bringing a complete range of technology & Engineering solutions for the Textile Industry.

International Trade Center, Geneva Trade & Investment partner to this Global event had released a technical paper on 3rd Dec 2020 and became available online for industry members.

Technology at its best for virtual event : To facilitate time planning and optimized use of log -in time for participants, the ITME virtual platform offered scheduled meetings as well as walk in visitors with instant networking available at visitors lounge. Features like "Search by company name, or by product, industry segment, by country, recommended meetings by artificial intelligence" provided easy and convenient interaction for both exhibitors and visitors. Online and offline helpdesk enabled visitors to seek any assistance immediately.

ITME Society is committed to support, motivate and encourage overall growth and prosperity for textile industry, not only for businesses but also for future development of talent pool. Under the program "Nurture the future" Students pursuing Textile Engineering could add value to their academic pursuit by participating in various technology lectures which was organized with collaboration and support from global universities and research institutes periodically. The 2nd annual technical seminar on 3rd December generated tremendous enthusiasm in Academia with enrollment from 33 textile institutes from India, Sri Lanka, Sudan, Kenya, Ethiopia, Ghana, Botswana etc. The interactive sessions focused on practical topics like sustainability as element for long term business growth, adapting production strategies to address changing consumer behaviour which was a must attend for technocrats, senior management, production staff etc.

This first time organized virtual event was a humble effort of India ITME Society to motivate and promote business activity for textile & textile engineering industry affected by pandemic slowdown. ITME Team has worked very hard to bring best of interaction for participants at the event and has absorbed all costs providing a complimentary event to the industry members. Lakshmi Machine works Ltd (LMW), Lakshmi Card Clothing (LCC), International Trade Center (ITC) stepped in to support the event enabling the Industry to benefit from this endeavor of ITME Society. India ITME Society stands firm in its commitment to provide quality service to the industry. Our motto: " Together we are Stronger".

With so much took away for every segment of textile industry, INDIA ITME BSM & TECHNICAL SEMINAR from 3rd Dec to 5th December was a must attend event concluding the year of 2020 and prepping to welcome new year 2021 well equipped and well informed.

From the desk of
Seema Srivastava, Executive Director
India ITME Society ❐

Fashion World Tokyo 2020 October ! Achieved Amazing Success !

This is Yuri Terao from FASHION WORLD TOKYO Show Management. FASHION WORLD TOKYO 2020 October were held at BOTH Tokyo Big Sight and Virtual platform from Oct. 27 - 29 and show has succeeded!

We are very glad to see exhibitors' enthusiasm & lively business meetings with thousands of high quality buyers in the venue.

Innovative Exhibiting Style

"Remote Exhibiting Plan" (for international exhibitor)

107 international exhibitors (350* exhibitors in total) participated in Fashion World Tokyo 2020 October. (from Australia, Austria, Bangladesh, China, Finland, Germany, Italy, Korea, Nepal, Taiwan, Thailand)

International exhibitors exhibited with "Remote Exhibiting Plan" for the first time in this show.

Our bilingual staff proactively carried out sales activity on behalf of international exhibitors who could not come to Japan due to travel restrictions.

Their on-site booths attracted hundreds of high quality buyers & they also acquired business cards of promising business partners !

The next 2021 shows are scheduled below.

March Show : March 23 (Tue) – 25 (Thu), 2021

October Show : October 18 (Mon) – 20 (Wed), 2021

*"Early Bird Discount" for 2021 October show is available.

Fashion World Tokyo - Japan's Largest Fashion Trade Show

Dates :

2021 March : March 23-25

2021 October : Oct 18-20

Venue :

2021 March : Hybrid [Tokyo Big Sight + Virtual]

2021 October : Tokyo Big Sigh (planned)

Consisting Shows :

Fashion Wear Expo Bag Expo Shoes Expo Textile Tokyo Fashion Sourcing Tokyo Sustainable Fashion Tokyo

COVID-19 Info :

Our measures against COVID-19

Latest Info of travel restrictions

*Numbers on this email are expected, including concurrent shows. "Largest" in reference to the exhibitor number and the net exhibit space of trade shows with the same concept.

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Messe Frankfurt Exhibition GmbH organises B2B exhibitions Ambiente, Christmasworld and Paperworld

Messe Frankfurt Exhibition GmbH is bringing the biggest B2B exhibitions **Ambiente, Christmasworld and Paperworld** under one roof to generate new business enhancing synergies for the entire consumer goods industry during the current pandemic.

Here is an exclusive invitation to the International Press Conference held virtually with Ms. Nicolette Naumann, Vice President Ambient and Ms. Julia Uherek, Group Show Director Christmasworld, Paperworld and Creativeworld.

Details of the Live-Stream Press Conference

Date : 1 December 2020

Time : 9.30 am CET (2.00 pm IST)

Kindly register on the link mentioned below to receive your access data :

https://www.press-live.com/icgs21 stream011220 0930 int

Kindly send a one-line confirmation for the same.

Media Takeaways :

- Gain insights on the global situation of consumer goods industry
- What to expect from the upcoming shows in Frankfurt ?

We look forward to your participation !!!

For further information, please contact :
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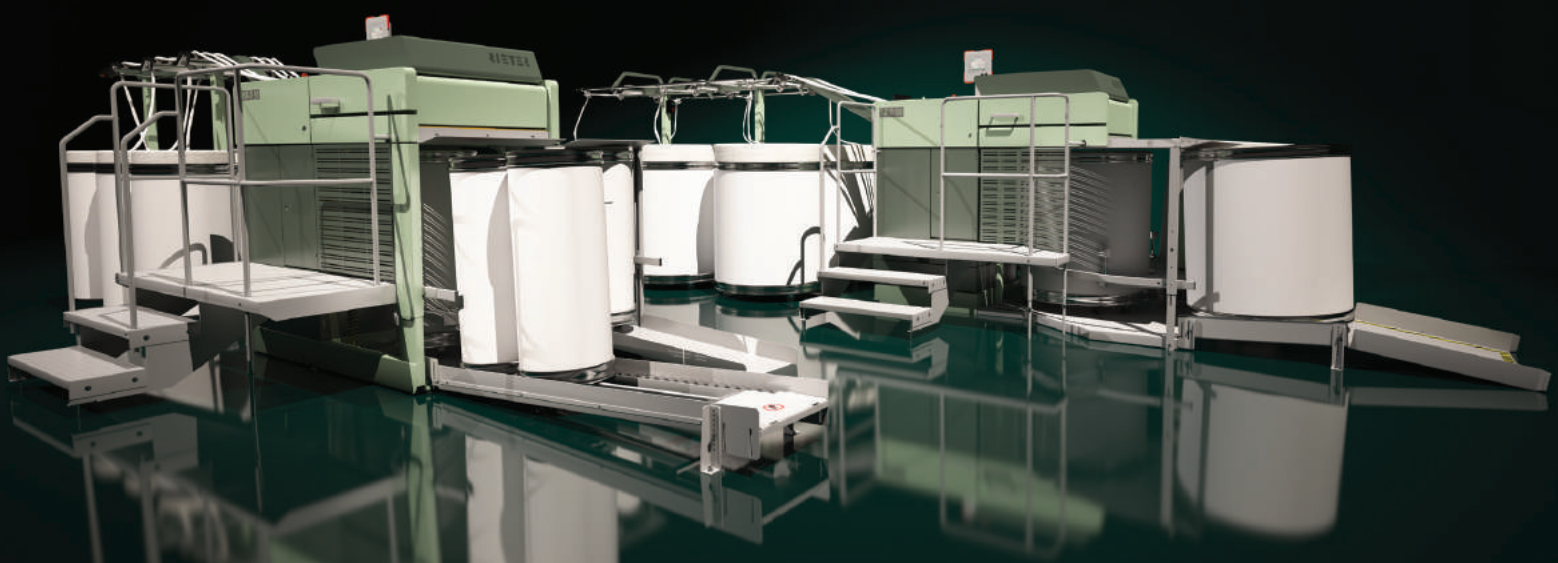
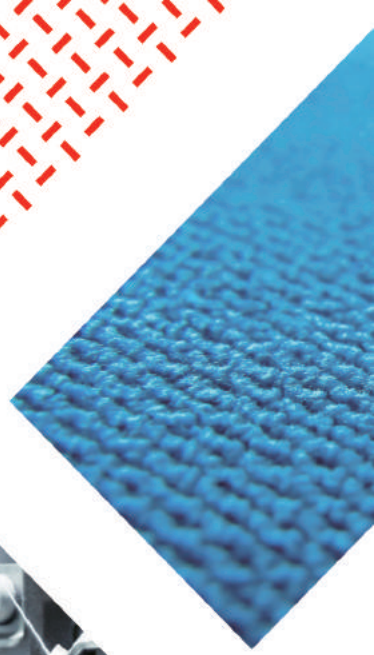


SB/RSB-D 50 – A new dimension in productivity, quality and easy operation

The single-head draw frame generation from Rieter offers an unprecedented level of productivity with the highest quality standards. The patented drive concept ECOrized uses 25% less belts, saves up to 1 000 euros per year on energy costs and allows higher delivery speeds, for example for polyester and combed cotton. The unique SLIVERprofessional expert system is integrated on the easy-to-use touchscreen. The direct adoption of setting recommendations allows a rapid assortment changeover with best

www.rieter.com



ITMA ASIA | CITME

中国国际纺织机械展览会
暨ITMA亚洲展览会
ITMA ASIA + CITME 2020

ASIA'S PREMIER TEXTILE MACHINERY INDUSTRY PLATFORM

BE PART OF ASIA'S MOST PRESTIGIOUS TEXTILE MACHINERY INDUSTRY EVENT

NEW DATES
12 - 16 JUNE 2021

NATIONAL EXHIBITION
AND CONVENTION CENTER
SHANGHAI, CHINA

- A mega showcase of cutting-edge solutions for textile makers
- Strong support from all the major textile machinery trade associations
- Textile machinery and accessories structured by product category

For more information, please contact

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Oerlikon

Oerlikon Experts present technology solutions online

In order to ensure the transfer of know-how and technology in times of the pandemic, the Manmade Fibers segment of the Swiss Oerlikon Group will start its new webinar series in November. Four interesting technology lectures are planned until the end of 2020 which will be held in English. Current trends in the production of manmade fibers as well as Oerlikons technology solutions will be presented and discussed with the participants. A continuation of the webinar series is already planned for 2021.

An overview of the Oerlikon Manmade Fibers webinars in the fourth quarter of 2020:

- **Factory know-how from a single source – A boost for your efficiency**

  4. November 2020: 11:00-11:45h CET

  Speaker: Jochen Adler, Oerlikon Manmade Fibers CTO

  From melt to yarn, fibers and nonwovens. At Oerlikon Manmade Fibers you get the entire factory know-how from a single source. From the planning and construction of highly complex production plants and competent customer services, Oerlikon Manmade Fibers offers everything for a successful business. Oerlikon is the right partner, especially – but

Jochen Adler

Ralf Morgenroth

  not exclusively – for newcomers in the textile industry.

- **VarioFil – Your compact spinning solution**

  11. November 2020: 11:00-11:45h CET

  Speaker: Ralf Morgenroth, Head of Engineering Textile Machinery BB Engineering (BBE)

  The speaker from Oerlikons Joint venture Partner BBE will present the flexible, customized compact spinning system VarioFil. Whether for different feedstocks of standard spinning polymers or recycling, VarioFil will be tailored to your needs. Thanks to conversion packages, you can quickly and cost-effectively adapt to market requirements and you are therefore not restricted to one material or one specific process.

- **Green Technologies – Join us on the road to a sustainable fiber industry**

  2. December 2020: 11:00-11:45h CET

  Speaker: Markus Reichwein, Head of Product Management Oerlikon Manmade Fibers

  The right technologies for recycling are a key requirement for a sustainable manmade fiber industry. Oerlikon Manmade Fibers describe a cascaded approach into new technologies

Markus Reichwein

Matthias Schmitz

  as well as different material sources outlining your need for versatile solutions.

- **VacuFil – Your future upcycling plant, from waste to value**

  9. December 2020: 11:00-11:45h CET

  Speaker: Matthias Schmitz, Head of Engineering Recycling Technology, BB Engineering (BBE)

  The speaker of Oerlikons Joint Venture partner BBE presents the innovative PET recycling system VacuFil. It combines gentle large-scale filtration and controlled intrinsic-viscosity build-up for consistently outstanding melt quality. The vacuum-unit - located next to the filter – quickly and reliably removes volatile contamination. The modular structure of the VacuFil range offers numerous possibilities for the process guiding system. Whether

as a standalone solution with downstream granulation or as an inline version including 3DD additive feed – customer requirements can be optimally catered for with customized system configurations.

All Oerlikon Manmade Fibers webinars are suitable for established manmade fiber producers as well as newcomers in the textile industry as the respective speakers take an all-encompassing view of the technology spectrum. Online registration is open and can be done at:

https://www.oerlikon.com/manmade-fibers/de/ueber-uns/events/

Wiping robots boosts up production efficiency

Retrofitting a wiping robot to spinning systems is well worthwhile. This is confirmed by the experiences of those customers who have already installed the wiping robot. Oerlikon Barmag wiping robots have been cleaning spin packs at filament yarn manufacturing facilities in China and India for several months now, increasing efficiency considerably.

Automating the wiping process can reduce the yarn break rate by up to 30%.

Regular wiping of the spin packs is important for process stability and yarn quality. These can be positively influenced using wiping robots, because – as confirmed by data acquisition and analysis at the respective manufacturing facilities – the yarn break rate can be reduced by up to 30% by automating the wiping process. And the yarn break rate has a direct impact on the key production figures; to this end, a considerable reduction translates into pure profit for yarn manufacturers.

Can also be retrofitted to existing systems

The Oerlikon Barmag wiping robot can be retrofitted to numerous spinning plants. Suspended from a track system mounted on the ceiling, the system automatically and autonomously targets the individual positions in accordance with the scheduled wiping cycles. In addition to the scheduled wiping processes, there are also events that cannot be planned or that are not immediately visible. Depending on the degree of integration into Oerlikon Manmade Fibers Smart Factory solutions, the wiping robot is able to identify issues such as yarn breaks or parallel wiping processes and to independently offer solutions.

The wiping robot operates in a cross-line manner. Here, the wiping quality remains constant 24/7. The high wiping quality has a positive influence on both the stability of the overall process and on the yarn quality. The time saved between cleaning cycles is a further advantage: using the robots, the interval between two wiping processes can be extended by up to 25%. The considerable increase in the spinning process efficiency achieved by the wiping robot also has a positive impact on margins. For example, one customer deploying the wiping robot was able to reduce its production costs for the same yarn by more than 3%.

Procter & Gamble and Oerlikon Nonwovens agree on an exclusive license agreement to market and sell the Phantom platform worldwide

First class wipes with Phantom technology

Success is built by connecting the right people with the right product. In a global marketplace, this means collaboration is just as important as competition. Companies need to focus on their strengths, while finding practical ways to innovate and expand upon their capabilities.

In order to do so, working together often makes the most sense. This is what motivated Procter & Gamble and Oerlikon Nonwoven – Teknoweb Materials to agree on an exclusive license agreement to market and sell the Phantom platform worldwide.

The patented process for hybrid nonwovens combines the best of both airlaid and spunmelt technologies to deliver new, flexible ways of creating wet and dry wipes. Phantom technology offers additional benefits by reducing resources and cost, while increasing overall performance. The exclusive license gives Oerlikon Nonwoven – Teknoweb Materials distribute this technology worldwide. In addition, Oerlikon Nonwoven – Teknoweb Materials have further refined the process into their own Levra technology – an entry-level option which offers tailored production volumes with lower investment costs but is still suitable to be upgraded to the premium Phantom model in the future.

Phantom technology enables greater freedom for formulating continuous and discrete fibers allows for more flexible and absorbent structures and highly textured materials

Quality products that cost less

Essentially, Phantom technology was developed to produce hybrid substrates. The spunmelt and airlaid processes are merged into one step to combine cellulose fibers, long fibers such as cotton, or even powders with polymer fibers in unprecedented ways. This technology has clear advantages in terms of resources, performance, and cost compared to the previous processes on the market. By removing hydroentanglement, it is no longer necessary to dry the material. Adjusting the process can optimize relevant product characteristics such as softness, strength, dirt absorption, and liquid absorption. In the end, this even increases the quality of the product itself.

The greater freedom for formulating continuous and discrete fibers allows for more flexible and absorbent structures and highly textured materials. Wipes feel softer to the touch while providing more protection for the hands. Up to 90% of the material can consist of pulp fibers, although natural alternatives like cotton or synthetic fibers can be added to the mix.

Phantom technology has not only found a practical application in a variety of wipes – such as hygiene wipes, anti-bacterial wipes, surgical wipes, or industrial wipes – but also in absorbent cores, for instance indiapers or fempro products. With so many applications, Oerlikon Nonwoven – Teknoweb Materials are fully prepared to deliver Procter & Gamble's innovative Phantom technology to the global nonwovens market.

About Oerlikon

Oerlikon (SIX: OERL) develops modern materials, systems and surface technologies and provides specialized services aimed at securing high-performance products and systems with long lifespans for customers. Supported by its technological core competencies and its strong financial footing, the corporation continues its medium-term growth plan by implementing three strategic factors: focusing on attractive growth markets, ensuring structural growth and expanding through targeted M&A activities. Oerlikon is a globally-leading technology and engineering corporation, operating its business in two segments (Surface Solutions and Manmade Fibers) and employing around 11,100 members of staff at 182 sites in 37 countries worldwide. In 2019, Oerlikon generated sales of CHF 2.6 billion and invested more than CHF 120 million in research & development.

For further information: www.oerlikon.com

About the Oerlikon Manmade Fibers segment

With its Oerlikon Barmag, Oerlikon Neumag and Oerlikon Nonwoven brands, the Oerlikon Manmade Fibers segment is one of the leading providers of manmade fiber filament spinning systems, texturing machines, BCF systems, staple fiber systems and solutions for the production of

nonwovens and – as a service provider – offers engineering solutions for the entire textile value added chain.

As a future-oriented company, the research and development at this division of the Oerlikon Group is driven by energy-efficiency and sustainable technologies (e-save). With its range of polycondensation and extrusion systems and their key components, the company caters to the entire manufacturing process – from the monomer all the way through to the textured yarn. The product portfolio is rounded off with automation and Industrie 4.0 solutions.

The primary markets for the product portfolio of Oerlikon Barmag are in Asia, especially in China, India and Turkey, and – for those of Oerlikon Neumag and Oerlikon Nonwoven – in the USA, Asia, Turkey and Europe. Worldwide, the segment – with just under 3,000 employees – has a presence in 120 countries with production, sales and distribution and service organizations. At the R&D centers in Remscheid, Neumünster (Germany) and Suzhou (China), highly-qualified engineers, technologists and technicians develop innovative and technologically-leading products for tomorrow's world.

For further information: www.oerlikon.com/manmade-fiber

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Mimaki Europe B.V.

Moti Fabrics (Pvt) Ltd. swithched over to Digital Production with Mimaki Tiger-1800B MkII Printers for Faster, High-Quality Textile Printing

Mimaki Europe, a leading manufacturer of inkjet printers and cutting systems, announces today that Pakistani textile company, Moti Fabrics (Pvt) Ltd., is leveraging multiple Mimaki Tiger industrial textile printing units to take its business to the next level. As a result of on the outstanding performance and process optimisation delivered by the Mimaki digital printing equipment, the company has been able to adapt to changes in the textile industry and is now projected to reinforce its market position and expand its capabilities in high-quality textile production.

Muhammad Asif, CEO at Moti Fabrics, standing in front of one of the company's two Tiger-1800B MkII direct-to-textile printers

Headquartered in Faisalabad, Punjab province – the second largest textile hub in Pakistan –, Moti Fabrics (Pvt) Ltd. mainly serves the high fashion industry and uses its cutting-edge technology to print about 100,000 metres daily. Faced with recent challenges in the global textile market, management at Moti Fabrics (Pvt) Ltd. embarked on innovating the company's business model, shifting from conventional to digital printing. In doing so, the company invested in Mimaki's advanced industrial textile technology and installed three MimakiTiger-1800B MkII units. "We were – and still are – experiencing a massive transformation in the printing segment, with brands demanding high quality products delivered within short deadlines. This change in our customers' requirements urged us to move to

digital printing," says Muhammad Asif, CEO at Moti Fabrics (Pvt) Ltd. "Our choice has already proved sound as our brand-new Tiger-1800B MkII printing systems have enabled us to cope with the high standards of the fashion industry in terms of both quality and delivery times. In addition, we have been able to gradually enhance our production processes in a cost-effective way."

The Tiger-1800B MkII is Mimaki's flagship industrial volume textile printer, available either in dye sublimation configuration for transfer printing or with reactive ink for direct-to-textile printing. Of the three Mimaki Tiger-1800B MkII solutions operating at Moti Fabrics (Pvt) Ltd., two are equipped with reactive inks, enabling the company to directly print onto natural fibres such as cotton and linen, as well as on to manufactured cellulose fibres, including rayon and nylon. The third Mimaki Tiger-1800B MkII features sublimation inks serves the ever-growing printed polyester market, allowing the company to strategically diversify its product portfolio.

"There are several features of the Tiger-1800B MkII that benefit our production and our

The Tiger-1800B MkII, Mimaki's flagship industrial volume textile printer

business at large. The MAPS (Mimaki Advanced Pass System), just to name one, prevents banding and colour-shiftingto deliver ahigher standard of quality, while the NRS (Nozzle Recovery System) provides uninterrupted production, minimising downtime and ensuring superior results.The

sticky belt system together with the large-size ink tanks (with a capacity of 10kg) and the high-performance software RIP TxLink3 are some of the other features that make these printers efficient, user-friendly and reliable," says Asif.

Asif concludes, "Looking at the future, our aim is to set up a print department featuring only Mimaki's technologies. We are already considering the next steps to make this possible, knowing that we can count on the support of Signtrade, Mimaki's dealer in the region and our trustworthy partner."

Moti Fabrics (Pvt) Ltd. was founded in 1992 by Muhammad Asif's father Haji Muhammad Yousaf and his partner Haji Rasheed Ahmad. Established as a dyeing company, Moti Fabrics (Pvt) Ltd. was able to gradually diversify the business over the years to become an advanced textile printing specialist. Today, the company is an established provider to the high fashion industry in Pakistan and on an international level.

Example of a textile printed on one of the Tiger-1800B MkII printers operating at Moti Fabrics' production facility in Faisalabad, Punjab province, Pakistan

"The story of Moti Fabrics is incredibly inspiring. Belonging to a region with such rooted textile printing heritage, the company has been able to embrace a new, challenging business model in order to stay at pace with the changing demand from the textile industry and has succeeded," comments Ronald van den Broek, General Sales Manager at Mimaki Europe. "Customers like Moti Fabrics make us proud as they demonstrate how our advanced Mimaki Tiger industrial textile series can be the enabling technology for those textile companies planning the shift from conventional to digital printing."

For more information about Mimaki's full range of textile solutions, please visit Innovate Textile & Apparel Trade Show (15-30 October 2020) where the team will be on hand to discuss the company's latest innovations and offer attendees 1:1 consultations. For all other products and services from Mimaki, 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 and textile/apparel 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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A.T.E. Enterprises Private Limited

Flushable wipes : a big breakthrough towards sustainable hygiene

In today's COVID-19 induced new normal, health and hygiene have become ever more essential needs across the globe. Dry or wet wipes are widely used today in a number of hygiene-related applications – both domestic and personal. And as wipes are usually made from nonwovens, nonwoven manufacturing processes have taken on a renewed importance in the textile industry with many textile manufacturers looking for end-to-end solutions in all aspects of wipe manufacturing.

However, dry or wet wipes can be difficult to dispose as they can clog sewage systems due to their failure to disintegrate in water. Landfilling of used wipes is just not a sustainable option. To counter this problem, Voith Group (Division: Paper) and Truetzschler Nonwovens joined hands to develop flushable wipes. These wipes can simply be flushed down the toilet without worry because they disintegrate into individual fibres in agitated water.

Wet-laying technology

The wet-laid process for nonwovens is similar to the making of paper. The first step involves suspension of fibres and water to form a slurry, so that single fibres of different types are evenly distributed in the water. The web is formed when the slurry is passed over a wire belt. When the water is sucked off through the belt, a homogeneous fibre mat is formed. The spunlacing process performed by the AquaJet system on this fibre mat further produces nonwovens that feel like textiles.

Unlike the carding process where longer fibres are required, wet laying can utilise fibres as short as 2 mm up to 15 mm to form the web. In principle, every fibre that is dispersed in water can be wet-laid. Hence, fibres of low cost like wood pulp i.e., cellulose fibres, man-made and mineral fibres, etc., can be used. The WLS (wet-laying/ spunlacing) process does not require anybinders as hydro-entangling the single fibres gives the nonwoven adequate strength. Wipes produced through wet-in-wet (i.e. a combination of wetlaid and AquaJet processes) are extremely versatile.

Truetzschler Nonwovens in collaboration with Voith Paper offers the following solutions for manufacturing wet-laid nonwovens:

HydroFormer from Voith Group

Most conventional dry or air-laid sheet forming processes are based on the use of long fibres. This meant that in the past, it was often not possible to use the less expensive and more environmentally friendly pulp fibres for nonwoven production. To close this gap, Voith's HydroFormer acts as a bridge between paper and nonwoven production.

The HydroFormer concept for wet-laid nonwovens builds on Voith's long-standing experience from the paper and pulp industry which predominantly uses short fiber cellulosic feedstock. Inexpensive and biodegradable, thanks to a very high dilution in suspension, nonwovens produced by the HydroFormer can be produced entirely out of renewable, cost-efficient cellulose feedstock. Apart from the obvious cost savings and environmental benefits, this process offers homogeneous sheet formation and considerable flexibility for multi-ply end products. It also enables the manufacturing of disposable cleaning wipes from 100% biodegradable materials. Voith's HydroFormer has been specifically optimised for the formation of wet-laid nonwovens. With more than 70 successful installations, the HydroFormer has gained worldwide acceptance.

Benefits of the HydroFormer

- Cost effective use of raw materials
- Renewable materials used exclusively
- Considerable minimisation of fibre losses due to re-use
- Simple one step manufacturing of multi-ply products
- Extensive flexibility in raw material use

AquaJet for spunlacing from Truetzschler Nonwovens

After the web is formed in the HydroFormer, it needs to be bonded to add strength and function. It is in this bonding step that the know-how from Truetzschler is applied. Web bonding is performed with the help of the AquaJet. In this field, Truetzschler Nonwovens draws on its extensive experience of more than 100 projects running worldwide.

Compared with other web bonding methods, the AquaJet spunlacing process does not use chemical binding agents or bicomponent fibres but relies only on the momentum of water jets to entangle the fibres with one another. Continuous high-pressure water

jets strike the loose nonwoven web, which is moved through on a belt underneath the water bar, while suction fans remove the water used. The bonding increases tensile strength and lends the material the soft feel of a textile. Structures and perforations can also be created, if required.

Benefits of the AquaJet

- Use of environmentally friendly and inexpensive raw materials
- Produces soft nonwovens
- Natural bonding process using water only
- High savings potential – thanks to optimised pump and vacuum performance
- Integrated system for excellent nonwoven quality

In harmony with the environment

Apart from short fibres being used, the Voith-Truetzschler process avoids the use of chemical binders to bond the web formed. This reduces the raw material cost for making nonwovens. Compared to oil-based materials like PET/PP fibres, cellulose fibres do not burden the environment after use. Wipes produced entirely from these degradable fibres in a customised wet-laid spunlacing process can therefore be conveniently flushed down the toilet.

Both the AquaJet and the HydroFormer have been developed with water conservation in mind. The water from the process is filtered via a shared water cycle with downstream production steps, and then treated and returned to the manufacturing process. Flushable products must pass a defined test sequence developed by INDA and EDANA, the North American and European nonwovens associations.

A.T.E. represents Truetzschler Nonwovens in India. A.T.E. is a leader in textile engineering with over 80 years of experience and offers solutions across the textile value chain –spinning, weaving, knitting, nonwovens, processing, synthetics, technical textile, carpet, and made-ups. A.T.E. is the only company in India and perhaps in the world with such bandwidth in textile engineering.

A.T.E. also operates in the areas of wastewater treatment, heating and cooling solutions, IoT for industry, flow technology, and value-added equipment for textiles, packaging, etc.

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www.ategroup.com

Mayer & Cie

Mayer & Cie further improved its leading position in Turkey

Above average market share, further on the increase

In pandemic year 2020 circular knitting machine manufacturer Mayer & Cie. (MCT) has further improved its leading position in Turkey. So the country continues to be one of the company's strongest and most consistent sales markets. Even in difficult years, the manufacturer and its longstanding Turkish representative Mayer Mümessillik have achieved positive results. The reasons for this year's success, as Mayer & Cie. sees it, are the transfer of production to locations close to Europe, Turkey's state-of-theart machinery and the increase in demand for comfortable clothing that is suitable as home office wear.

Turkish market is a growth market despite corona setback

"Compared to 2019, we anticipate a growth in the Turkish market even though the corona situation was a serious setback in the second quarter of 2020," says Stefan Bühler, Mayer & Cie.'s regional sales manager for Turkey.

Relanit 3.2 HS: In Turkey, the machine is synonymous with single jersey fabric.

Mayer & Cie. got off to a strong start on the Bosporus in the first quarter of 2020 with additional positive effects until mid-March. This was due to a desire for production locations close to Europe. In the second quarter, during the lockdown, demand largely ground to a halt. Government measures helped to cushion the downturn. Says Ahmet M. Öğretmen, general manager of MCT's Turkish

sales partner Mayer Mümessillik: "In the second quarter, GDP was down by about 10 percent, so we got off lightly."

Since July 2020, orders for Mayer & Cie. circular knitting machines have bounced back again. Ahmet M. Öğretmen sees an interplay of reasons for this recovery. The main reason, he says, is the low exchange rate of the Turkish lira, which has boosted exports of ready-made textiles. The Turkish daily Hürriyet reports, with reference to the Turkish state news agency, 11 percent year-on-year growth in August 2020. The most important export markets, the newspaper says, are Germany, the UK and Spain. Between them, they account for around half of exports totalling € 1.27 billion.* "This demand must be fulfilled," Öğretmen says. "That leads to investment in machinery by manufacturers."

Relanit is synonymous with single jersey

The machines of choice for Turkish knitwear manufacturers are regularly Mayer & Cie. machines. The long-established German firm's share of the Turkish market is substantially higher than in other markets. The manufacturer's position is particularly strong in the market for plain single jersey fabrics, with the Relanit 3.2 HS being the machine of choice. It achieves an extraordinarily high level of productivity, especially in processing elastomer yarns. It also handles a wide range of yarns reliably.

Machine head of the D4 2.2 II, a very popular interlock machine by Mayer & Cie.

"Interlock is Mayer & Cie."

Mayer & Cie. is the clear leader in the second major circular knitting discipline, rib and interlock fabrics. "Interlock is Mayer & Cie.," says Ahmet M. Öğretmen, putting it in a nutshell. The machines used for double jersey fabrics are the OV 3.2 QCe, the D4 2.2 II and the D4 3.2 II. The OV 3.2 QCe knits interlock, 8-lock structures, spacers and fine gauge with 3.2 systems. The D4 2.2 II is another stalwart for rib, 8-lock and interlock. The 8-lock D4 3.2 II is the machine of choice for firms that want to manufacture structures such as Piqué, Punto di Roma or Thermal in addition to interlock.

The MBF 3.2 is another top seller in Turkey. A three-thread fleece machine, it knits fabrics for sportsand leisurewear such as hoodies and is very much in keeping with the trend in home office year 2020. "Comfortable clothing is circular knitted," says Ahmet M. Öğretmen, "and we benefit from that of course."

Detailed view of a MBF 3.2. The machine producing three-thread fleece stands for comfortable home office wear and has seen a further increase in popularity.

The world's most state-of-the-art machine parks are in Turkey

Another advantage is the modernity of the Turkish machine park, which is doubly attractive in view of Turkey's weak currency. Says Mayer Mümessillik general manager Öğretmen: "In the past 10 to 20 years there has been very heavy investment in high-quality machines. As a consequence we have the world's youngest and most up-to-date production facilities." Combined with geographical proximity to the main export markets in Europe that should prove a growth driver in the years ahead – and keep demand for Mayer & Cie. machines brisk and high.

About Mayer & Cie.

Mayer & Cie. (MCT) is a leading international manufacturer of circular knitting machines. The company offers the entire range of machines required for making modern textiles. Fabrics for home textiles, sportswear, nightwear and swimwear, seat covers, underwear and technical uses are made on MCT knitting machines. Furthermore, Mayer & Cie. regularly develops new approaches underlining its leadership in technology.

Since 2019, Mayer & Cie. has augmented its portfolio by braiding machines which produce sheathings for hydraulic tubes used in aviation, automotive industry as well as in further, very specific fields of applications.

Founded in 1905, Mayer & Cie. generated sales of EUR 90 million in 2019 with about 400 employees worldwide, according to preliminary figures. In addition to its headquarters in Albstadt, Germany, where around 300 people work, and subsidiaries in China and the Czech Republic, sales partners for circular knitting and braiding machines in around 80 countries represent Mayer & Cie.

www.mayercie.com

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Loepfe Brothers Ltd

Redesigning our future - The new WeftMaster SFB, perfect system for coated technical Fabrics

Have you ever wondered how your parcels arrive safely? We know the answer!

E-commerce has gained ground worldwide - and it's here to stay. Warehouses and trucks are working hard to ensure that a whole variety of goods are not only available for customers, but also that they are shipped in the fastest possible way. In this hectic online shopping world, tarpaulins are all around us!

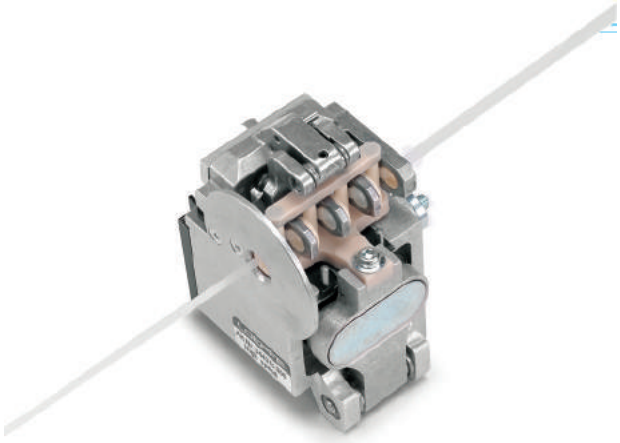
Protecting goods from adverse weather and other factors helps to ensure satisfied end-customers. Loepfe's WeftMaster SFB-L yarn brake is the perfect system for producing these coated technical fabrics on projectile and rapier looms in the most economical way.

The WeftMaster SFB weft brake has been in use on projectile and rapier weaving machines worldwide for many years. Since its foundation in 1955, Loepfe has been a reliable, expert partner to the weaving industry. Still today Loepfe remains totally committed to the further development of its various weaving products. For instance, the control electronics for the SFB weft brake were recently redesigned for the future. The new electronics can now control 4 brakes instead of the previous 3, which saves space and simplifies the brake deceleration setting. In addition, the inputs are now also galvanically isolated.

SCIENCE IN INDUSTRY

Projectile looms are designed for the production of a wide variety of fabrics and are considered to be space-saving, especially when producing heavy fabrics. Thus the applications are almost endless, especially in the field of technical textiles. The focus is always on the high-quality requirements of the various end-products. Especially when yarns with a low tensile strength are used, weft tension is a decisive parameter. Too much stretching can lead to uneven fabric or - in the worst case - to weft thread breaks, which lead to expensive machine stoppages. Therefore, a constant, even weft thread tension is essential for all yarn types.

By using the WeftMaster SFB electronic weft thread brake, the number of weft breaks can be reduced by at least 50%. Its use pays off for the weaving mills within a very short time and significantly improves the quality of the fabric. Every weft break is a potential source of error (including start-up faults, the formation of stripes, etc.).

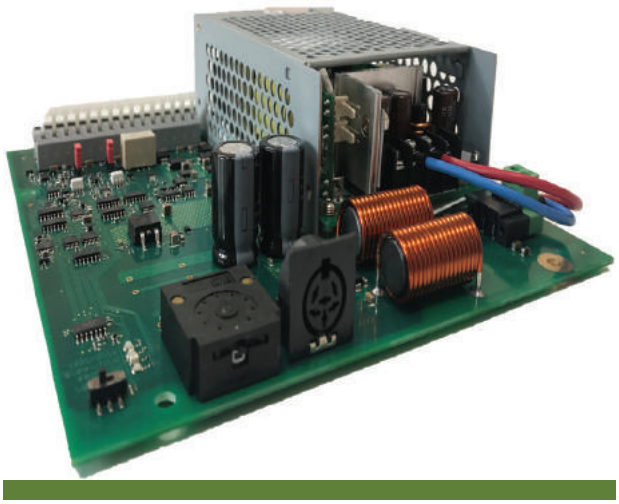


WeftMaster SFB

You can find more information on how the WeftMaster SFB weft brake increases machine efficiency here https://www.loepfe.com/en/navigation/gnav/know-how/011-wm-efficiency

The WeftMaster SFB weft brake is in use for the production of:

- Tarpaulin fabrics for trucks, advertisements, agriculture and architecture
- Filter fabric, e.g. for water filtration or also paper production
- Geotextiles
- Screen prints
- Canvas
- Conveyor belts, straps
- Blood filters
- Microphone filters for mobile phones
- Speaker filters for mobile phones
- Carbon fiber fabrics for auto parts
- Carpet backing
- Bigbags
- Potato bag fabrics
- Silk fabrics for underwear
- Wool fabrics for suits



WeftMaster SFB Print

The requirements of the different fabrics are highly varied and weaving mills often depend on individual solutions. In this awareness, Loepfe offers its customers suitable solutions for all types of projectile and rapier weaving machines. Furthermore, weaving mills can always count on the straight-forward and quick assistance of Loepfe experts.

Learn more about the features of the SFB here or contact one of our experts at service@loepfe.com

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www.linkedin.com/company/loepfe-brothers-ltd
www.youtube.com/user/loepfeswiss ❐

Sutran Polymers Pvt. Ltd.

Some introductory words need to be said

We take pleasure in introducing ourselves as the leading manufacturers of Heavy duty Lattice Conveyors for cotton spinning, wool, worsted and also Jute Mills machines and Trolley Wheel Castor's for doffing and card cans , unilap/ omega lap, simplex bobbin, ring frame, autoconer and bale trollies as well as Stainless Steel castors for Yarn Conditioning Plant (YCP),

We are a group of three companies namely Sutran Polymers Pvt. Ltd Sai Krishna Industries and Techno Conveyor Industries having commenced operations in 1999-2000, having manufacturing facilities in Ludhiana, Punjab in North India and marketing office and ware house in Coimbatore. We have grown over the years as the result of innovative product range and keen interest in import substitution.

Our product range includes

1) "Spinfine' Brand Heavy, medium and Light Duty Castors manufactured out of steel plates, steel forgings and CR coils respectively, and PPWS Unbreakable impact co-polymer white wheels, Cast Poly Urethane wheels on CI and polymer Hub, Rubber Bonded to cast iron.

2) Light duty PVC coatedpolyester web conveyor belts for blow room, autoconer, open end machines and other textile mills applications.

3) Krischner beater and roving waste opener spiked lags.

4) Spiked and plain Aluminium lattices & High density laminated Wood Lattices. We take up the manufacture as per customer design and specifications and do innovative designing for improvement in life as well as improved functioning where required.

In House Process

1) State of Art Press shop & Turning department for castors and Molding capacity from 30 Gms up to 2.5 kg per shot and Cast PU molding processfor Wheels,

2) Vulcanisers and other equipment for handling imported PVC coated polyester web Conveyor belts,

3) Complete set of machine tools for machining of wood & plastic blocks.

All processes being available in house, we are well in a position to manufacture general purpose products as well as provide you special purpose products in this line as per your drawings or specifications (If you so desire)

It will further not be out of place to mention here that SUTRAN has been the front runner in addressing the requirements of the customers as per their unique environment /precise working conditions and have gained recognition as a solution provider.

Quality Control

The quality inspection of each piece is done before it leaves the factory premises. The performance of 'SUTRAN' products has been proven over the years and a wide range of satisfied customers bears the testimony of the excellence and reputation of the products.

The Company has a strong 'Brand Loyalty' in states of Punjab, Himachal Pradesh, Haryana, National Capital Region, Gujarat, Maharashtra, MP, West Bengal and southern statesof India.

Vision

To provide the customers always with 'More value for money'.

Connecting technology to human comfort.

Provide precisely engineered product, reliable and dependable which is technically ahead.

We are enclosing our product catalogues for your ready reference and would like to add here that in all the designs SUTRAN has distinguished itself by creating benchmark in that specific range of castors and Lattice conveyors by incorporating new designs and providing a precisely engineered product which is reliable & dependable . Being well aware that material conveying and handling today is the only area in Industry where human physical power is still used for conveying heavy loads, we try to leave no stone unturned to meet our motto of 'connecting Technology to Human comfort'.

We are highly pleased to be called for Techno commercial discussions with your End User to evaluate suitability of our wide range of products

for your requirements and / or provide you with specific solutions to the problem areas that you might be having at your works.

We request you to formally register our name in the list of your approved suppliers and look forward to receipt of your valued enquiries and orders for all type of Industrial Castor Wheels, Lattice & Conveyors. We would definitely like to serve you with best of our manufacturing abilities & establish a long term business association with your esteemed organization.

We look forward to your esteemed queries and assure you of our best & prompt attention.

New Generation Aluminium Spiked Lattice Appron

Sutran Aluminum Lattice come with a very unique design and construction which makes it light in weight. The contours have been designed to with stand impact of foreign body at times present in the raw material to provide for longer life. The composition of the aluminum and the cross-sectional design ensures fatigue resistance and good hold on the spikes. The aluminum lags are provided with a anodized surface for smooth finishing which help in gentler carrying of fibre.

The spikes are made from best EN32 material, duly hardened and tempered to avoid bending or breakage. The tailor made polyester web connector mate with the two adjacent lags perfectly sealing the gap making the lattice top surface into a single seamless unit, the accumulation and generation of dust is eliminated & helps in better recovery of material.

The multi layered Nylon Sandwich chrome tanned leather belts are made endless by hot vulcanising, are precision drilled allowing for counter sinking of tailor made high tensile fasteners. The connect between the fasteners head and pulley/drum is avoided and the transfer of shock to the material is minimized ensuring there are no expensive accidents in the working life of the lattice. In case of accident the design offers for easy replacement of damaged lags while the lattice remains in mounted condition on the machine.

We at SUTRAN have developed two profiles 30 × 11 mm & 50 × 30 mm suitable for LMW/ Reiter 1200 mm wide machine and Truetzschler/ Reiter/LMW 1600 mm machines respectively. These lattices can also be made to suit the other older machines models.

The new SUTRAN Aluminum Lattice Guarantees :

- Extremely low maintenance Cost
- Long trouble free life
- Quick cleaning reducing down time to the minimum when changing batches.
- Better recovery as dust creation is minimised while handling and opening compact bales or processing fine fibre.
- Easy mounting and running-in of the lattice.

The use of precision crafted accessories, best quality inputs and assembly under high quality control remains a Hallmark of all SUTRAN products, which have made SUTRAN brand a benchmark in the industry today providing the customer with TRUE VALUE FOR MONEY.

Light Duty Conveyor Belts

Available in PVC coated polyester web material in both Plain Top as well as Diamond Top Surface as per Original, in Finger Joint, special Double Finger Joint & metallikc Hinges as per customer requirement.

Murata : 'T' shaped flexible profiles made of Rugged Industrial Elastomer, fixed with specially designed fastners Eliminate frequent problem of peg separation from conveyor and cuts from stuck yarn.

Schlafhorst : Rigid profiles fixed with special fasteners.

Clearer Cloth : Clearer cloth for RIETER Unilap machine in PVC coated polyester material with finger joint running successfully in many units.

Savio : Flexible profiles made of Rugged Industrial Elastomer fixed with specially designed fastners make the conveyor more durable.

Polar : Rigid profiles fixed with special fastners on fabric top conveyor.

Special Purpose Cleats : Different size cleats can be provided, as shown in the figure as per requirements, for special applications viz. carrying of material at inclined level.

Slide Strips & Cover Tape for Unifloc

SUTRAN slide strips fabricated from low coefficient of friction high Abrasion Resistant Compression moulded Polyethylene material most suitable for the application which reduces the drag as well as increases the working life of cover tape. The cover tapes is made as per original material as in OE fitment.

PVC Coated Polyester Web Conveyor Apron

A superior alternative to conventional rubberized canvas conveyor belting, having base material of European origin manufactured using 100% polyester base fabric coated with abrasion resistant PVC, Ensuring good tracking, minimum edge wear and excellent lateral stability.

Salient Features

- Excellent resistance to wear and flex fatigue-long life.
- Superb, continuous, undetectable, Vulcanized joint, as strong as Original Belt.
- High tensile strength, highly Elastic, free from stretch-No retensioning required.
- Excellent wear resistance and durability-does not crack or craze.
- Better strength/weight ratio-energy saving.
- Flat running, superb driving & tracking capability over great lengths.
- Good resistance to water, chemicals and solvents, no noise, reduced maintenance.
- Wide range of highly flexible PU tracking strips, flights and profiles available.
- Wide range of standard types in 2 & 3 ply construction and grip top surfaces.
- Available in white, green or black colours, upto 2 mtrs width.
- Suitable for Blenders and Cleaners & for conveying card sliver and slubbing, empty bobbins and spools for Auto Coners, cops conveying for OE Rotor Spng. machines etc.

Various Jointing Methods

Double Finger Joint

For single and multilayer belt types.

- Extremely strong, especially when executed at an 70° (or less) to belt length.
- Gives a continuous unbroken surface, virtually undetectable on top surface.
- Highly flexible, so ideal to small pulleys.

SCIENCE IN INDUSTRY

Finger Joint

For single and multilayer belt types.

- A strong durable and flexible joint.
- Gives a continuous unbroken surface, virtually undetectable on top surface.
- Faster to execute than double finger or finger over finger techniques so particularly useful in emergencies.

Stepped Overlap Joint

For multilayer belt types.

- A strong and flexible joint.
- Easier to execute than finger Overlap Joint so sueful in breakdown situations, in emergenceies or when jointing on site.
- Joint not suitable for higher conveyor widths or pulleys smaller than 50 mm dia.

Lacing Fasteners

For single layer belt types.

- Suitable for less wide aprons viz. Auto Coners etc.
- Ideal when frequent belt removal is necessary or other techniques are not possible.

Hinges Fasteners

For multilayer belt types.

- Suitable for wide conveyor belts used in blow room machines.
- Ideal when frequent belt removal is necessary or other techniques are not possible.

Spiked Lags & Rolls

For all Textile Applications

Lags of all dimensions for Kirschner Beaters, Very fine opener (VFO), Roving waste openers, Evener Roll & Stripper Roll are manufactured to precision for higher performance & longer service life. We use carefully selected finest quality High Density Laminated wood and Uniformly Tempered

& Galvanized High Carbon Ball Headed Steel Spikes, to provide you with a quality product, which meets with the stringent requirements for Beating and Opening of various materials.

At Sutran we constantly endeavour to achieve the best quality control to meet with the ever increasing demand of the spinners for precision crafted accessories for their innovative and latest, high production machines.

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The X-Axis' NEXT manufacturing process combines precision engineering and top of the line technologies, leading to excellence across every quality parameter.

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SAME CAN SIZE, SAME MACHINERY, **MORE SLIVER CAPACITY !**

much*more* than the most

- RIMTEX has successfully re-designed the Sliver Cans to increase the sliver loading space inside the Can.
- Effectively adds more than 10% (approx) space for sliver loading in the Can.
- Gain **10% more** sliver space in your Carding Cans.

Imagine.Invent.Transform >

SUMO CANS

*Patent Pending

Ideally suited for 1000 mm & 1200 mm dia. cans

TRENDING INNOVATIONS

Lets Promote Quality®

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Spinning Roll Shop Machinery

COT GRINDING
Machine
Model : GCGHY-200-AF

Other range of Products

- Cot grinding - GCGH-200 machine
- Cot grinding - GCGHY-200 machine
- Flocked clearer roller cleaning Machine
- Eccentricity & taper tester machine
- Top roller calendering machine
- Top roller greasing machine (Vertical)
- Top roller de - greasing machine
- Clearer roller truing machine
- Fluted roller truing machine
- Cot mounting machine (Hand / Hyudraulic)
- Cot mounting & De-mounting machine
- (Hand / Hyd./ pne.)


Mini Cot Grinding Machine
GCGHY-200-AF


Cot Grinding Machine
Model : GCGHY-200


Cot Grinding Machine
Fully Automatic Model
with Measurement System


Cot Grinding Machine
Model GCGH-200 AF

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