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Welcome

NEW YEAR

2019

★ **INDUSTRIAL VISIT TO CHINA**

★ **Sizing:** The Heart of Weaving

★ **Clothing From Mohair Fibre**

★ **34 Trillion Dollar - Chinese Debt**

★ **INTERVIEW**

★ **Marie Kinsella, IEC Group Australia**

★ **Ahill S. Rathinasamy, KNITCMA**

★ **Prasad Mahale, Indian Card Clothing Company**

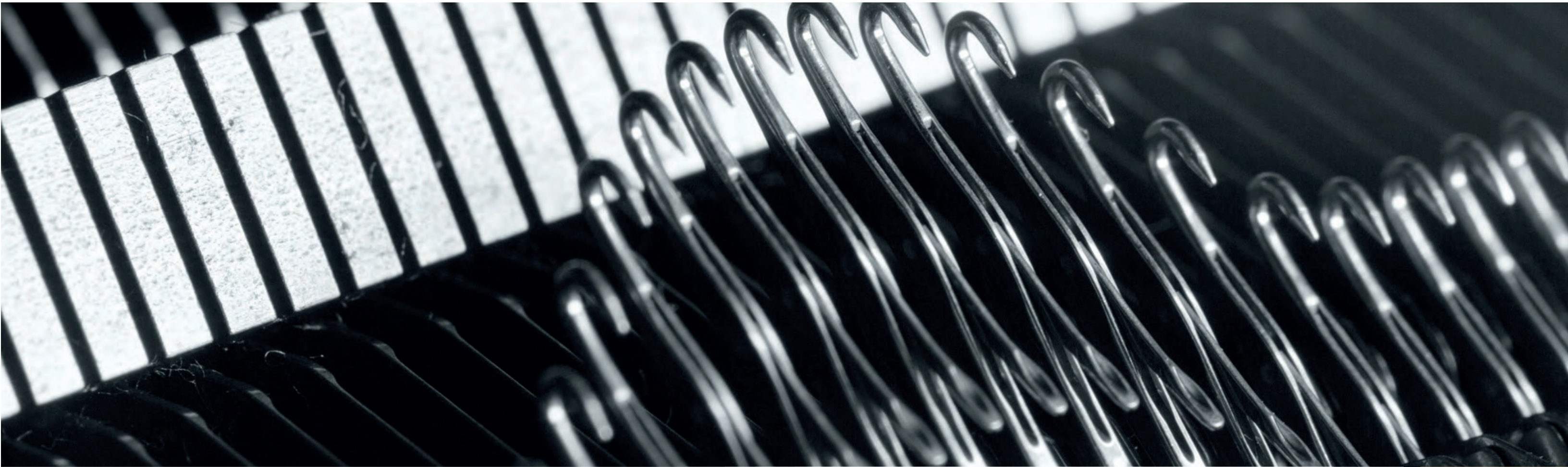
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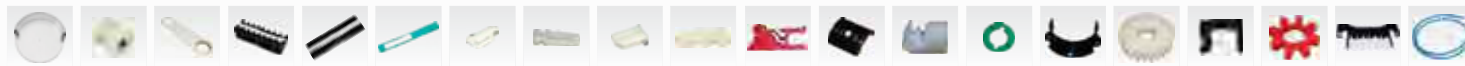
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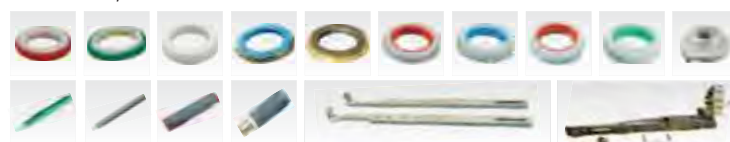
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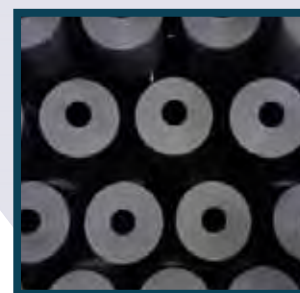
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Industry feeling slow and steady growth...

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Ms. Jigna Shah

Editor and Publisher

Textile Industry is feeling the heat due to Trade War of US –China, GST, reduced consumption etc.

Cotton Textile industry moving very slow due to low demand and less production, crop production is reduced almost 20%-25% in last quarter of 2018 due to low rainfall; rate per candy is around Rs. 42000 – 44000, due to less demand, there is no price hike. Cotton Spinning companies facing disparity with dull business environment. Majority of Indian yarn production is consumed by China which has been slower down drastically for slack Chinese market and hence the business is in heat.

Polyester market is running fairly better due to easy availability, comparatively cheaper in cost, wider application areas such as Apparel, Home textiles, Technical Textiles, Automotive etc. Polyester have properties which is substitute for many metals, many research going on fiber for the sustainable property of fiber/yarn.

Weaving production is reduced by 15-20% and running for only one shift in Bhiwandi, Ichalkaranji, Malegaon, Surat clusters. Market is steady, Credit status has been improved due to GST. Merchants are not keeping large inventories due to GST compliances. Export market is slack, due to holiday season.

Garment Sector policy given by government is not fully utilized due to lack of proper understanding, lack of reach to the ground level people. Long credit period with fierce competition of being fast and sustainable is the challenge for the industry. Indian garment Export is sustaining only due to quality and value addition.

Unorganized industry changed positively due to GST introduction. System based approach will benefit to the industry in a long run. Recent GST change in Leather products from 28% to 18%, Wool & other animal hair prepared for use of making wigs etc.

Maharashtra State have given Power subsidy by Rs. 3 per unit to co-operative spinning mills, Rs. 2 per unit to power loom and processing units for 3 years, this will give boost to industry in this state.

Central Government is planning to have one Central Textile Policy (Like One Nation, One Policy) which will benefit to all states. In 2018, new and revised policies introduced at state level with a different benefits for setting up the industry. So, potential investors are confused in selection of the state to invest for maximum benefits. Industry is awaiting fresh Central Textile Policy in early 2019 with speedy growth measurements benefits.

We wish you Healthy and Energetic 2019...!!!

SIZING: THE HEART OF WEAVING

Introduction

The object of sizing that is binding the fibers and coating the yarn so as to increase the strength and abrasion resistance and making it smooth and uniform, can be achieved by different mechanical techniques of dipping the yarn in size paste and drying. The technique used for sizing depends upon the scale on which the warp yarn is required for weaving.

When it is required on small scale only, hank sizing process is followed. In India this technique mostly followed by the hand loom weavers in India. Ball warp sizing also same time called as chain warp sizing is a slight advanced method used when sized warp on slightly larger scale is required. This method is not seen much in our country but was particularly used in Europe when spinning mill sold there yarn in the form of sized warp ready for weaving. However most commonly employed technique of sizing all over the world is slasher sizing or tape sizing.

Warp Preparatory Processes

The processes required for warp are called as warp preparatory process. Warping, Sizing, Drawing are the preparation for warp.

Necessity of sizing

Interlacement of warp and weft are carried out by means of a machine called as loom. Various motions are provided on the loom to carry out the interlacement since the motions used on the loom are numerous they are divided into three groups that is primary, secondary and auxiliary motions this motions imposes various stresses and strains on the warp yarn and tends to the break the yarn.

Whenever an end broken loom is to be stopped. This reduces the efficiency and productions of the machines, increase the work load on the weavers and produces the cloth of sub standard qualities. Hence in order to judge the weavability of warp, commonly accepted criteria is the warp breakage rate, such types of breaks are generally due to the various stresses that are imposed on warp during the process of weaving the primary objects of all the process is to reduce the warp end break that will weave a quality fabric with maximum loom efficiency.

Various stresses acting on warp during weaving

1. Stretching of the warp yarn due to the opposite acting forces.
2. Dynamic stresses having maximum values, followed by minimum 1 in quick succession due to shedding operation about 200 times a minute when the loom runs at that speed.

3. Chafing of abrasive forces acting on warp sheet lying on the race bar of a slay during the quick passage of the wooden surfaced shuttle from the one shuttle box to another during picking.

4. Momentary impact forces acting on warp sheet during beat up of the weft pick to the fell of the cloth.

5. Abrasion rubbing of yarn with lease rod, drop wire, heald eyes, friction with reed wire, and I case of dense wire, Set the friction between adjacent warp ends, during the moment of warp yarns from the beam to the fell of the cloth.

Object of sizing

Object of sizing is Increase the weavability of warp yarn by,

1. Increase in abrasion resistance
2. Making the yarn smooth and uniform
3. Increase the fiber lay
4. Increase the tensile strength of the yarn.

Different fibers, different sizes

The resistance of the yarns to various stresses and strain mentions above is not the same for all the fibers, on the other hand different fibers act differently toward these stresses. For examples silk and continuous filament man-made fibers have strong cohesion due to continuity of this filaments and have good elastics behavior towards cyclic extension. Therefore this yarns are to be protected mainly against abrasion rather than against cyclic extension. Wool fibers has high extensibility but low tenacity, while flax and jute have high tensile strength but low elongation at break and only limited resistance to cyclic extension. Thus it is not only the strength but the toughness of yarns is more important than the strength or elongation alone.

Tension imposed by sizing machine

Mechanism of weaving imposes various stresses on the yarn. In addition the process of slasher sizing itself introduces certain stresses which vary along the path of the yarn. Through the sizing machine and same time magnitude of such stresses are so high. This stresses varies in different part of sizing machine and they change the condition of the yarn also. Such stresses are developed during the passage of the warp passes between the creel and nip of sizing and squeezing roller then again during drying, during separation of the warp at the head stock and lastly during winding of the sized warp on to the weavers beam. These are the termed as various tension zones of the sizing machine .

The size ingredients

1) Adhesives

Is the main ingredients of size paste. It performs two functions binding of fiber and coating over the yarn surface. Binding of the fiber increases tensile strength of the yarn there by breakages due to the tensions and shocks are minimized. Coating over the yarn surface makes the yarns smooth and uniform. Also less the protruding fibers along the yarn surface. This minimizes breakages due to abrasion.

Adhesives are generally polymeric substances having cohesion between fibers and also other molecules of itself. This is called binding property and film forming property. Mostly various starches are used as adhesives. According to origin starches are divided in to three groups – **Natural, modified and synthetic.**

a) Natural starches – Natural starches are derived from natural raw material that is vegetable origin various grains – maize, wheat, rice, etc are the natural starches.

b) Modified starches – Natural starches have main drawbacks that they required very long boiling to prepare size paste, they give very thick and viscous paste and low penetration. To overcome this modified starches have been developed. These starches are produced from natural starches by modifying their chemical structure by chemical means for example – CMC, Amylopectin, Amylose, and dextrin.

c) Synthetic starches – Are entirely manmade they are made from simple chemical by means of chemical synthesis. Synthetic starches are mainly used for sizing of manmade fiber and there are for example- polyvinyl, alcohol, polyacrylic acid, polymethacrylics, polystyrene.

2) Gum

Same natural gum, modified gums, and synthetic ones can also be used as adhesives. Gums give very thin viscosity but they give good penetration and binding property. For example- **Gum arabic.**

3) Softener

After adhesive, softener is the next important ingredient of the size paste. Most of the adhesives after drying produce film which is rigid and inflexible. This makes the yarn rigid and inflexible. Therefore during shedding such film tends to break. To correct this rigidity softener is used. Softener is generally oil or fats or a substance made either of these. A softener is a long chain compound having flexible molecules in its structure. A softener breaks continuity of adhesive film and makes it flexible, so that yarn can break and elongate. In addition to softening the adhesive film, softener also makes the size film hence the yarn surface is smooth. Due to smoothness causes less friction when it rubs against adjacent threads or loom parts this is called as lubricating effect and plays an im-

portant role in minimizing the warp breaks due to friction as well as minimizing the weaving out and dropping off of the adhesive film during weaving. A softener usually possesses both these properties that is softening and smoothing.

Mutton tallow was once more common softener used for sizing but now a day's it's used in textile has been banned. Oils like coconut oil, TRO, soap, vegetable tallow, poly ethylene emulsion are used as softener in sizing.

4) Antiseptic

Mostly natural starches are used as adhesives for sizing. Since these are also food materials they give rise to growth of microorganisms particularly in warm and humid atmospheres. These microorganisms then cause bad smell and colored stains to be formed on warp threads. In long run they may attack the fibers of the warp threads itself and threads may get tendered. To prevent this a substance will be required which will prevent the growth of the microorganisms on the adhesives film. Such a substance is called as antiseptics are necessary when natural starches are used in sizing. Example- Zinc chloride, copper sulfate, Zinc sulfate etc.

5) Weighting agent

In previous days the cloth was sold in grey state, after calendaring and on weight basis. In order to increase fullness, hand, and weight of the fabric ingredient called as weighting agent added to the size paste. So that cloth was made more attractive and its sale value is increased. Weighting agents are the names given to these compounds. Weighting agents are usually cheap salts, barium sulfate etc. are used as weighting agents.

6) Brightening agent

These are used to increase whiteness of the grey fabric and increase its sale value when cloth is sold in grey state.

Unbleached cotton cloth is cream's yellow in appearance and looks duller. When blue coloring matter is added to size mixture it appears whiter. Since blue color is complementary color to cream's yellowness, it suppresses yellowness and cloth appears whiter so that its appearance is enhanced. Ultramarine blue and blue soluble dyes are used as bluing agents.

Brightening agents are also used for same purpose. Brightening agents also absorb sunlight and reflect ultraviolet light so that cloth appears whiter and brighter. Ranipalare the fluorescent or optical brightening agents used for this purpose.

7) Deliquescent

After sizing yarns are dried. In previous days there was a tendency of over drying so that it contains less than its normal moisture makes the warp threads weak, less flexible and brittle. Leads to more warp breakages. If it is

not possible for the warp to regain the normal moisture, makes the warp threads weak less flexible and brittle leads to more yarn breaks. If it is not possible for the yarn to regain the normal moisture during weaving operation. Therefore to help the warp to regain its moisture, hygroscopic substances are added to the size paste. These are called as deliquescent. They also help to increase the weight of warp. Example- magnesium chloride, glycerol.

8) Antistatic agents

Synthetic fibers are hydrophobic, give rise to the formation of static electricity on them when they undergo some rubbing action. Static generation is troublesome in many respects. It attracts dirt and dust particles and spoils the cloth, causes fibers and yarns to repel one another and may give rise to spark formation. Antistatic agents are added to the size mixture to overcome this problem. Example- glycerol, polyethylene glycol, lissapol NX, soaps

9) Wetting agents

These are also required for Synthetic warps. Since these are hydrophobic they are difficult to be wetted by aqueous solution of adhesives. It helps synthetic warp to be wetted easily by size paste.

10) Antifoaming agents

When antistatic and wetting agents are used there is too much formation of foam. This sometimes carried over to the drying cylinders. To suppress or smother the foam, antifoaming agents which are some oils like pine oil are added.

Preparation of size paste formulation

Before starting the sizing process it is necessary to prepare the size paste before preparing the size paste it is necessary to select various ingredient, there % in the size paste which is selected based upon type of warp and type of loom and quantity of size paste required. In sizing two factors are important concentration and viscosity of size paste and % size add on required for warp. After this actual preparation of size paste take place.

Gelatinization process

Mostly natural starches used as an adhesive which is the main and essential ingredient of the size its proper and uniform distribution in the paste is very important starches are white or nearly white powder in the form of granules and are insoluble in cold water. To make its stable colloidal solution starch has to be gelatinized. In gelatinizing starch powder is mixed with water to form a smooth paste or slurry and heated by means of steam. As the slurry gets heated starch granules gets swollen due to absorption of water.

A point is reached when the swelling of the granules reach maximum and the granules occupy the whole volume of water this is the formation of the size paste. This is called

as gelatinization in the size paste. The minimum temperature at which it takes place called as gelatinizing temperature. Different starches show different gelatinizing temperature example- potato starch 80Dc to 82Dc, rice 80Dc to 83Dc.

Common size ingredients

There is tendency to add too many ingredients to make the paste. Previously no of size ingredients used where up to 15 or even more. Many of them added with more blind faith than reasons. Even today it is not very uncommon to see a dozen different materials added to the size paste. It is easy to see that there is hardly only reason to add more than 3 to 6 ingredients for most purposes.

There is tendency in sizing to add too many ingredients in too large quantities and oversize the warp. To avoid blame of under sizing in an experiment carried out by BTRA sizing composition used by a mill consisting 7 ingredients with a total concentration of 50% was modified to contain only ingredients with total concentration of only 7.6%. The warp breakages were found to be reduced by 35% and the efficiency of the loom was increased by 4.5 %. In the experimental formulation CMC was used hence cost of sizing in the two cases remained almost same.

Starches

For sizing of cotton warp starch is still the main adhesive ingredient. It is relatively cheap and commonly available. Among the starches maize starch is more preferred due to its good adhesiveness and high viscosity. The stiffness of the film liability of the mildew formation and its relative difficulty in its removal wet processing are its drawback it is usually combining with other starches like tapioca there addition increase the solid concentration without increasing the viscosity of the size paste this increase penetration the uniformity the size film and allows higher speeds of operation at sizing. Many times only thin boiling starches are used alone without any starch when they are used together the best ratio in which they should be used is set to be 1:3 as starch to thin boiling starch.

Gums

Gum possess superior binding property and low viscosity. Therefore they should be used for sizing coarse yarn in small quantities like about 2% gum Arabic is ideal one.

Softener

Softeners are mostly fats. But the point is that fat reduce the strength of the size film. Therefore they must be limited to the barest minimum quantity required. Quantity equivalent to 5 to 7.5% on the maize starch 5% on the thin boiling starch, CMC does not require any softener then antiseptics it is preferable to add 0.5 to 1.5% of a good antistatic like sodium pentachlorophosphate on the thin boiling starch. They should be added towards the end of the boiling period. CMC & PVA do not

required antiseptics.

Water

There are low special requirement regarding the quality of water to be used for making the size paste. It should only be clear color less, natural free from excessive proportion of inorganic salts and microorganism acidic water affects the viscosity of paste. IF the water is alkaline foaming will be caused. To high proportion of salts with hardness salts or otherwise will affects the stability of fat dispersions the microorganisms will cause the degradation of size or will make the antiseptics in active.

Preparation of size paste

To prepare the size paste volume and concentration of size paste size ingredients and there % is decided. In the kettle water is taken which is less than final volume is taken first adhesives are added with constant stirring taking care that lump formation is prevented and a smooth paste called slurry is form. The stirring in the cold condition is carried out for 15 to 45 min, and then heating is started. When the paste is hot enough softener, gum paste etc. are added and heating is continued to the boiling point. The boiling is continue to 45 min to 1 hour depending on the amount of starch and other ingredients present. In case of thin boiling starches boiling period can be reduced to 1 hr. If the all ingredients are water soluble even shorter period will be enough. In mills softeners and antiseptic agents are added only about 15 min before the heating is stopped.

Sequence of addition of size ingredients

The usual practice is to mix as many ingredients as possible in the cold water while stirring. Adhesives which are partly or completely soluble in cold water and also those which are likely to form cloths(lumps) in water are steeped in to cold water so that they come in contact with the cold water in there finely divided condition. Starches may be added in the same way to the cold water. In case of starch and china clay, it should be preferable to mix them with cold water in a separate mixing and slurry is then added to the mixing pan containing the other ingredients added in the cold condition. Those ingredients which partly or wholly dissolve in cold water and form a thick paste like CMC, thin boiling starches, PV alcohol PH, gum derivatives etc. Which do not required long steeping are added in the dry condition only through a sieve to cold water in cooking vessel while stirring.

Gum can directly added to cold water only if they are in a finely divided power form. If they are in the lump form they should be steeped in water for several hours to swell them, then boiled to make the solution before adding to size cooking beck. Gum tragacath requires 3 day of steeping period and them boiling before adding to mixing pam if the gum is available in the form of plates.

Softener is added preferably when the temperature of the

mixture is above the melting point of softener but below the gelatinizing temperature of starch in between 50Dc to 60 Dc. The assumption here is that, if the insoluble ingredients are in a finely divided condition during gelatinizing process. Then after gelatinizing starch can keep them in stable. Suspension preventing them from separating but during boiling or sizing.

Some properties of starch paste

Congeaing property of the starch paste if after making the size paste is kept aside, without heating and without stirring, its starts cooling and its viscosity goes on increasing with time. A thick skin is formed on its surface and the paste its smoothness is loss and formation of lumps take place. It loses its flowing property and become self adhesive. In the language of the colloidal since this is called gel formation. We called as congealing property of starch. Some starch are quick congealing like maize starch while some others are slow congealing like potato starch.

When a starch paste is congealed, it is very difficult to use in sizing. This is because solidify, and lost its flowing property once paste has congealed no amount of heating and stirring again well bring it to the smooth flowing condition as before if this happens in the pipeline, the pipeline gets choked one. Quick congealing starches show variations In viscosity with temperature. Than slow congealing one. Slow congealing starches remain smooth flowing for longer time. Therefor in sizing department size paste is kept continuously stirred at hot temperature to prevent congealing.

Keeping property of starch paste

If starch paste after preparation is kept at room temperature. It viscosity Increase depending upon weather the starch is low congealing or quick congealing. If it is kept still further on long enough the paste slowly thinner. If starch is losing its adhesively. Still later its starts giving bad smell, bubbles of gas well be seen to be coming out of it. It shows acidic test with litmus paper. Finely it becomes watery foul smelling liquid and ultimately useless. This is termed as keeping property of starch. Some starches shows good keeping property. Some shows poor keeping property potato starch having poor keeping property.

Concentrations of size paste

The concentration of size paste indicates the total wets of various ingredients use the per unit volume of the size paste and is expressed as % for example if size concentration is 10% it means that there are 10kg of total size ingredients in 100 liter of size paste. It is given by formula

Concentration of size paste = wt. of oven dry size material / wt. of the paste *100

Size cooking equipment's

Perhaps most neglected job in the sizing process is the size preparation. Though at present, many synthetic siz-

es are available in liquid form, so that they are only to be stored in water the processes of starch paste has not been eliminated. In many mill although care full attention is given to warp sizing on sizing machine very little supervision is provided at size preparation state. If it is left to a jobber or senior worker who is played less than front sizes or back seizer with the result that, many times mixing jobber is not fully aware of the importance of sequence of adding the ingredients the temperature to be maintain the duration of the cooking the size paste etc.

The size cooking equipment is generally placed in the same room as the sizing machine, so that size paste flows to size box of the sizing machine due to gravitational flow. Sometimes there is a gallery suspended from the ceiling to accommodate the cooking equipment or sometimes the cooking equipment are relegated to a corner of the sizing room where it is not possible for the supervisory staff of the sizing department to keep strict vigilance during the preparation of the size mixture however a good weaving technician will always pay a close attention to get the size prepared with almost desired conditions so as to avoid worrying afterword's when a properly prepared size is not made available for the sizing.

Size cooking kettles and storing becks

The beck

The beck is the simplest and the oldest cooking vessel and previously it was made from wood. a beck is a cubical shaped vessel with about 1.25 meters sides. Sometimes there is a twin beck with a common side. One is used for cooking and other is for storage purpose. The beck is provided with a stirrer or an agitator driven by the bevel wheels on a shaft or a separate motor through reduction gear.

Sometimes instead of square boxes circular kettles made up of cast iron shell lined inside with copper sheet are used for cooking .now a days cylindrical vessels made from thick steel sheet are more popular. Advantage of cylindrical shells is that the stirrer when rotating can reach all the parts of the beck.

Factors affecting viscosity of the paste

- **Concentration of the paste-** Higher the concentration of a paste more will be viscosity. However it should be remember that if a viscosity against concentration graph is plotted it is not a straight line.
- **Type of starch-** Different starches gives different viscosities for same concentration. Some starches gives higher viscosity than others. Among natural starches maize and potato starch gives more viscosity while sago and tapioca shows lower viscosity. Wheat starch gives medium viscosity.
- **The temperature of the paste-**Viscosity is a temperature dependent phenomenon. At higher temperature viscosity is less and at lower temperature viscosity increases.

- **Effect of stirring-** Very vigorous mechanical stirring lowers the viscosity of the paste.
- **History of the paste-**The viscosity of the paste is not affected by concentration, temperature and stirring but by whole set of circumstances leading up to the measurement of viscosity. Like how the paste was prepared, how the temperature was required, how it was stirred before and during cooking, how long it was kept after cooling and up to the test etc. All this factors constitutes the history of test and for the paste to be compared, must be kept constant.

It should be remembered that, while referring to the thickness of paste, not only adhesive should be kept in mind but all the ingredients in the size paste should be considered. The consistency of size paste is more correct term than viscosity.

Measurement of viscosity

In laboratory various instrument like Redwood viscometer, strummer, Brookfield viscometer, torsion type viscometer are used and viscosity is measure in terms of it's unit that is pause for practical purpose cop method is used. A thick metal cup has a hole at the bottom. It is dipped in the paste to fill the cup with the paste. Then if it is lifted vertically and time taken by paste to run down through the hole is noted. Time required to flow through the cup is taken as measure of viscosity. This time is directly proportional to the viscosity of the paste. Higher the viscosity of the paste more is the time and vice versa.

Viscosity of the size paste

Size paste used for sizing must be thick enough or viscous. Viscosity is the measure of the thickness of size paste. From physic, viscosity is defined as properly to oppose flow in liquids. Viscous paste forms a thick coating over the yarn surface. This coating lays the protruding fibers along the body of yarn, also makes the yarn smooth and uniformly coated which reduces frictional effect size paste becomes viscous due to adhesives which are polymeric substances having high polymeric substances having high molecular weight.

They also contain Polar groups which forms bond between the fibers and between themselves. Hence size film sticks the fibers together by penetrating in to yarn structure. But these two properties penetration and coating are opposite to each other. As viscosity increases penetration decreases therefore binding of fibers will be better binder but will not cover the yarn surface with a thick enough layer because during application thin adhesive paste will be easily squeezed out.

It has been found that for staple fiber yarns, covering of yarn is more important than binding of fibers. While in case of yarns of continues filament, binding of filament is more important hence thin sizing paste with high adhesively is required. In case of cotton, if thin paste of high penetrating and binding property is used all the space

within the yarn will be filled by the adhesive. The yarns become very stiff and unworkable. On the other hand if size paste is too viscous there will not be any penetration but only covering of size paste. Such yarn also will break easily during sizing. Therefore it is preferable that 100% penetration and complete binding is avoided and some empty spaces are left which will serve as cushions for preserving the flexibility.

Pressure cooking

Preparation of the size paste in conventional size Becks requires very long time. It requires about 2 hours of stirring and boiling. Consistency of size paste is also not uniform. In order to reduce the time required for size preparation, now a days, pressure cookers are extensively used in the sizing department apart from reducing time it also reduces steam consumption since size is cooked at higher pressure. Hence cost of size preparation is less.

A common pressure cooker is a cylindrical steam jacketed vessel about 1.25m outer diameter and 1.25 to 1.5m in height. The cooker is provided with a stirrer that can rotate at 40 to 60 rpm. On certain cookers there is a provision for two speeds a slow one 15 to 20 rpm and the other normal 40 to 60 rpm. A pressure gauge, safety valve, lid, steam outlet valve outlet for ready mix size paste. The highest temperature can be set and is controlled thermostatically.

Circulating system

An elaborate system of piping is necessary in the size preparation section. The fluids to be transported are:-

1. The size paste is required to be transported from the cooking vessel to the storage beek and from both of these to size box of the sizing machine.
2. Water to the size cooking and storing vessels as well as to size carrying pipe.
3. Steam to the size cooking and storing vessels, size carrying pipes and also to the size box of the sizing machine.
4. Sometimes solutions and suspension are made separately and then they are added to the cooking kettle to avoid proper mixing and lump formation. Instead of adding dry powders direction. Example. PVA, CMC, china clay, gums, gelatin etc.

Homogeneous

When the size paste is prepared with conventional Becks long boiling and stirring of starch slurry is necessary. Bursting of starch granules is not uniform. Therefore viscosity of paste is not uniform and is much affected by changes in temperature as well as keeping. Size film of such paste is not uniform and we get uneven size application.

The process of homogenization consists of first heating the starch slurry to a temperature. Just above the gelatinization temperature of a particular starch and then forcing

the paste through a microscopic orifice with tremendous force and at a great velocity. While passing through a hole swollen granules rub against each other. Forces of shear and turbulence come into play thereby swollen starch get broken into small uniform size. The paste thus obtained has more stable viscosity and that it forms on the yarn is also more uniform.

The mixture of starch and water heated up to gelatinization temperature. Enters through an inlet from a pressure cylinder at high pressure and is forced against the backside of homogeneous valve. The very fine clearance between the valve and valve seat starts breaking the particles. Reciprocating action of the plunger type pump forces the slurry against the impact ring. The velocity is about 1600m/sec. and the pressure between 150 to 250 bar. The pressure can be controlled by hand wheel which restricts the valve gap and liquid is forced through by the pressure which is build up.

The mixture is discharged to an intermediate pressure area. Then second homogenization is carried out by second homogenizing valve. Finally the homogenized paste is discharged at atmospheric pressure. All this stage again release from a very high pressure to a lower atmospheric pressure causes an explosive action within the paste which combined with the vehement dynamic impact results in further breakdown of the starch granules into more or less uniform minute particles.

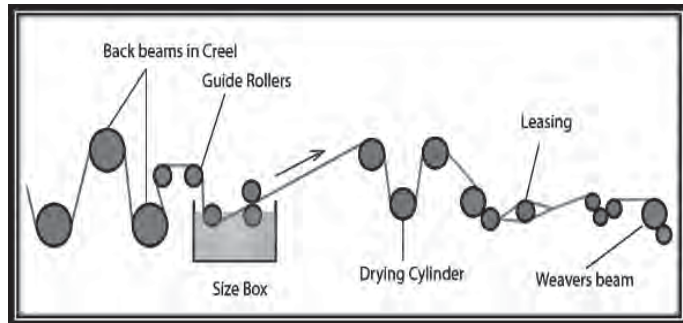
The advantage of Homogenizers is that starch slurry is to be heated up to gelatinizing temperature. Only hence there is some saving in consumption of steam and saving in size ingredients. Time required for cooking the size is also less. Most important is the uniform viscosity of the size paste and hence uniform size application.

However there are severe disadvantages of Homogenizers. The saving in steam energy is very marginal. But mechanical energy required for breaking the granules is very high. Higher energy requirements for the powerful pump offset the saving energy. Also maintenance cost of pump is also higher due to frequent replacement of impact ring and other parts.

Tape or Slasher sizing

Slasher sizing is universally followed for large scale production. In this method warp sheets of equal lengths in which warp ends are in parallel order are assembled together to form a single sheet having required no of ends. This single sheet passed through size paste and squeezed, and dried. Finally dried warp is wound on to a weavers beam. All this operations for assembling the warp sheets, sizing, drying and winding are made in a continuous manner. Also there are supplemented by the ancillary functions like separating the warp ends, measuring the length of warp, marking into cut length and winding required length on the weavers beam. All this functions are to be performed by tape or slasher sizing machine we also

called as multicylinder sizing machines.



Slasher Sizing Process

Multicylinder sizing machine

For the purpose of sizing a set of warp beam is prepared in warping. There are about 6 to 10 beams each containing about 400 to 600 warp ends. These beams are placed at the back side of the sizing machine in a stand called as creel. The warp sheet from each beam is combined with the sheet from the next beam and the process is continued till all sheets are converted into a single sheet. During this operation, each sheet passes over and under the beams in front of it. Then it passes over and under the guide rollers and finally enters into the size box containing size paste.

The size paste is kept at near boiling condition by injecting steam directly through it by steam pipes. The warp sheet is dipped into the paste by means of a partially immersed immersing rollers and squeezed by passing through the nip formed by size rollers and squeeze roller. There is at least one pair of this in the size box. The squeezing roller

presses the size into the yarn structure, removes excess of paste and at the same time drags the sheets through the paste.

The yarn loaded with the wet size then passes through the drying arrangement. Comprising cylinders 5 to 13 cylinders are used as per the requirement. Usually the drying is controlled in such a way that warp contains predetermined moisture content and over drying of warp is avoided. The last cylinders are kept cool so that the warp sheet gets cooled when it leaves the drying range.

Dried warp sheet is separated into as many sheets. As there are no wrappers beam on creel, it is passed through an expanding comb to adjust its width when after passing between the nip of drag roller and a nip roller, it is finally wound on the weavers beam. This front position of a sizing machine after the drying range is called as head stock. It consists of no auxiliary mechanisms such as measuring and marking device, full speed arrangement, length indicator, beam pressing arrangement for weavers beam etc. Also there is a driving motion for weavers beam to accommodate the increasing circumference of the beam.

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PROCESS CONTROL OF SIZING

Sizing of Warp Yarn

The sizing of yarn is absolutely essential to render it wearable; without sizing the end breakage rate of warp, particularly in the case of single yarns, is so high that weaving becomes impossible. The objective of sizing, however, sizing cannot be looked upon as a process that improves the basic quality of yarn. The fact is that by endowing the yarn with abrasion resistance, proper sizing brings out the full potential of a yarn to weave.

A properly sized yarn should have adequate improvement in abrasion resistance, indirectly indicated by the increase in tensile strength, minimum loss of extensibility and required amount of moisture. For satisfactory weaving the quality of the beam is also important; the beam should be firm and it should not have excessive missing ends, crossed ends, taped ends (sticky ends) etc., so that it unwinds smoothly in the loom shed.

We also want that in the sized yarn there should be

- Some increase in tensile strength in the yarn
- Minimum loss of extensibility in yarn (about 4.4-4.6% elongation at break is required for cotton)
- Required moisture content (8-10% of cotton)
- Good quality of sized beam (neither too soft nor too firm + free from yarn defects)
- Good productivity and efficiency
- Reduced Cost

Some Important Parameters for the Process Control of Sizing

Process Control in Sizing

The process control program in sizing should, therefore, comprise of the following aspects

1. Selecting the correct size recipe and size pick-up level.
2. Ensuring correct ratio of size paste.
3. Control of the followings

- size pick up
- stretch
- moisture content
- quality of beam
- machine speed
- machine efficiency
- a method to calculate the expected level of productivity

Effects of Sizing on Yarn Properties

The following properties of yarn are affected by sizing

- Yarn elasticity decreases.
- Yarn strength increases.
- Hairiness of yarn increases.
- Flexibility of yarn decreases.
- Smoothness of yarn increases.
- Irregularity of yarn decreases.
- Yarn diameter increases.
- Yarn weight increases.

Factor on which Sizing Recipe depends on:

- Composition of yarn
- Yarn count
- Total no. of ends
- Weight of yarn

Factors Influencing Size Pick up%

Viscosity of size paste in size box

Any variation in the concentration or temperature alters the viscosity of the paste which in turn affects both the level of size pick up and extent of penetration. Initially as the viscosity increases, the size pick-up also increases. But as the viscosity increases beyond a point, the size pick up is reduced.

Squeezing pressure and condition of squeezing nip

The squeezing pressure determines the extent of penetration of the size paste between the fibers of the yarn and also of the removal of excess size paste and hence the level of the size pick up.

Speed of the sizing machine

Other sizing conditions remaining unchanged, the size pick up increases with increasing sizing speed and vice versa. This is because the time available to squeeze the surplus size from the yarn is less at high speeds.

Depth of immersion roller in size paste

The depth of immersion roller in the paste determines the duration for which the yarn remains immersed in the paste. This duration in turn influences both the level of size pick up and the extent of size penetration.

Level of size paste in the size box

Variation in the level of size paste is an important source of size pick-up variations both within and between beams.

Density of ends

When the density of ends is high, difficulties are encountered in obtaining adequate and uniform size penetration. Therefore size pick up may vary at these fabrics.

Yarn tension

In case of higher tension during sizing the set of warp yarns encounter a stretch of comparatively higher tension and thus the set of yarn increases in length. If this increase is too high then the elongation property of the yarn will be decreased. So the yarn will face comparatively higher breakage in subsequent processes. On the other hand lower yarn tension leads to uneven sizing. So the yarn tension must be optimal.

Yarn twist

In case of high twisted yarn penetration time should be increased in order to obtain the optimal pick up %.

Dia. of the yarns

Yarn with greater dia consumes higher size paste. Therefore, the higher the dia of yarn, the higher the pickup will be added.



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**“Success does not lie in “Results” but in “Efforts”,
“Being” the best is not so important, “Doing” the best is
all that matters...”**

SIZING FAULTS & ITS CAUSES

Underslashed Warps

Causes:

- Due to insufficient size concentration
- Improper size feed to the size box
- Variable size level
- Dilution of size
- Strong squeezing of warp

Overslashed Warps

Causes:

- Due to insufficient splitting of starch at size preparation
- Weak squeezing
- Too deep immersion of the warp into the size box

Sticky Warps

Causes:

- High sizing speed
- Low drying temperature

Over Dried Warps

Causes:

- Low sizing speed
- Long stoppage of machine during sizing
- Very high temperature in the drying section

Gum Spots and Smears

Causes:

- Splashes of size get on the squeezed warp
- Bad stirring of starch at preparation
- Improper coating of felts on the squeezing rollers

Non Uniform Size Regains

Causes:

- Irregular heating of the size in the box
- Dilution of the size with live steam
- Non uniform pressure of squeezing rollers

Crossed and Lost Ends:

Causes:

- Lease rods are set too far apart
- Broken ends are improperly pieced up
- Bad warping

Improper Build of Beam

Causes:

- Incorrect spreading of yarn ends in the reed dents

Incorrect Warp Length

Causes :

- Disarrangement of the measuring and marking mechanism
- Improper adjustment of measuring and marking mechanism

Dirt Stains in Warp

Causes:

- The size boxes and machine metal parts are dirty
- The size is cooked in non-galvanized iron kettles.

Shinnery

Causes:

- Due to the friction between the yarn and drying cylinder

Sandy Warp

Causes:

- Due to not crushed or grind the size material

Hard Sizing

Causes :

- Excessive application of size material

Size Dropping

Causes :

- Due to not optimum viscosity of the size solution

Uneven Sizing

Causes :

- Due to over and under sizing

“Be more concerned with your character than your reputation, because your character is what you really are, while your reputation is merely what others think you are.”– John Wooden

ADVANCES IN WEAVING TECHNOLOGY AND LOOMS

Advances in Weaving Technology

The emphasis on productivity and quality has developed the weaving technology very much and as a result the working hours required to weave fabric from loom have been reduced from about 20 to 0.25 during the last 125 years, and in the last 50 years there has been a reduction of 95% in operative hours per standard unit produced. Majority of the developments are taking place on the shuttleless looms in the following directions:

To increase productivity of the loom.

To make the looms more flexible for different kinds of fabric.

To reduce the down time for changing style, etc.

Application of electronic control mechanisms to increase automation

- Development of accessories such as dobby, jacquards, etc.

In addition to these, the newer looms are simple in design, the motions are more reliable, consumes less energy and have lower maintenance cost.

Productivity

The Production rates of the various types of looms are presented for comparison in Table

Loom type Available width in cms Speed in rpm Weft insertion rates(ppm)

Projectile

| | | | |
|------------------------|---------|-----|-----------|
| Sulzer Ruti P7100 | 190-540 | 320 | 1100-1200 |
| Sulzer Ruti P7200 | 190-540 | 430 | 1500 |
| STB Russia | 180-330 | 300 | 750 |
| Rigid Rapier | | | |
| SACM | 150 | 550 | 1110 |
| Dornier | 150-400 | 460 | 1000 |
| Gunne | 230 | 330 | 1200 |
| Flexible Rapier | | | |
| Somet | 165-410 | 550 | 1300 |
| Vamatex | 160-380 | 510 | 1300 |
| Sulzer Ruti | 110-280 | 325 | 1200 |
| Nuovo Pignone | 220-420 | 440 | 1000 |
| Water Jet | | | |

| | | | |
|-----------------------------|-----------|-----------|-----------|
| Metor SPA | 230 | 1000 | 1600 |
| Nisson | 150-210 | 1000 | 2000 |
| Tsudakoma | 150-210 | 1000 | 2000 |
| Air Jet | | | |
| Sulzer Ruti | upto 300 | 750 | 1600 |
| Picanol Omni | 190-380 | 800 | 1800 |
| Picanol Delta | 190 | 1110 | 2000 |
| Toyoda | 150-330 | 850 | 2000 |
| Tsudakoma | 152-340 | 1000 | 2200 |
| Lakshmi Ruti | 190 | 500 | 1200 |
| Dornier | 430 | 600 | 2520 |
| Linear Multiphase | | | |
| Elitex | about 190 | 1100-1600 | 2000-3000 |
| Drum type Multiphase | | | |
| Sulzer M8300 | 190 | 3230 | 6088 |

Out of these single phase looms, Air jet loom is having maximum speed and maximum weft insertion rate. Because of the very high quality of yarn required, the yarn must be of very high standard, otherwise the loom stoppages due to warp breaks and weft breaks will be high. The efficiency achieved will be in the order of 93 to 95%.

Other looms like projectile and rapier will give an efficiency of about 90 to 95%. The cover of the fabric in air jet will not be as good as projectile and rapier looms. Efficiency in multiphase loom is in the order of 90 to 95% These are the speeds obtained by the weavers at commercial level. The main reason for targeting higher productivity is to reduce the cost of production, especially labour cost. The increase in speed is being achieved the improvement in all major functional parts of the modern looms.

Today the market particularly demands wide variety as much as possible at the lowest possible cost. These machines provide the feature such as :

- The possibility of weaving more difficult products in terms of yarn employed and also in combinations
- Application potential in all weaving sectors.

Sulzer Ruti 6300 rapier loom will weave not only fashion, fabrics with as many as 8 weft colours but also furnishing fabrics, simple print base fabrics and denims as efficiently as light to heavy weight industrial fabrics.

The terry plus airjet terry weaving machines of Gunne not only permit greater pile height and heavier fabrics, it also offers greater flexibility in operation with the ability to

change the fabric width and pile height. On the machine the drawing width can be changed using the same reed, simply by shifting the weft stop motion and the weft cutter. The pile height is programmable within the same fabric. Special fabric constructions with different pile heights on front and back are also possible. For Sulzer P7300 projectile looms a variety of back rest roller and cloth take up systems are available to suit the density and the type of fabric woven.

Minimum Down Time

Many of the weaving machine manufacturers offer quick style change (QSC) system. The basic idea of these developments is to prepare module outside the weave room and keep them ready for a switch over with empty module in the weaving machine. Dornier demonstrated quick style changes from a fine worsted fabric to a pure cashmere fabrics in less than 30 minutes. Similarly, almost all major weaving machine makers offer their own version of QSC. Dornier offers Fast Dobby Change (FDC) which allows a mill exchange a dobby shedding for a cam drive when a basic style is being woven and higher shedding machine speeds are possible. The exchange times is not more than 1.5 hours per occurrence.

Electronic Control Mechanism

The use of central microprocessor control system and automatic functional with bidirection communication and diagnostic features are the common features of most of these latest weaving machines. Sulzer Ruti P7100 with central microprocessor control, electronically controls progressive weft break, automatic weft feed backup which switches over to a feeder head with intact weft intact weft thread in the event of weft break, at the same time informing the weaver an optical automatic weft break repair and package handling system.

In repair machines electronic control weft tensioner reduces the yarn tension specially during insertion. The opening and closing time can be selected according to the material usually at yarn pick up. Automatic package switching device prevents the machine from being stopped in the event of a weft break between the package and the weft feeder. The microprocessor switches over immediately to a reduced number of packages in the circle, so that the machine continues to run.

Electronically controlled warp let off and cloth take up units ensure high degree of fabric regularity and prevent all kinds of start and stop marks. Electronic monitoring control system have simplified the communication with the machine and facilitate its easy handling by any one concerned with the operation of the machine e.g. weaver, technical, maintenance, personnel, etc.

In airjet weaving machine electronic let-off maintains consistent warp tension from full beam to empty beam. Electronic cloth take up generates a pick density resolution

of 0.1 picks/cm and holds it constant, under all operating conditions.

In terry plus airjet terry weaving machine of Gunne Web Maschinen Fabric GmbH & Co. The microprocessor monitors the entire insertion cycle and keeps all the different elements perfectly synchronized.

Other Developments

(A) Tuck-in-Devices

Some of the important development is new tuck in motions based on pneumatic. The principle of pneumatic trucking in is the use of air to hold the filling end and then forcing the filling end to be tucked in, in the next shed, by air. In airjet weaving the automatic weft repairer which repairs the weft break and starts the machine automatically is made simple by using mechano pneumatic device. It is a positive factor in higher weaver allocation and increased efficiency. Dornier exhibited their pneumatic tucker on two airjet weaving machines (LTN F8/J and LWV2/E). Tsudokama demonstrated their ZNT needleless tuck-in on two airjet weaving machine. Somer showed its patented tucking motion on a clipper airjet machine. Elimination of tuck in needle by pneumatic tuck in motion enables the loom run much faster as compared to mechanical devices.

(B) Electronic Jacquard Head

Grosche has introduced its patented UniShed positive electronic jacquard head. The shed formation in the UniShed is achieved by leaf spring. Each leaf spring is connected to a heddle that controls one warp end. The leaf springs which are controlled by actuators control the bottom shed as well as the top shed (positive shed type). The dimensions of the jacquard head and the individual control of each heddle (warp end) allow the heddles to be set vertically. These settings permit the elimination of harness cords, hooks, magnets, pulleys, pull down springs and more significantly, the gantry. The jacquard head is mounted directly on the side frame of the weaving machine, thus allowing quick style changes.

(C) Jacquard Shedding Mechanism

Staubli's Unival 100 electronic jacquard shedding mechanism offers a new concept. The shed formation is achieved by controlling each individual warp end with a stepping motor. The harness cord / warp end selection is performed electronically and hence fabric design is achieved in the same way as any electronic jacquard system. The design of the Unival 100 permits the elimination of hook and the gantry.

(D) Weft Package Handling

Complete automatic weft package handling, loading the package frame and package changing can be incorporated on Sulzer Ruti projectile weaving machines and Tsuda-

koma Airjet weaving machines. These include automation equipment for detecting the broken picks with drawing it from the open shed, correcting the cloth fell position and restarting the machine. The entire cycle is completed in about 12 seconds.

(E) A Loom Developed by SITRA

The modern shuttleless looms not only produce faster, but also the cloth produced by these looms possess much better quality as compared to conventional looms. The main problem faced by the decentralized weaver is that imported shuttleless looms are very expensive. In order to overcome this disadvantage to a decentralized sector SITRA has developed a low cost rapier shuttleless loom with a likely price tag of around Rs. 3.5 lakhs. The major advantages of this loom as compared to ordinary loom are:

- The speed of the machine can be increased by 25%.
- When the four colour weft is used, the speed increase will be more than 40% compared to drop box loom.
- Weaving defects in fabric will be considerably reduced.
- Since rapier machine feed weft yarn from cone, the process of pirn winding is eliminated.
- 10 to 15% increase in efficiency is possible when compared to ordinary power looms.
- Higher work assignment is possible.
- Because of low cost, power loom units can afford to install this machine.

(F) Other Attachments

To achieve minimum defects in fabrics, with increase in loom efficiency and to meet the requirements of export quality fabric, the following additional motions may be installed in ordinary power looms.

- Electronic Weft Feelers
- Electro Mechanical Weft Fork
- Electronic Warp Stop Motion
- Sudden Brake Motion
- Positive Let off Motion

These devices will increase the productivity; reduce fabric defects due to double picks, weft cracks, starting marks, broken picks, uneven pick density, etc.

The advantage derived like minimum defects, increase in production, improved quality and increase in efficiency will enable the manufacturer to recover the amount invested in a very short period. Moreover the loom allotted to a weaver can also be increased depending on the variety woven.

So to improve quality, production, efficiency and to face competition when textiles will be available from other countries also, the manufacturers have to expeditiously modernize and tune up the operational efficiency of their existing loom.

➤ NEWS

CONTINENTAL FREE TRADE AREA TO BOOST E-COM IN AFRICA’.

Opportunities abound for Africa to engage in and benefit from e-commerce and the digital economy as the African Continental Free Trade Agreement (AfCFTA) comes into force, as discussed at the UNCTAD Africa E-commerce Week in Nairobi. UNCTAD secretary-general said that global e-commerce has grown phenomenally, but even so, it remained constrained.

The high-level dialogue on trade and the digital economy in Africa addressed challenges such as the persisting infrastructure gap and the digital divide, inadequate regulatory and institutional frameworks, a weak enabling environment, and limited skills of both producers and consumers of digital products.

More than 1,000 participants from 48 countries shared

their experiences and success stories for leveraging e-commerce for the development of African economies.

The session, organised by UNCTAD, United Nations Economic Commission for Africa (UNECA), and the African Union, was moderated by Julie Gichuru, founder and chief executive officer of Arimus Media, and broadcast on YouTube and Facebook.

“It’s very clear that e-commerce and the digital economy do not happen by accident but as a result of purposeful actions. Governments must create a policy framework, invest in the right skills, protect the integrity of payment systems, and construct roads and delivery networks,” UNCTAD secretary-general Mukhisa Kituyi.

INNOVATIONS IN WEAVING MACHINES

A SCIENTIFIC APPROACH

Abstract

The Noise Pollution is the main headache in loomshed and discharges of water with chemicals in sizing are the major areas in the Weaving Preparatory sector. In the looms, shuttle picking motions which are considered to be the heart of the loom and most noise producing motion has been replaced by various lighter Medias like projectile, rapier, water & air – jets. Also shuttle was considered to be the heaviest carrier of the weft consuming highest energy and maximum travel time, is now replaced by lighter and fastest medias, as mentioned in the body of this paper.

Further open oil holes are converted to Centralized Lubricating Systems, Oil baths, Self-lubricated Bearings, thus not only reducing the consumption and contamination of lubricants but also help in reducing the heat generated due to friction created by high speed spares. The crank beat up motion, being additional noise producing area is now converted to cam motions.

The machine drive area is introduced with more compact & effective trapezoid belts replacing the conventional flat, v-belts, resulting in reduction in speed losses through slippages. Servo motors are introduced to eliminate the mechanical linkages, thus saving lubricants & electrical power & further executing the action very fast. These all developments in machine design has basically helped to improve product quality, enhance productivity at low cost and energy; & reduced noise at the lowest level. While the developments in the metallurgical aspects, Ergonomics, provision of all drive assemblies at one side of the machines, introduction of push buttons, microprocessors etc. has made the machines user friendly to the operators.

Introduction

Innovation is the development of new values through solutions that meet new requirements, inarticulate needs, or old customer and market needs in value adding new ways. This is accomplished through more effective products, processes, services, technologies, or ideas that are readily available to markets, governments, and society. Innovation differs from invention in that innovation refers to the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself.

Edmund Cartwright built and patented a power shuttle loom in 1785, and it was this that was adopted by the nascent cotton industry in England, and thereafter vari-

ous innovations had taken place resulting in Shuttleless looms. These innovations were the need of the hour mainly concentrated on improving the product quality, enhancing the productivity at lower cost & taking care of User-friendly & Environment friendly aspects. The author has made an attempt to present major innovations which had taken place in the Weaving Preparatory & Weaving looms with an angle of Technical & Technological aspects.

I.) Innovations improving the Performance of the machine.

The details of the speed & efficiency of the weaving preparatory machines & looms are given in the Table – 1 below:

Table-1

| TYPES OF LOOM (190 CM width) | LOOM SPEED (RPM) | EXPECTED EFFICIENCY (%) | TYPES OF preparatory MACHINES | COUNT | SPEED (MTS/MIN) | BREAKS/100 MTS AND 400 ENDS (upto 50s Ne) | PRODUCT ON/ MACHINE (MTRS) |
|------------------------------|------------------|-------------------------|-------------------------------|-------|-----------------|---|----------------------------|
| NON-AUTO | 144 | 90 | CONVENTIONAL CONE WINDING | 16' | 600 | 70 | 107 |
| AUTO | 144 | 90 | HIGH SPEED CONE WINDING | 16' | 900 | 40.98 | 353 |
| AUTO HIGH SPEED | 210 | 90 | SUPER SPEED CONE WINDING | 16' | 1000 | 90 | 365 |
| PROJECTILE | 400 | 90 | CONVENTIONAL WARPING MACHINE | - | 100 | 3 | 18,000 |
| RAPIER | 450 | 90 | HIGH SPEED WARPING MACHINE | - | 450 | 2 | 24,100 |
| AIR-JET | 1000 | 90 | SUPER SPEED WARPING MACHINE | - | 800 to 1000 | 1 | 45500 @ 900 MPM SPEED |

Comparison of Speeds for different types of Looms & Weaving Preparatory Machines

1. Developments enhancing the Productivity:

A. Changing the media of weft transfer in looms:

- Fast weft transfer was achieved by replacing heavy weight wooden shuttles (450 grams) by the lighter weight projectiles (40 grams), Rapiers and jets of water and air on weight loss principle. (fig-1-a-b-c)



Fig (1-a)



Fig (1-b)



Fig (1-c)

B. Changing the design and shapes of the spares:



Fig (2)

- Small shed height (with 10% reduction in heald shaft lift & 20% effect on Kinetic Energy) was achieved by replacing train of cam, roller and lever motions by one piece cam of steel moving in oil both, (on the basis of reduction of mechanical linkages. (fig- 2)

- Short Beat up was achieved through replacement of lengthy crank motion by conjugated cams with large dwell and with a follower moving in oil bath along with Rapier Drive cams on the basis of reduction of the circumference of Rotary motion (fig 3-a-b).

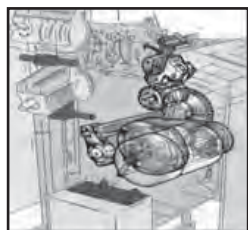


Fig (3-a)



Fig (3-b)

- The control of the let off and take up motion movement through Ratchet and Pawl is replaced by a Continuous Drive through separate Servo motors, based on the principle of transmission of motion (fig- 4-a-b)

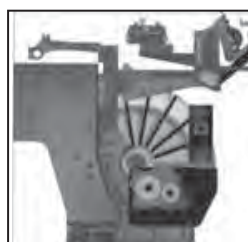


Fig (4-a)



Fig (4-b)

- Picking motion through Rotary movement of Picking Cam and Roller is converted to oscillatory motion through Torsion rod in Projectile and through Globodail Eccentric

gears in Rapier looms. (fig-5-a-b)

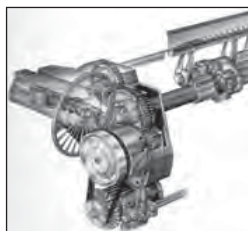


Fig (5-a)



Fig (5-b)

- Multiweft control with single Rapier head and many feeders has replaced the limited weft content bobbins in the shuttle.



- New Package holders on Warping machine resulted in effective gripping of packages throughout their sizes.(fig- 6)

Fig (6)

II.) Innovations improving the quality of the Product manufactured through reduction in Maintenance and its Downtime.

1. Developments changed the media of control:

A. Mechanical to Electrical / Electronic:-

- Mechanical weft cutters are replaced by Electric cutters on Air jet looms controlling the precise timing set electronically by terminal key board.
- Mechanical starting handles are replaced by electrically & electronically controlled stop buttons for starting and stopping the machines and further makes the attention of the operators easy.
- Drum driven Direct Warper is replaced by Spindle driven Warper thus avoiding the yarn rupture due to friction. (fig-8-a-b)



Fig (8-a)



Fig(8-b)

- Introduction of knotter and splicer on Cone Winding machines has improved the quality of knots and splice apart from elimination of manual intervention & reduced the downtime.
- Replacement of Mechanical Braking System by Electromagnetic Clutch and Brake has resulted in quick start and precise stop, thus eliminating fabric defects on the looms & reduced the maintenance.

o Mechanical warp stop motion, yarn tensioners, yarn clearers and yarn detectors are replaced by Electromagnetic, Electronic and Optic controls, making cent percent effective, with reduced wear and tear and increased life of bars.(fig-9-a-b)

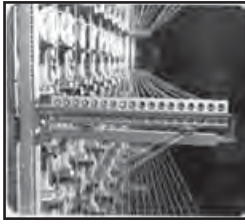


Fig (9-a)

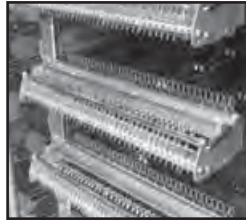


Fig (9-b)

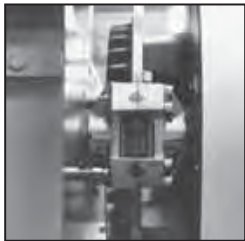
o Control of warp tension at Back Rest Roller by mechanical springs is now done through "Load Cells" installed over Feeler Roller Bracket.



B. Mechanical to Hydraulic and Pneumatic:-

o Mechanical damping of Cradle of Cone Winding is controlled by oil filled hydraulic dampers, thus reducing the wear and tear of costly Bakelite drums.(fig-10)

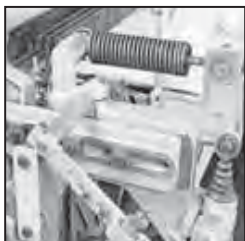
Fig (10)



o Mechanical brakes of warp beams are replaced by Ventilated disc brakes on each side of drum; controlled by hydraulic unit; thus resulting in instantaneous braking, with constant yarn tension. (fig-11)

Fig (11)

o Control of jumping of let-off back rest through springs on High speed Shuttle Loom is done by Hydraulic Dampers, thus reducing wear and tear.



(fig-12)

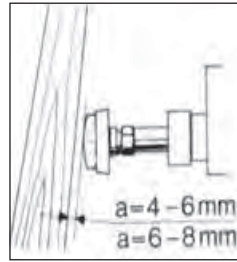
Fig (12)

C. Replacing the metallurgy of the spares:-

- Wooden pegs in Dobby are replaced by Plastic and Nylon Pegs thus reducing the downtime and defects in the Fabric due to frequent breaking of wooden pegs.
- Control of Jacquard harness with lingo weights is now controlled through Elastic or spring under motion, thus avoiding the frequent vibrations & reduced the breaking of harness.
- Leather belts for lifting heald frames of looms are re-

placed by Traction Cables, thus avoid the disturbing of settings due to deformation of leather.

- Metal heald supports are replaced by plastic heald guides for maintaining perfect verticality of heald frames, friction between metal support & aluminum heald frame is reduced.



- Return force of the Picking stick on High speed Shuttle loom is now absorbed by the Zama Buffers, replacing the leather buffers. (fig-13)

Fig (13)

D. Developments in Designs & Motions:-

- Introduction of solid cast iron frame connected by parallel girders has resulted in perfect balancing of sides of all parts; has reduced vibration, eliminated the requirement of the loom bolting to the floor, and has accommodated Let-off beams upto 1250 mm dia. and Take-up roll upto 1000 mm dia.
- The control of the heald frame movement is shifted from the centre towards its edges, avoiding bending of heald frames and breaking of heald wires due to jerky motions.
- Specially designed kinematic transmission system in Rapier looms helps in attending the change in reduced width by easily adjusting. Rapier stroke outside the shed, thus reduces the downtime.
- Small temples replaced by long temples installed above the cloth over the loom makes it easy to observe the rotating of temple rings over the running loom and thus eliminates the loosening of cloth as done on conventional loom while attending the temple and ultimately saving the time.
- Replacing the manual cloth roll doffing on looms by auto cloth roll doffing system by one operator without any tool or machine stoppage during the operation.
- Addition or reduction of shims in the Electric motor of the looms for change of loom speed has eliminated the process of changing the loom pulley / motor pulley followed on Conventional Loom.
- The replacement of weft package in the form of Pirn by that of Cone over the loom, had reduced the requirement of 379 Pirns to 5.5 Cones for weaving about 100 meter of fabric.

III.) Innovations conserved Energy :

The detail of Power Consumption per loom shift of 8 hrs is given in the Table 2 below:-

Table 2

POWER CONSUMPTION PER LOOM SHIFT OF 8 HOURS

| TYPES OF LOOM (190 cms) | POWER CONSUMPTION PER LOOM SHIFT OF 8 HOURS (IN UNITS) |
|-------------------------|---|
| NON-AUTO | 5.9 |
| AUTO | 8.8 |
| AUTO HIGH SPEED | 11.8 |
| PROJECTILE | 14.7 |
| RAPIER | 17.6 |
| AIR-JET | 20.6 + 30.0 FOR AIR COMPRESSOR (10 to 20% power saving is possible due to recent development in various aspects of loom.) |

From the above Table-2, it is seen that even though the power consumed by Air Jet loom is highest, due to Air Compressor, the production cost / meter of the fabric produced on Air-jet loom works out to be very less than other types of looms due to factors, like loom speed, maintenance and labour costs, etc.

A.) Developments in Drive Systems / motions:-

- o Solid cast iron loom frames of Shuttleless looms allows the mounting of Electric motor over the loom, thus the pull exerted by the motor on the loom shaft is less as driving is against the centre of gravity. While that created by the floor motor of the Conventional loom, is towards the centre of Gravity & so leads to frequent breakages of the shaft. This has also enabled the Electric motor to come close to the looms pulley and has reduced the loss of Energy in transmission of drive.
- o Driving belts are changed from flat to V-Belt and further to Trapezoid belts in shuttleless looms; which have brought down slippage to zero further reducing the loss of power.
- o Rotary motions are converted into oscillatory motions in Rapier looms thus reducing vibrations and Energy.
- o Friction drive to warper drum is converted to direct drive in direct warper.

B.) Developments in Designs / Shapes of spares:-

- o Heavy metal sley with Reed cap is replaced by light metal alloy profile sley with elimination of Reed cap, giving maximum integrity and perfectly balance.
- o Profile reeds on Air jet looms have eliminated the requirement of Rapier guides on relay nozzles.
- o Dual air tanks at different air pressures and Electronic valves very close to nozzles have reduced the air consumption.
- o Heavy weight and large sized wooden shuttles are replaced by grippers of Rapier looms made up of light alloy material and aero dynamically designed.

IV.) Innovations brought down Cost of Maintenance & Labour:-

The detail of the stores, spares & lubricant cost along with the labour cost is given in Table – 3 below:-

| TYPES OF LOOM (190 cms) | AVG. SALARY PER WEAVER PER MONTH (Rs.) | LABOUR COST FOR INSERTING 10,000 PICKS (Rs.) | MAINTENANCE COST BPER LOOM SHIFT (RS) | SPINDLES/ WINDER |
|--|--|--|---------------------------------------|------------------|
| NON-AUTO | 3500 | 5.41 | 20 | - |
| AUTO | 5000 | 2.58 | 25 | - |
| AUTO HIGH SPEED | 5000 | 1.77 | 40-50 | - |
| PROJECTILE | 8000 | 2.23 | 150 | - |
| RAPIER | 8000 | 1.8 | 100 | - |
| AIR-JET | 8000 | 1.19 | 120 | - |
| ORDINARY WINDING (16 ^s) | | | RS 1/50PC/ SPINDLE/ SHIFT OF 8HRS | 24 |
| HIGH SPEED WINDING (16 ^s) | RS 150/DAY @ 8HRS SHIFT & RS 175/DAY @ 12HRS SHIFT | - | RS 50/SPINDLE/SHIFT OF 8HRS | 54 |
| SUPER SPEED WINDING (16 ^s) | RS 200/DAY @ 8HRS SHIFT & RS 250/DAY @ 12HRS SHIFT | - | RS 150/SPINDLE/SHIFT OF 8HRS | 30 |

From the figures it can be seen that the maintenance cost of Projectile loom is highest when compared with Air-jet loom; the main reason being replacement of mechanical weft insertion motion by air-jets. Due to the highest productivity of these looms, the labour cost for inserting 10,000 picks is also very low when compared with other looms, even though after recording higher average salary per weaver per month.

The Development/ automation in the designs, the processes and the systems always directly or indirectly reduce the intervention of labour and downtime on the breakdowns, thus ultimately reducing the labour cost. The same are discussed in details in the previous topics. While some innovations are also done for taking care of User & Environment Friendly aspects. This topic will be discussed in details in the forthcoming chapter.

Also the maintenance and labour cost is directly related to the consumption of lubricants as well as their distribution and application. Cleaning and Lubrication activities play very important role in maintaining the condition of spares and machines, controlling their breakdowns, the time lost for the same and ultimately their life and maintenance cost. Keeping in mind these factors, various innovations have taken place in the type and quality of cleaning and lubrication appliances as well as the systems and procedures of their application.

1. Developments in Designs / Systems: -

- Major motions of the shuttleless looms run in the oil baths enclosed in the loom frame thus reducing cleaning and lubrication activity and also avoids the contamination of oil & finally enhancing their life.(fig-14)



Fig (14)

- Open oil holes are attended by centralized lubrication system, where oil

is filtered and pumped with required pressure for long period and reduce frequency of oil change, operative cost and machine down time with no contamination of oil and textiles.

- Ball bearings are replaced by sealed bearings thus saving lubricants, reducing frequency of attendance and contamination of Textiles.

- Specially developed weltac oil applied on picking stick spring of high speed shuttle loom (which bangs at highest force and @ 125 times per min) takes care in maintaining the condition of this stick & also remaining in contact with the stick spring to avoid its splashing over the warp, fabric etc.

The details of the consumption of lubricants by various machines is given in the Table – 3, from which it can be seen that the quantity of the lubricants saved in the latest state of the art hi -tech textile machines is remarkable, of course the lubricants may be of high cost with special features.

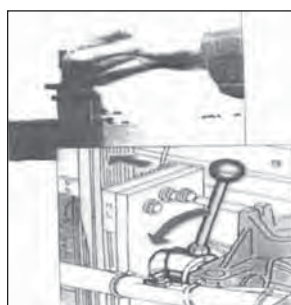
Table – 3

(The lubricant cost to be increased by 15 to 20% per for the following machines)

V.) Innovations taking care of User Friendly and Environment friendly aspects.

- o Provision of all motions on one side of the loom and that too outside the loom makes simplicity of the operator
- o Provision of snap lock and screws on the top of shedding harness of Air- jet looms has made the removal / dismantling of the harness very simple , quick and easy while

| | No.of spindle/ M/c. (lacs) | Lubricant Consumption | |
|-----------------------------|-------------------------------|---------------------------------|-----------------------------|
| | | Oil/Year (ltrs) | Grease/Year (kg.) |
| Sizing | | | |
| Conventional | 0.084 | 1,51,200 (@ 18 lts./M/c.) | 33,600 (@ 4 kg/m/c.) |
| 2) Multi Cylinder | 0.056 | 1,40,000 (@ 25 lts./M/c.) | 35,000 (@ 6.25 Kg/m/c.) |
| 3) Hi-tech & High Speed | < 0.001 | < 2,200 (@ 22 lts./M/c.) | < 1,200 (@ 12 kg/m/c.) |
| Looms | | | |
| Conventional Non-auto | 17.00 | 2,55,00,000 (@ 15 lts./Loom) | 17,00,000 (@ 1 kg/loom) |
| 2) Auto High Speed | 2.30 | 57,50,000 (@ 25 lts./Loom) | 69,00,000 (@ 30 Kg/loom) |
| Shuttleless | 0.15 | 13,50,000 (@ 90 lts./Loom) | |
| a) Projectile | | | |
| b) Rapier | 0.07 | 3,01,000 (@ 43 lts./Loom) | 35,000 (@ 5 kg/loom) |
| c) Air-Jet | 0.03 | 66,000 (@ 22 lts./Loom) | 30,000 (@ 10 kg/loom) |
| Pirn Winding | | | |
| 1) Orthodox Conventional | 15.30 | 6,12,000 (@ 0.40 lts./spdl.) | Nil |
| 2) Developed High Speed | 0.50 | 90,000 (@ 1.80 lts./ spdl) | 15,000 (@ 0.30 Kg/spdl) |
| Cone Winding | | | |
| 1) Conventional | 0.12 | 3,000 (@ 0.25 lts./spdl.) | 2400 (@ 0.2 Kg/spdl) |
| 2) Modern High Speed | 0.04 | 4,800 (@ 1.2 lts./ spdl) | 2,000 (@ 0.5 Kg/spdl) |
| Warping | | | |
| 1) Cimmco Type Conventional | 0.19 | 4,75,000 (@ 25 lts./m/c.) | 38000 (@ 2 Kg/m/c.) |
| 2) High Speed | 0.075 | 2,02,500 (@ 27 lts./m/c.) | 37500 (@ 5 Kg/m/c.) |
| 3) Super Speed | 0.005 | 30,000 (@ 60 lts./m/c.) | 1250 (@ 2½ Kg/m/c.) |



changing the heald frames by just locking and unlocking the driving rods and adjusting the harness height just by turning the screws. (fig-15)

Fig (15)

- o Manual doffing of cones and bobbins is replaced by Auto doffing systems on

Winding machines; as well as manual loading & loading of Cloth Rolls & Warp Beams are now attending through auto-systems (fig -16)

Fig (16)



o Introduction of open type heald wires help the replacement of broken ones very easily in less time where hardships are recorded while attending the conventional closed type ones.

o Interchangeable pick gears enable the changing of picks required by turning the dial, thus avoiding the hardships required in changing the gear wheels and ultimately reducing the time spent for them.



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➤ NEWS

TEXFAIR 2019

The Southern India Mills' Association (SIMA) representing the organised textile industry in South India is organising SIMA Texfair 2019, 12th edition in its series during August 9-12, 2019 at CODISSIA Trade Fair Complex, Coimbatore. SIMA has so far successfully conducted eleven exhibitions of textile machinery, spares & accessories since 2001. The response for participation in the fair is increasing every fair. Hence, the Association has decided to conduct the event during August 2019 to enable the suppliers and the users to plan their investments and renew their business.

The objectives of the fair is to provide a platform for the stake holder to zero in their investments and expenses prudently, showcase their inventions and cost effective items and other products, enable the technocrats and shop floor technicians to update their knowledge on the latest technology and create an awareness on cost cutting, to encourage micro, small and medium entrepreneurs also to showcase their products and get exposure to the market.

It is a highly economical Fair with excellent services, organised by the user industry, scheduled to be held at Coimbatore, which is the hub for textile business in India and the fair would be an ideal platform to showcase and market the products.

The Association has formally commenced the

stall booking with effect from 21st November 2018 and the initial response is overwhelming. SIMA appeal to all the exhibitors to extend their valuable support and cooperation to make the event a grand success and internationally memorable one.

Profile of the Participants for TEXFAIR 2019

- All manufacturers and suppliers of textile machinery and spares of ginning, spinning, weaving, processing, powerlooms, handlooms, knitting and garmenting
- Textile testing equipments
- Items relating to effluent treatment
- Auxiliary equipments
- Accessories
- Pneumatic equipment and accessories
- Humidification plant and accessories
- Lubricants
- Energy saving equipments
- Electrical and Electronic items
- Sizing materials, dyes and chemicals
- Packaging materials
- Textile software companies, etc

ICC TO LAUNCH 'PROLYF WIRE SERIES', TERMS IT A GAME CHANGER FOR SPINNING MILLS



Prasad Mahale, VP (Sales & Marketing), Indian Card Clothing

The Indian Card clothing company which manufactures card clothing and card room accessories for all types of carding machines is all set to launch '**ProLyf Wire Series**'. The 70-year-old organization having offices across the Globe calls it a remarkable solution ever in the history of card clothing and believes it to be a game changer.

Speaking to Textile Value Chain, *Prasad Mahale, Vice-President, Sales and Marketing, The Indian Card Clothing Company (ICC)* says, this solution has come after listening to the concerns of various spinning mills across India and abroad. "The key challenge faced by many of the spinning mill across the world is lack of quality consistency throughout the useful life of card clothing. Typically, the life of card clothing for an Indian wire life is x, and the maximum useful life of wires from German or Swiss is 1.2x would be 1.5x respectively. However with the 'ProLyf Wire series, ICC can assure you that the life will be up to 2x", he asserts.

The new solution is conceived to be a dream project and we are planning to launch the ProLyf series wires at ITMA event in Barcelona. "We have not developed these wires overnight.

For more than two years, we visited various spinning mills, we had captured the Voice Of Customer (VOC) and formed a cross functional team. We had constituted a team, which comprised professionals from both industries and academics. We had industry leaders along with renowned professors and experts from IITs and profound professionals from allied industries and amalgamation of thought process from diverse backgrounds. "On a pilot test basis of ProLyf series, ICC had shortlisted 20 to 25 mills manufacturing very coarse to fine count yarn, across length & breadth of the India market, and so far the industry feedback on ProLyf Series has been fantastic".

"Strategic trials on ProLyf Series have also been conducted at various key overseas quality conscious market like Japan, Indonesia, Turkey, Bangladesh and the feedback is encouraging. The performance of these strategic trials have been rigorously monitored." Mr. Mahale added. He also said that based on the feedback from spinning mills owner's, a scientific process was followed to translate the ground level feedback to customer requirements , which led to iterations of product refinement and the final version of ProLyf Series was



conceived.

Advantages

Speaking on the advantages of the product Mahale said that the "Down-time will get optimized. With the help of ProLyf Series, increase in the production rate can be enhanced by 10%, superior yarn quality and superior IPI throughout product lifecycle can be witnessed. Not to miss, higher neps remover efficiency, prolonged life, consistence in quality throughout the life, waste optimization and last but not the least efficient removal of trash impurities and short fibres." It is also believed that the new solution will also observe the static charge and will not pass it on to the fibre. "Surface is clean and smooth, thereby lesser fiction which translates to minimal fibre damage leading to reduction in waste. Thus, the total cost-per-kg can be reduced up to 10% and you can increase production by 10%. And all together we will also reduce the consumption of power".

Industry challenges

Speaking on the overall industry challenges, he said that card clothing is a precision light engineering industry; the challenge is to get the raw material also. **"It requires a grade of steel which is not prevalent in India. Even globally, there are limited steel manufacturers who can match up to the quality standards. Thus we are dependent on 100% import of refined raw material"**. Mahale also raises concerns of the limited numbers in the organized card clothing-manufacturing segment. "Globally there are not more than seven established players in the industry. This makes the card clothing industry as a

whole, challenging industry in terms of getting right resources and man power." Mr. Mahale avers that unlike the other technology industries there is no ready-made talent pool available". According to him, a card-clothing manufacturer needs to invest at least 5 to 7 years to train engineers to manufacture quality product & hone the techno commercial skills of marketing professionals to hit the market locally and globally.

Mr. Mahale who is in touch with renowned steel manufacturers and government bodies to ensure that Indian card clothing industry gets the support it needs. ***"It is not simple for anyone to enter the business and he/she could be productive, as Market possess high entry and exit barriers."*** Mr. Mahale concluded.



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PRODUCTIVE AND FRUITFUL VISITS TO CHINA

Textile Value Chain Media and few manufacturer of Spinning company owners from Gujarat, together visited ITMA ASIA + CITME 2018, YARN EXPO 2018 and 3 Industry Visits at China in October 2018. Group consists of 12 young, enthusiastic leaders, entrepreneurs. Group members names are as follows: Rajni Mori / Bharat Mori/ Manoj Mori from **Mori Spinning Pvt. Ltd.**; Yuvraj Wala/ Shailesh Bhandari from **Natural Tex Yarn Pvt. Ltd.**; Nilesh Patel / Radheshyam Pokar from **Rudra Cot-tex Pvt. Ltd.**; Nidhey Pan from **Pan Spintex / Jaydeep Cotton**; Bharat Patel from **Jaymala Spintex Pvt. Ltd.**; Subhash Shah from **SPM Associate**; Bhavesh Thakar from **Spinners Association – Gujarat**; Jigna Shah from

Textile Value Chain Media. Group started its journey from Mumbai on 14th October, 2018 and Ended on 25th October, 2018. First two days Group Visited YARN EXPO 2018 and met few yarn dealers, agents, exporters and cracked few deals in the exhibition. Yarn Expo had their buyers but due to language barrier, price mismatch, lack of requisite communication channel, few could not be able to communicate properly to the exhibitors and visitors.

Next two days, visited ITMA ASIA + CITME 2018 to explore latest technology in Spinning, weaving, knitting, garmenting etc. **Saurer Group (Spinning Segment)** Welcomed and met very warmly at their stall with all group members and had healthy

/ fruitful discussion with their Chairman, CEO, COO, VP, India Operation Director, Product Head from India. **Qingdao Haijia Machinery Co. Ltd.** also welcomed enthusiastically and met all members warmly and introduced their latest Air jet and Water jet technology of weaving. **Geron Group (Spinning Segment)** introduced their technology, other businesses of the group and specified few customers who are already working with Gujarat.

After Exhibition, 3 days Industry visits was arranged by 3 companies ie. Qingdao Haijia Machinery Co. Ltd.; Saurer (Changzhou) Textile Machinery Co. Ltd.; Geron Group. Details as follows:

SME sector of Chinese Weaving Sector runs Airjet and Water jet looms



Qingdao Haijia Machinery Co. Ltd. Founded in 1995, is the largest research and development, manufacture, sale and service professional jet loom manufacturer of China, which produced water jet loom taking the first market share for 8 years. Now the company has two standard production bases, the total area of

80,000 square meters, construction area of 40,000 square meters, has 8 advanced CNC machining centers, Nissan can produce 10 CNC lathes, more than 60 general machinery processing equipments such as vehicles, milling, drilling, a 200 meters automatically paint line, and more than 40 other auxiliary equipment. Company has more than 300 staff, 35 in management position. Since long time, company has always been adhering to **"let quality create value for customers"** as a core business purpose.

Through continuous exploration, efforts and providing customers with valuable advice, it pushed out HW3851, HW4008, HW4010 series water jet loom, having advantage of stable performance, high efficiency, long service life, and widely sold in the world are well favored by customers. In recent years, company won the honorary titles, awards, recognitions and international standard



► INDUSTRIAL VISIT



quality management system certifications too.

Qingdao Haijia Machinery had arranged 3 weaving factories with medium size firms i.e. 1) Hong Ping Company, 2) Ling Shz Company, 3) Tran Taz Textile who are using Air jet technology for weaving with Haijia Machine which is fine demonstration of old technology to new technology of airjet. Company has arranged authentic Chinese Vegetarian and Non Vegetarian Lunch, everyone appreciated their hospitality.

Haijia Distributor Meet



We also met Distributor of Qingdao Haijia Machinery from India i.e. **Go Tex Machineries**, incorporated by founder members Sandip Kedia and Ghanshyam Kukadiya, are the sole-selling agents of **HAIJIA Waterjets & Airjets, Tayu Circular Knitting machines, KINGTEX Rapiers**.

Go Tex Machineries have group company, called **GOLDEN JD** who also deals in multi head embroidery machines. It is also engaged in manufac-

turing top class embroidery thread with polyester, viscose & metallic yarn and created a brand image by providing consistent quality products.

Recently company have shifted to a new centrally located 6000 sq. ft. of office with eye-catching interiors, audio-visual conference room, ample space for well-managed store room with a vision to serve all types of clientele as well and multiply their busi-

ness exponentially in near future.

They have sold approximately 5000 sets waterjet looms & Airjet looms in India. Company have separate sales & service department, 20 persons team for the service for Machine Installation, Quality and Fabrics Settings with efficient team and 24 hours service. Vision of Directors came true after lot of hard work.

Saurer Won The Heart Of Spinners



Saurer has introduced their new cards, **J328A to the global market, as well as JSC 326 in India**, with 1.28m width, which promise excellent sliver quality, with latest features such as, 12 nos. each, pre and post stationary flats, metal detection, quick-stopping and a self-cleaning function of sliver detection devices, helping to remove very tiny trash particles from rather trashy raw materials. This will result in great improvements in the spinning mills, thus creating value for money. This JSC 328A (with three licker-in, which is convertible to a single licker-in too) was displayed during the recently concluded ITMA ASIA 2018 Exhibition in Shanghai and was the talk of the show with customers and competitors alike!

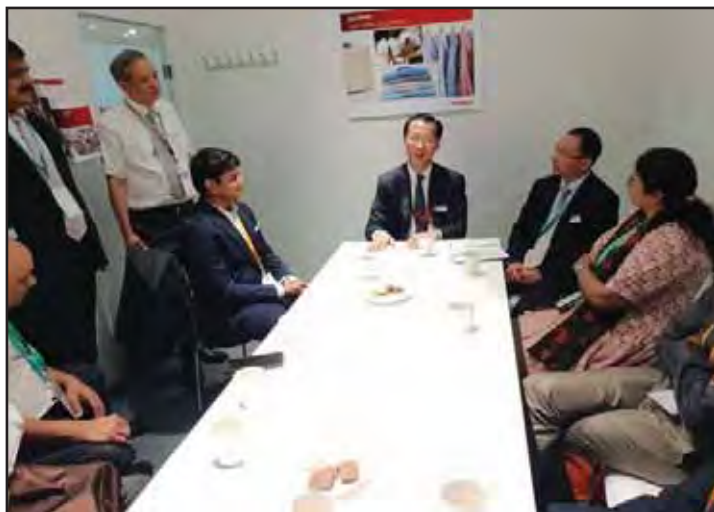
A group of spinners from Gujarat who already have pre-spinning ma-



chineries installed in their respective factories, showed keen interest in the Saurer card and were taken to see the

turing process of carding machines at Saurer, Jintan, China. Saurer card's market share in China is around 24% with a production capacity of around 100 nos. carding machines per month.

The spinning mill owners had a fruitful conversation with **Xueping Pan**, Chairman of Saurer Group; **Jesse Guan**, COO; **Clement Woon**, CEO; **Vikas Sharan**, Director – India Operations and **Sathish Kumar**, Head - Product Management. Saurer management discussed about Indian market environment, associations,



manufacturing plant at Jintan and thereafter to a mill where the cards were shown in running condition. **Sathish Kumar**, Head -Product Management, Saurer India, took the lead to show these customers on the manufac-

financial institutions and government support for the Indian textile industry. Spinners had their concern and suggestions about the Saurer's spare parts availability & local billing in India, as well as longer delivery periods. **Vikas Sharan** gave an assurance that logistic and timely delivery will not be an issue in the future as Saurer shall be stocking all necessary parts locally, having their own service team and start assembling these machines in India in another year or two. Saurer is planning to enter pre-spinning segment in India on a very large scale and will compete with the likes of Truetzschler, LMW, Rieter and few local players.



GERON, Card Clothing and Yarn business insightful visit and interaction



Jerry Xu- Sales Manager of Ger-on Card Clothing(Jiangsu) Co. Ltd. ; Jenny Bai- CBO of China Luck International Trade Co. Ltd. Discussion points are on **Challenges faced / Opportunity for purchase of yarn from India** , Vietnam advantage over Indian yarn, Geron products quality , manufacturing process, USP of Geron etc. Indian Spinners have welcomed Geron Yarn importing department to visit their factories in India and see the facilities, which can build their trust and confidence for long term business relationship. All spinning unit are looking forward to welcome Jerry Xu soon in their factories.

Geron had arranged *"Kaicheng Textile"* weaving factory visit in



Geron Group businesses which focuses on Textiles is card clothing, stainless steel, special steel wire, Yarn import division, many others. Group visited their Nantong factory plant, had a healthy discussion with **Jason Yao**- Assistant President of Geron Textile Industry Management Ltd. ;

Nantong, which has in-house processing and garmenting facilities with a good professional set up.

➤ INDUSTRIAL VISIT

Group had amazing shopping experience and attracted magnificent Shanghai City. We returned back to India with unforgettable experience and blend of memories. We will look forward for another amazing experience and fruitful industry visit soon.



➤ INTERVIEW

INDIA NEEDS RECONDITIONING CENTERS IN TIRUPPUR, AMRISTAR



Ahill S Rathinasamy
President

Knit Cloth Manufacturers Association(KNITcMA),



India's 46% of the garment export happens from Tiruppur. Despite tough competition from nations like Bangladesh, Vietnam, Sri Lanka, the Indian product thrives only on the key factor- quality in all forms. **Ahill S Rathinasamy, President of the Knit Cloth Manufacturers Association(KNITcMA)**, one of the oldest association in the country speaks to Textile Value Chain on the trends, challenges and opportunities in the industry. Edited excerpts.

What are the ways KNITcMA represents the industry?

We are one of the vibrant associations at Tiruppur for close to 50 years. The association is representing the hosiery industry through close to 450 business owners in and around the region. We had actively worked for its developments and representing to remove the bottleneck problems as and when arise in the industry. Our repre-

sentations had been successful in regional/local, state-level and central level. We also have good connect with the other textile forums across India.

How do you see the GST and its impact to the garments industry?

Personally, I feel it is too early to comment on that. We might need minimum two more years to come to any conclusion. It might also end up like a labour pain for women which might be temporary pain for permanent happiness. However, we are in the opinion that when we mean 'One-Country One-Tax' it should be implemented at ground level. Alcohol, high-end cars and fuel need not have special treatment.

Your association has been vocal on the need for reconditioning center? What is the importance for it?

We [unit owners] had invested heavily in our machinery. There are different life-cycles for different machines. In course of time, the performance of the machines reduces. If there is an option for reconditioning our machines, the performance of the machines can be enhanced. If performance increase, the direct impact will be increase in the production and cost-saving option for the business owners. However, some of the indirect benefits can range from repayment of loans, competing with other countries, additional employment and business opportunities and more. In fact, I am on the strong opinion that having two reconditioning centers in Tiruppur for South India and Amristar for rest of India will impact the Indian economy provided that Textiles is the second largest employment generator.

Have you addressed this issue?

The concern has been raised with all the ministries. While the machines are becoming smarter, the rates are

also equally becoming high. Considering repetitive investments towards machines, the manufacturers are not ready to set-up their own reconditioning centers. We feel that the Central Government should address this issue. We tried addressing this issue with various ministers. However, no one is ready to give a patient hearing for us in this particular issue. The understanding should come at both bureaucratic and ministerial levels.

What are the other concerns you have?

Can take this at two levels. Garment business has two aspects- export and domestic.

As far as the export business is concerned, India have to seriously look at our trade policies in terms of export.

ments.

A trend is coming where the import of garments from India is decreasing and from other countries is increasing. This has to change. There are countries who import only a certain percentage from India, only as a back-up. There might be political uncertainty and other factors that might stop their business. There are some subsidies which has been launched recently. However, they are not reaching ground level. If you ask me how Indian products are thriving even today is only because of the quality which others cannot provide.

On the domestic part, chances are high that cheap products from China, Vietnam and other places might enter India. Should that happen, it will kill home-grown business man. We



Free trade agreement has not been done with key markets in Europe. Besides this, there are plenty of soaps our counter-parting competition in Vietnam, Sri Lanka, Bangladesh and China are getting from their govern-

will not be able to compete in terms of price with China. Within India, with the population is growing and knit-wear is widely used, there is a wide opportunity inside India too.

34 TRILLION DOLLAR - CHINESE DEBT



China's \$34 trillion pile of public and private debt is an explosive threat to the global economy. Or maybe it's just a manageable by product of the boom that created the world's second-biggest economy. Either way, the buildup has been breathtaking, with borrowing having quadrupled in

seven years by one estimate.

(China doesn't give a complete tally). President Xi Jinping has taken note, pushing authorities to announce a slew of measures that target risks lurking in the financial system. The challenge is how to wean the country off its debt drip without intensifying an economic slowdown. Since China is a key driver of global growth, it's a matter of concern for everybody.

The Situation

Even with the government focus on deleveraging, Chinese borrowing rose 14 percent in 2017, ballooning to 266 percent of gross domestic product, from 162 percent in 2008. That growth outpaced the U.K. and U.S. in the decade before the financial crisis.

However, the de-risking campaign has begun to bite: Once-rare corporate debt defaults ran at a record pace in 2018; China's huge conglomerates were reined in following debt-fueled acquisition sprees the government is targeting spending cuts in its budget; and sweeping rules were introduced to tackle shadow banking, a \$10 trillion network of unregulated lending and risky investment products. There's also been a focus on curbing loans to bloated state-owned enterprises, a task that Xi termed the priority of priorities. (More than half of China's debt is held by state and private corporations.) The upshot is that the cycle of expanding credit that began in 2004 has ended, according to S&P Global Ratings. Even so, the government remains willing to change tack when the economy is threatened. A brewing trade war with the U.S. coinciding with those moves to curb leverage and shadow banking, began to make it harder for companies to get funding in 2018. That prompted the authorities to introduce monetary-easing measures, such as freeing up banks to make more loans to smaller businesses.

The Background

During the 2008 financial crisis, Beijing ordered local governments to build roads, bridges and other public works to keep the economy pumping and workers in jobs. It set off a borrowing binge that's invited comparisons with Ja-

pan's debt bubble of the 1980s.

That ended in a property and stock market crash that left banks saddled with bad debt for decades. China has seen busts before. In the late 1990s, after years of state-directed lending, at least a quarter of the nation's credit soured, triggering a \$650 billion bailout of state banks.



The central government retains tight controls over banks, foreign exchange and capital flows, so it can manipulate the financial system to contain the debt burden and limit the risk of a blowup.

At the same time, officials say they are keen to introduce more free-market discipline, which could further increase their tolerance for bankruptcies. China's concerted shift toward an economy driven by domestic consumption, and less reliant on debt-intensive heavy industry and exports, is also contributing to the easing of the debt habit.

The Argument

People concerns about China's debt are overblown, that companies and local governments can simply grow their way out of the problem as an expanding economy supports borrowers and creates inflation, which erodes the burden of debt repayments.

China's high savings rate helps, as does a long run of current-account surpluses, which makes the country a net lender to other nations rather than a net borrower. People says the problem is not self-correcting. They expect policy makers to tackle nonperforming loans and stave off defaults. Options include cutting interest rates, expanding programs where investors swap debt for equity, clamping down harder on shadow banking, pushing for asset sales and encouraging more companies to raise money through stock sales. There's a risk that China's debt could at best be a drag on global growth for decades or at worst trigger a new financial crisis. Such warnings have been sounded for years, however, all the while as China has continued an unprecedented economic expansion driven by mountains of credit.



MR. ARVIND SINHA - CEO

M/s. Business Advisors Group, Mumbai

CLOTHING FROM MOHAIR FIBRE

Although wool is by far the most important animal fibre, there are a number of hair fibres which are of considerable commercial value. These come mostly from animals of the goat and camel families.

Mohair comes from Angora goat, one of the oldest animals known to man. Mohair is only produced by Angora goats. Mohair is considered a luxury fibre because it is a silky material and should not be confused with Angora fibres which come from Angora rabbits.

And cashmere, which is a softer fibre obtained from another species of goat. Until early in the nineteenth century, Turkey was almost the sole producer of mohair. As the manufacture of textiles expanded during the period of the Industrial Revolution, efforts were made to raise the Angora goat in other parts of the world. The Angora goat, which originated in Turkey, has a coat of long, lustrous hair which provides the textile fibre known as mohair.



Much of the world's production of mohair is in Turkey, South Africa and the USA. Mohair is the hair of the Angora goat, native to the province of Angora, Turkey. This species of goat is now raised in South Africa and the United States, principally in Oregon, California, and Texas. The U.S. is now the chief producing country and also the biggest consumer of mohair. Some domestic mohair, particularly the mohair obtained from Texas, is of excellent quality.

Imported mohair is long staple, 9 to 12 inches (230-300 mm) long and allowed a full year's growth before shearing. Mohair is as warm as wool although it is much lighter in weight making it ideal for traveling. Mohair is also desirable due to its warmth, durability and beauty and has been used to make garments for kings, sultans and as part of the tabernacle in the bible.

Production

The domestic goat is shorn twice a year, yielding a shorter staple, from 8 to 10 inches (200-250 mm). They are usually clipped twice a year, providing about 1.8 – 2.3 kg (4-5 lb) of mohair per animal at each clip. Good quality mohair goats will produce 10-20 pounds of mohair per year in two shearing's yielding staple lengths of 4-6 inches. Imported mohair can be spun to fineness of Ne 60 in yarn count. The highest count possible for domestic fibre is Ne 40.

The domestic fibre has a great amount of coarse, stiff hair, known as kemp, which does not process readily or allow thorough penetration of dye. Quality mohair comes in two basic styles, a ringlet shaped lock with bundles of fibres together and flat wavy locks. Most animals will also have some kemp or medulated fibres. Kemp fibres have a hollow core, are coarser and shorter than the mohair lock and will stick out of the yarn and make a garment feel scratchy.

These fibres are the "guard hairs" that exist to help protect the animal from the weather. Angora goat breeders work hard to breed this out of their stock. This may be why most Angora goats don't like being in the rain. With little or no guard hairs they can get wet to the skin and need shelter from the rain especially if it is cold. Medulated fibres tend to be as long as the mohair and still have some hollow characteristics but are not considered to be as big of a problem as kemp. Therefore the quality of the fibre varies, depending on its source and the conditions under which the goat has lived.

Fleeces are graded into three types as below

1. **Tight lock**-It is characterized by its ringlets and is usually very fine.
2. **Flat lock**-It is wavy and of medium quality.
3. **Fluffy or open fleece**-It is the least valuable.

As in the case of wool, mohair contains the dead, dull fibres that are known as kemps.

The fibres vary in length, depending upon the age of the goat. Mohair is typically sold in three grades. These grades are also used as classes in fleece competition judging.

a) Kid – Finest of all grades. It can be in the 19-20 micron range. Usually the first and second shearings from the Angora goat are kid grade. At six months, an Angora kid will provide fibres 10-15 cm (4-6 in) long.

b) Yearly – Fine to medium. Usually the 3rd and 4th shear-

ings from the goat although some animals will remain fine past this point and is considered fine adult. At twelve months ,they will be 23-30 cm (9-12 in) The goat will be less than 2 years old.

c) Adult – While the Angora goat is not considered to be a full adult until 4 years old ,adult fleece is generally considered to be any fleece from a goat more than 2 yers old . The fibre can be fine ,medium or “strong ” depending on the quality and age of the animal.

The surface of a mohair fiber has some resemblance to that of wool.It is covered with epidermal scales which are anchored much more closely to the body of the fibre than are wool scales. There are only about half as many scales as there are on wool. Mohair has some 5-6 scales per 100 microns length of fibre, whereas fine wool will have about 11 .

Properties of mohair fibre

It is two – and – a –half times as strong as wool and outwears it . Unlike sheep's wool ,it is not curly .It is stronger than wool and produces hardwearing fabrics. Mohair resemble wool in being covered with epithelial scales and



in consisting of keratin .But the scales are more smoothly arranged and so mohair do not felt readily as does wool fibre .

Mohair has a circular cross-section. It is a smooth ,strong and resilient fibre . It does not attract or hold dirt particles. Mohair fibre is more uniform

in diameter than wool fibre. It does not shrink or felt as readily as wool.

Mohair is almost non-flammable .When placed under, or near ,a naked flame ,it tends to shrivel into a bead like ash. Once taken away from the flame ,burning stops instantaneously . Early Teddy Bears were made from mohair because of this property and because there is less allergic reaction to mohair than wool . Mohair can be twisted or bend without damaging the fibre .This is due to its structure which established it is the most durable of all animal fibres.

Mohair will stretch an average 30 % over its length and then will be able to spring back into shape. Due to this property ,mohair garments resist wrinkling ,stretching or sagging during wear. Mohair possesses great strength . Diameter to diameter ,it is stronger than steel. Mohair fabrics are wrinkle –resistant and do not mat readily because of the natural resiliency of the fibre.

Comparison of properties of mohair fibre

| Properties | Mohair | Silk | Wool | Cotton |
|---------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Tenacity gm/den | 2-2.5 | 1-1.5 | 1.5-2.0 | 2-5.5 |
| Elongation ,% | 30-40 | 25-45 | 25-45 | 6-10 |
| Density ,gm/cm3 | 1.32 | 1.34-1.38 | 1.33 | 1.50-1.54 |
| Moisture regain ,% | 13 .0 | 11.0 | 14-16 | 9 |
| Acid resistance | Excel-lent | excellent | excellent | Bad |
| Alkali resistance | Bad | good | bad | Excellent |
| Resistance to moth/fungus | Resist-ance to fungus but not to moth | Resist-ance to fungus but not to moth | Resist-ance to fungus but not to moth | Resist-ance to moth but not to fungus |
| U.V resistance | good | bad | bad | good |

Blending of mohair fibres

It is very difficult to spin 100 % yarn. So it is mixed with other fibres to make warm ,lightweight fabrics . The hair can be used for knitting yarn. Vardhman and Oswal Industries mix mohair with Acrylic fibre by 10-15 % and make knitting yarn which is used for making sweaters, cardigans etc. Thick, spongy ,open fabric ,in plain weave ,with a very hairy texture .Its composition is usually 70 % mohair and 30 % wool .

Dyeing and finishing of mohair fibre

Like wool ,mohair is contaminated with natural grease ,dirt and vegetable impurities .These may account for as much as one-third of the weight of the raw fibre .The clean ,scoured fibre is usually white and silky.

Acid dyes and Metal complex dyes are used for dyeing of mohair fibres. It absorbs dye evenly and permanently. It dyes well and has an attractive lustre .The lustre of mohair is one of the most important characterstics .Lustre is the natural sheen of the fibre caused by light being reflected more directly by the larger outer scales of the fibre . This lustre or sheen helps dyed mohair resist fading caused by time and the elements and makes it very hard wearing.

Different types of functional finishes are given to the mohair fabrics. One of them is it is made mothproof.

Uses of mohair fibre

Uses include fancy goods ,felt hats ,linings , plushes and in blended yarn 's for use in men's and women 's suiting fabrics . It is very expensive. Mohair can be combined with worsted yarn ,or woven alone ,to produce a very lightweight ,shiny ,attractive suiting fabric . It is used for men's lightweight suits, dinner jackets etc. The mohair /wool blended fabric is bulky and can be used for warm ,lightweight lined coats ,but is best for simple wrap-overjackets,sleeveless waistcoats ,etc , which are unlined ,and is excellent for shawls and stoles .It is soft and may

➤ SUSTAINABLE FIBRES

'seat'. Mohair is used to a considerable extent for making plush fabrics.

Mohair is characterized by its remarkable resistance to wear. Mohair fabrics are therefore used wherever durability is the first essential. Upholstery in public vehicles, car hoods, etc are often made from mohair where resistance to wear and tear can be combined with attractiveness.

In combination with wool, mohair is often used for summer suitings. It is made into all manner of dress materials, plushes and astrakhans.

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DR. N.N. MAHAPATRA

BUSINESS HEAD (DYES)

SHREE PUSHKAR CHEMICALS & FERTILISERS LTD.

➤ NEWS



COTTON USA TO PRESENT INNOVATIONS IN HOME GOODS AT HEIMTEXTIL

WASHINGTON, D.C. (December 12) – COTTON USA will show the global home textile industry WHAT'S NEW IN COTTON™, including new innovative technologies to drive sales growth, at its booth in Hall 12.0 / Stand C 71 at Heimtextil in Frankfurt, Germany, from 8-11 January 2019.

"It's been a little more than a year since we first introduced WHAT'S NEW IN COTTON™," CCI Executive Director Bruce Atherley said. "Since then, we've had the opportunity to showcase some of the most exciting new innovations in the industry. We're looking forward to returning to Heimtextil to demonstrate more of what's possible with the help of U.S. cotton."

COTTON USA invites attendees to visit the booth to learn about its collaboration with leading brands and retailers around the world, as well as how to license the COTTON USA™ Mark, which quantitative consumer research

proves is of high value to consumers and can drive both preference and higher prices.

Additionally, COTTON USA will highlight U.S. cotton's sustainability, quality, transparency and premium value, as well as the findings of current market and consumer studies and its ongoing Sourcing Programs that match U.S. cotton buyers and suppliers throughout the supply chain.

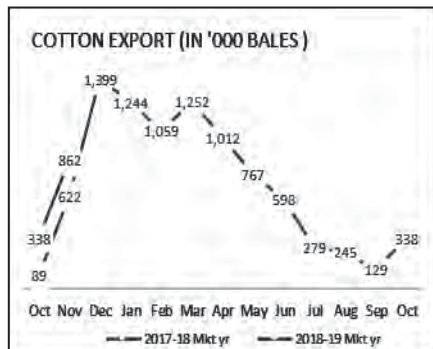
"Innovation is at the heart of everything we do," Atherley said. "As we begin our second year, expect to see more of the creative solutions consumers and retailers have been looking for. We will continue to share new technologies and opportunities that help our partners move their business forward, and it starts with U.S. cotton."

BANGLADESH THE MOST GENDER EQUAL COUNTRY IN SOUTH ASIA: WORLD ECONOMIC FORUM REPORT.

Bangladesh retains its topmost position in Gender Gap Index for the fourth time in a row by achieving 48th position among the South Asian countries, said World Economic Forum (WEF) report. According to the Global Gender Gap Report 2018 published by WEF on Monday, Bangladesh has slipped only one score to the 48th position among 149 countries across the globe. Still, it remained ahead of all other countries in the continent after the Philippines, reported Dhaka Tribune.

COTTON AND YARN EXPORTS RISES IN NOVEMBER

Cotton export jumps in November

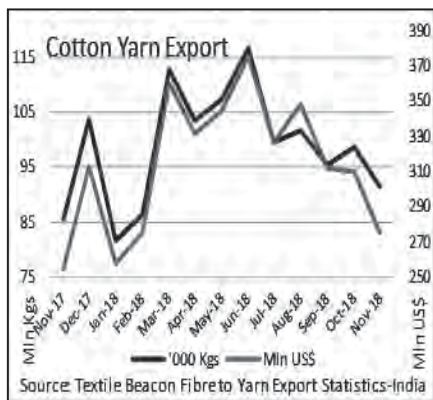


Cotton exports shipment jumped to 8.61 lakh bales (170 kg each) in November as against 6.21 lakh bales exported in the same month in previous marketing year of 2017-18. In November, cotton shipment

jumped 39% YoY. Pakistan was the largest importer of Indian cotton in November, followed by Bangladesh and China. Vietnam was the fourth largest importer. The unit prices realisation averaged INR129 per kg or US cents 81.20 per pound. Domestic spot prices of benchmark Gujarat Shankar-6 averaged US cents 80.88 per pound while global spot benchmark, the Cotlook 'A' index for November averaged US cents 86.99 per pound.

Cotton export had ended 2017-18 marketing year (Oct-Sept) with shipment of 8.70 million bales (170 kg each) as against 6.74 million bales exported in the previous marketing year, implying a jump of 29% YoY. Bangladesh was the largest importer of Indian cotton during the year, followed by Pakistan, Vietnam and China. These four buyers accounted for 82% of total shipment and rest was exported to 37 countries, of which, Indonesia, Malaysia and Thailand formed 13.5%. This means only seven destinations accounted for a little more than 95% of total shipment. In terms of value, exports were at INR17,400 crore or US\$2,700 million, increasing by 32% and 35% respectively over 2016-17 marketing season.

Cotton yarn export up 8% in November but at lower prices



In November, shipment of fibre, spun and filament yarn continued to jump up on galloping cotton fibre export and a low base for filament and spun yarn export. They were 82% up in INR term and 62%

in US\$ terms during the month at US\$732 million.

Spun yarns shipment totaled 112 million kg (up 8.5%) worth US\$334 million (up 10%) implying an average unit value realization of US\$2.97 per kg, down US cents 11 compared to previous month. Meanwhile, the INR against the US\$ weakened to INR72 this November, which augured well for exports. China was the largest buyer of spun yarns, topping both in terms of volume and value.

Cotton yarn export was at 91 million kg worth US\$275 million (INR1,980 crore), 8% above previous year's level. 73 countries imported cotton yarn from India at an average price of US\$3.01 a kg, down US cents 13 from previous month and US cents 3 up from a year ago.

China continued to reduce its cotton yarn import from India in volume and value terms. China was followed by Bangladesh with volume and value rising more than 60% over the year. Pakistan and Egypt were the other major importers, both according 15-30% increase in imports from India. Fourteen countries did not import any cotton yarn from India this November as they had imported yarn worth US\$2.67 million same month last year. However, they were replaced by 12 other countries which imported yarn worth US\$1.32 million.

Ethiopia, Israel, Ukraine, Algeria and Bulgaria were among top five fastest importers of cotton yarn in November while Sudan, Romania, Macedonia, Iran and Lithuania significantly reduced their imports compared to last year.

100% man-made fibre yarns exports rose in November, comprising 3.3 million kg of polyester yarn, 1.4 million kg of viscose yarn and 1.8 million kg of acrylic yarn. Polyester yarn exports jumped 25% in value while viscose yarn exports value declined by 16% during the month. Acrylic yarn exports were up 74% during the month.

Polyester spun yarns worth US\$8.2 million were exported to 44 countries at average unit price of US\$2.49 a kg. Turkey was the largest importer of polyester yarn, followed by Brazil and USA. Unit price realization was up US cents 5 compared to last month and up US cents 21 from last year.

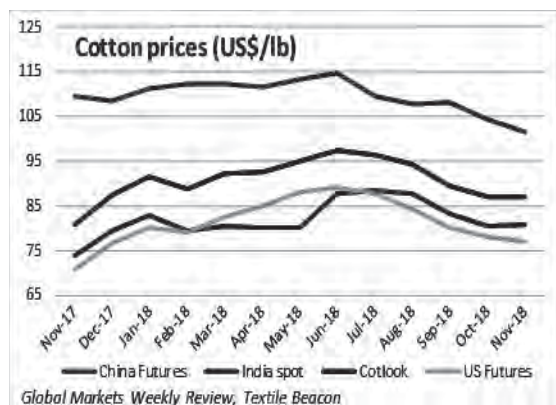
Viscose yarn worth US\$4.9 million or INR35 crore was exported in November at an average price of US\$3.45 per kg. Bangladesh was the top importer worth US\$1.08 million, followed by Belgium and Turkey. Italy was the fourth largest importer of viscose yarn during the month.

Blended spun yarns worth US\$42 million were exported in November, up 18% YoY in value terms. During the month, 9.1 million kg of PC yarns was exported worth US\$24 million while 2.8 million kg of PV yarns were exported worth US\$8 million.

Bangladesh, Egypt and Guatemala, were the largest importers of PC yarn from India while Turkey was the single largest importer of PV yarns from India followed distantly by Brazil.

Shipment of all kinds of filament yarns totaled 54 million kg, up 25% YoY valued at US\$99 million.

GLOBAL TEXTILE PRICING TREND IN NOVEMBER



Cotton

In India, spot cotton prices declined INR350-1,635 per candy across many varieties during November with few posting increases where availability was inadequate. Arrivals started gaining pace seeing prices falling as farmers were rushing to sell off before prices move down further. Meanwhile, cotton yield has hit a three-year low on massive crop damage with droughts in Maharashtra and Gujarat, the major cotton growing states. The Cotton Advisory Board, in its first estimate released in the last week of November, forecasts the yield to decline to 501.47 kg per hectare for 2018-19 season from 506.07 kg the previous year. It has estimated cotton output at 36.1 million bales for 2018-19 compared with 37 million bales in the previous year.

Cotton Futures was a bit up in November on slightly lower export sales reported by USDA and some positioning before the G-20 meetings in late November. The market remained in a short-term trading range, but appeared that bottom is being formed once again. The final size of the US crop seems to be getting smaller with reduced and delayed harvest activities. USDA showed that there is still a lot to be harvested in its final crop updates for the season. Reports also suggest that the harvest pace was poor. Most of the delays were in Texas due to too much rain, but some delays in the Southeast have also been reported. The delayed harvest could cause yield and quality losses. The lower quality could serve to limit export interest for the US at a time when demand is hurting due to the loss of the China business.

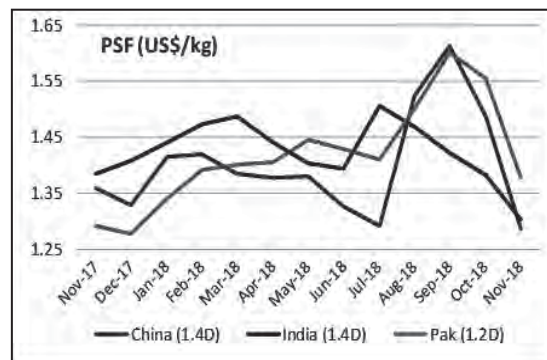
Global spot benchmark, the Cotlook A index, inched up

US cent 0.16 month on month to average US cents 86.99 per pound.

Cotton Yarn

Cotton yarn markets in China moved down from stability, and deals were mainly concluded for 32s and 40s combed yarn. Producers offered for 40s and 20s combed were down on the month while offers for 21s and 32s were slightly reduced to push out volumes. However, most producers offered discounts during discussion of firm deals. In Jiangsu, 32s cotton yarn prices averaged 23.58 Yuan a kg (US\$3.40 a kg) while 40s were at 24.63 Yuan a kg (US\$3.55 a kg), both down US cents 8 on the month. In India, falling cotton prices restricted any movement in yarn prices while stronger currency made export a bit difficult. 30s carded cotton yarn for knitting were stable at INR230 a kg (US\$3.22 a kg, up US cents 9 due to strong INR) while export offers were flat at US\$2.90 a kg.

Polyester chain pricing



Polyester filament yarn prices moved down sharply in China this November, on the back of falling crude oil and range bound PTA cost. Trading atmosphere was dull, as downstream mills generally adopted wait-and-watch stance, without any plans to stock up materials at the moment. In Shengze, selling indications for POYs, DTYs and FDYs were reduced while other regional markets followed through. In India, POY offers were stable, with still lack-luster atmosphere. Downstream mills barely maintained run rates.

Polyester staple fibre markets were sluggish across China, India and Pakistan in November with pricing reported down on sharp fall in raw material cost. However, run

➤ YARN REPORT

rates were still high and with tepid demand, fundamentals lacked strength. In China, on back of lower PTA and plunging crude oil, PSF market was soft and some makers cut their high-end offers. In Pakistan, PSF market in Karachi was stable to soft and producers offers generally rolled back offers for two straight weeks by more than 10%. In India, PSF market turned soft after prices were cut for November. In China, offers for 1.4D direct-melt PSF averaged US\$1.29-1.32 a kg down US cents 20. PSF producers' offers in Pakistan were cut to PakRs.186-189 a kg (US\$1.38-1.39 a kg, down US cents 18). In India, PSF offers for were cut to INR93 a kg or US\$1.30 a kg, down US cents 8 on the month.

PTA markets apparently set up a bottom in November in Asia amid unfavorable factors in macroeconomic market. In China, plants have been operating at reduced rates due to weaker margins. MEG prices in Asia were softer but regained later in the month amid stabilising crude oil values and sporadic offers. Trades were limited, given the price gap between buying and selling indications.

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NITIN MADKAIKAR

Textile Beacon

➤ SURAT REPORT

Good demand : Polyester grey fabrics prices surge upto Rs.2/mtr.

The demand of polyester raw grey fabrics rises ahead of marriage season & Pongal festival in surat MMF based market. This has pushed the prices of grey fabrics up after Diwali. The prices of various quality of grey surged upto Rs.2/mtr. in last three weeks.

It is that time of the year when the buyers in Andhra Pradesh and Tamil Nadu place orders for saris and dress materials and other polyester fabric for Pongal festival celebrated on January 14 every year. The orders start flowing in with the end of Diwali festival. Market sources said around 20 per cent of traders in the city supply fabrics, including saris and dress materials to Tamil Nadu and Andhra Pradesh.

This new year, the seven month long marriage season will start from January, the local traders are expecting good business opportunities. Thousands of traders are increasing their inventories, and this has resulted in a rise in grey fabrics. The prices of raw grey fabrics like russian, wetless, 60 gram, rennial, syffon, PYC 60, CYN sana, CYC 60 gram, vichitra, rangoli, PCI etc. have risen 15 to 20 per cent during last month. Sensing the increased business opportunities, the traders also stepped up fabrics buying resulting in a rise in prices.

The recovery in textile industry pushed the synthetic yarn prices up in the last week. The prices of crimp, roto, FDY deniers have increased upto Rs.3/kg. Stockpiling of grey

fabric, too, helped in pushing up synthetic yarn prices.

SGCCI to organise textile exhibition, "SITEX" from January 4-6, 2019

The Southern Gujarat Chamber of Commerce and Industry (SGCCI) is organising SITEX, a textile machinery exhibition from January 4-6, 2019 at the Surat International Exhibition and Convention Centre (SIECC). The exhibition will display spinning, winding, texturing, twisting and auxiliary machinery and accessories and technologies for web formation, bonding and finishing of nonwovens, felting and technical textiles.

There are more than 150 exhibitors showcasing the latest technologies across the entire textile value on more than 100,000 square feet of exhibition area. The fair will see participation from Indian and global textile machinery companies. Machines for weaving preparatory, weaving, tufting, knitting, embroidery, braiding, washing, bleaching, dyeing and printing, drying, finishing will remain centre for attraction. SGCCI is also organising buyer-seller meets to help buyers and sellers interact at the venue.

Manufacturers cheers : Nylon filament yarn added under drawback

Surat and Silvasa based nylon yarn manufacturers are happy as central government has added Nylon filament yarn under duty drawback scheme. last week, the product of nylon filament yarn (dyed) has been added under drawback code as 540203 at the rate 6.7 per cent with a

cap of Rs.31.2/kg.

The annual consumption of polyester and nylon yarn by the powerloom units in Surat is around 50k lakh kilograms. To boost exports, the local yarn producers were demanding raise in dutydraw back rates since long.

The maximum increase of drawback rates on MMF textiles is by about 1.5 per cent. The Synthetic & Rayon Textiles Export Promotion Council (SRTEPC) has welcomed the new duty drawback rates announced by the Government. SRTEPC chairman Narain Aggarwal said, the increased drawback rates would help the exporters face the competition in the overseas market. The drawback rates declared now need to be enhanced at least up to 6 per cent to 7 per cent.

ITC credit issue unsolved in GST council meeting : Weavers upset

More than 40 thousands power loom weaving of the city are upset as long awaiting input tax credit(ITC) credit issue remain unsolved in 31st GST council meeting held in delhi last week. Weavers belief that, it goes to be a large

loss to power loom weavers as the collected ITC credit is more than 600 crore.

Earlier, the central govt. has issued the notification which said that unutilized ITC balance after making payments of GST for the month of July-2018, will lapse. The weavers are arguing that they have not passed on the credit accumulation to buyers and has treated it as a part of aassets. If government will not allow to carry forward the accumulated credit, it will be a big loss to the industry and the weavers will not be able to expand and mordernize their units.

After several repretation made by local industry, In the 28th GST Council meeting, it was once decided to allow the ITC to power loom weaving sector. However, the weavers have been unsatisfied when the inclusion of the word 'shall lapse' within the revised notification was issued by the central govt. The word 'shall lapse' signifies that the weavers who already had paid GST on enter products and services and are prone to get credit won't be able to utilize or lift it ahead within the books of account.

➤ NEWS

USITC to probe effect of duty-free imports from UK.

The US International Trade Commission (USITC) recently sought inputs for a newly initiated investigation into the probable economic effect of providing duty-free treatment for dutiable imports from the United Kingdom (UK) on US industries producing like or directly competitive products and on consumers. USITC will advise the US president on the issue.

The investigation was requested by the Office of the US Trade Representative (USTR) in November.

In addition, USITC will prepare an assessment of the probable economic effects of eliminating tariffs on imports from the UK of certain agricultural products on US industries producing the products concerned and on the country's economy as a whole.

USITC, which will hold a public hearing related to the investigation on January 31, expects to submit its confidential report by May 8 next year, according to a press release from the commission.

USITC has also welcomed written submissions for the record.

FAST FASHION ISN'T GOING ANYWHERE.

THIS STARTUP WANTS TO UPGRADE IT

Akshay Sethi is convinced that by 2030 all clothes will be made from recycled materials.

The recent UC Davis grad is the founder of Moral Fiber, a ragtag band of scientists, engineers, designers and "all around crazy people" that claims to have created the world's first textile product made entirely from old clothing.

Based in California, Moral Fiber wants to create a world where the production of apparel is not only 100 percent circular but also "100 percent infinite."

Its technology, which is being piloted in a plant in Los Angeles, revolves around an "elegant" three-step chemical process that extracts polyester from mixed-blend materials to generate new yarn.

Leftover material is incinerated to power the pilot plant, but Sethi says the final box could also draw power from solar panels placed on its roof. The entire transformation process requires between 45 to 50 amps of power at peak consumption.

POLYESTER FILAMENT SALES VALUED AT US\$ 87 BILLION IN 2018, FULLY DRAWN YARN SALES TO EXCEED US\$ 36 BILLION

The polyester filament market is likely to witness a revenue generation surpassing US\$ 87,000 million by 2018 end. A significant growth in the use of polyester in textile industry including apparel and home furnishing and growing demand for polyester filament in manufacturing of automotive textile are some of the prominent factors driving the polyester filament market revenues.

The demand for both drawn texture yarn and fully drawn yarn is growing in the textile industry. However, with the development of post-treatment technology and lower cost of fully drawn yarn, it is likely to outsell drawn texture yarn over the next few years.

Polyester fully drawn yarn sales are also expected to remain high in polyester embroidery thread manufacturing widely used in sewing. India, China, Thailand, and Malaysia are the leading manufacturers and exporters of fully drawn yarn across various countries.

Textile Industry Accounts for Over 60% of Revenue Share in Polyester Filament Market

The demand for polyester filament in textile industry is expected to witness healthy growth. The textile industry is creating strong demand for polyester filaments which have the ability to substitute cotton yarns to some extent. With cotton yarn prices at relatively higher levels, the demand and sales of polyester filament yarn is constantly rising.

The report opines that broader gains in a range of end-use industries will increase the proportion of polyester filament yarn used in the products with an aim to control cost.

In recent years, there has been huge demand for polyester filament in medical textile covering a wide range of products including surgical gowns, diapers and products for internal uses like surgical procedures. The demand is

likely to continue in the years to come.

With textile, apparel, retail, and fashion industries moving towards sustainability, the area of interest in recycled polyester filament yarn in production of new products is rising. In addition to technological developments in apparel and textile manufacturing, polyester filament manufacturers are constantly focusing on producing recycled polyester filaments to meet the growing demand.

APEJ to Remain at the Pole Position in Polyester Filament Market

According to the study, APEJ will be the most lucrative market for polyester filaments. The demand is expected to surpass US\$ 14,000,000 tons by 2018-end. China, India, Indonesia, and Thailand are the major countries in APEJ dealing in polyester filament market. Polyester and nylon fiber manufacturers in Asia Pacific have also increased the prices with the rise in crude oil prices and growing demand for synthetic fibers.

Home furnishing is emerging as the second-largest demand generator for polyester filament followed by apparels. Moreover, India is likely to hold a strong position, capturing a major share in the global polyester filament market, owing to the low cost of labor and initiatives by the government ensuring stable power supply, and availability of low cost operations.

China continues to be a major supplier of polyester fiber including recycled polyester fiber. However, the ban on import of solid waste used to produce recycled polyester is likely to impact the polyester material supply chain. Higher prices of polyester staple fiber can result in increasing demand for cotton.

The polyester filament market is projected to reach 4.9% CAGR in terms of volume during the forecast period, 2018-2027.



Reference : Fact.MR

RECORD VISITOR NUMBERS AT AUSTRALIA'S PREMIER SOURCING SHOW



The fashion and footwear trade stepped out in record numbers at Australia's leading sourcing expo for apparel, accessories and textiles last week, reflecting the industry's endurance in a changing and competitive sector.

Registration numbers at the International Sourcing Expo Australia and co-located Footwear & Leather Show Australia were up 10 per cent on last year, with more than 4000 visits from large fashion retailers to niche fashion brands, start-up labels, online outlets and fashion designers looking to make valuable connections with potential and existing suppliers.

Buyers and production managers toured the world's apparel, accessories, textiles and footwear suppliers at the Melbourne Convention and Exhibition Centre over three days (20-22 November) without the need to travel overseas. Visitors met with more than 720 manufacturers and agents exhibiting at the expo from 19 countries – China, India, Pakistan, Bangladesh, Hong Kong, Indonesia, Vietnam, Malaysia, Singapore, United States, Fiji, Australia, Turkey, South Africa, Taiwan, Nepal, Serbia, Italy, and Thailand.



A highlight of the event was the launch of Global Runway, where emerging and established designers from Indonesia, China and Australia showcased their collections on the runway. Positioned on the show floor, the runway shows were supported by Australian Fashion Council and enjoyed by strong crowds across two days.

"Global Runway was an energetic addition to our successful and established program. The designers brought their collections to life on the runway and feedback from our visitors has been very positive. We are always looking for new ways to showcase the incredible breadth of the expo's exhibitors and we are delighted to have introduced Global Runway to highlight some of the vast talent and



craftsmanship on the show floor," Marie Kinsella, CEO, IEC Group Pty Ltd said.

The expo's Global Sourcing Seminar series was well-attended by exhibitors and visitors to the show and proved to be a major drawcard. The comprehensive three-day program led by industry experts and facilitated by fashion commentator and journalist, Patty Huntington, provided valuable market insights and business tips. From international denim trends, expert sourcing tips, legal information, ethical sourcing advice, help for fashion start-ups, international fashion and footwear insights and more, the seminar series had something for all industry professionals.



Among the most popular seminars was 'Source for Success' presented by fashion business consultant and Fashion Equipped founder, Elizabeth Formosa and 'The Changing Nature of the Garment and Textile Industry in China' presented by China Chamber of Commerce for Import and Export of Textiles (CCCT). Strong attendance was also seen at the seminar presented by Hong Kong based sourcing expert Brian Garvin who shared his ten biggest sourcing lessons to find and manage the right supplier among the thousands on offer.

"We know from the feedback that the Global Sourcing Seminars are also a highly valued feature of the event and we look forward to bringing another insightful series to the show next year," Ms Kinsella said.

Inaugural participation by MATRADE, Taiwan Made Footwear Developing Association and SMESCO Indonesia attracted significant interest from visitors, with related exhibitors reporting solid results. India's participation across both the International Sourcing Expo and Footwear & Leather Expo was the largest of all national representations with a total participation of 130 companies across the two events.

Led by key export organisations including substantial involvement from Federation of Indian Export Organisations (FIEO), as well as Apparel Export Promotion Council, Wool and Woollen Export Promotion Council, and Handloom Export Promotion Council, the strong presence supported India's continued focus on the Australian market.

Council for Leather Exports India led their industry contingent at the Footwear and Leather Show with 30 suppliers joining their pavilion, the largest at the Footwear & Leather Show for the third consecutive year.

"This year's International Sourcing Expo Australia and the co-located Footwear & Leather Show Australia was the strongest we've seen with record visitation numbers. We are thrilled to see this event embraced by the Australian fashion trade and proud to offer this opportunity for Australian companies to review or rationalise their supply

chain and expand their product offer, compare production supplier capability and costs, or even consider developing their own label. This show offers something for everyone, for both exhibitors and visitors alike, with access to vertically integrated multinational suppliers and SMEs in attendance. Equally the breadth of visitor participation spans companies looking to review offshore production to emerging companies looking to produce their own label or import established brands," Julie Holt, Exhibition Director, IEC Group Pty Ltd said.



"It's especially heartening to receive incredibly positive feedback from our exhibitors. This is a unique sourcing event that they tell us provides an exceptional platform for their businesses to meet face to face with Australian buyers and effectively market their product and services," Ms Holt said. Show organisers set out to provide opportunities for exhibitors to make valuable connections while they were in Melbourne and introduced an online recommendation engine to match buyers and sellers in an efficient and effective manner. Global Business Matching did just that, and exhibitors embraced the portal to connect with relevant buyers to set up private networking opportunities and meetings at their stand or at a business matching lounge sponsored by MATRADE.

VISITOR SNAPSHOT

- 63 percent of visitors were from Victoria; 31 percent from other cities in Australia; and 6 percent from overseas
- 89 percent of visitors discovered new products/suppliers at the event
- 76 percent of visitors had final decision-making authority, with an additional 21 percent making recommendations to influence the final decision.
- 56 percent of visitors cited their business import activities would increase as a result of attending the International Sourcing Expo Australia

CHINA HOMELIFE / MACHINEX EXPO INDIA 2018: ENCOURAGING BUSINESS AND INNOVATION

India's largest China Sourcing B2B exhibition, 'China Homelife/ Machinex' India 2018 had a grand inauguration at the BOMBAY CONVENTION & EXHIBITION CENTRE. The expo directly sources 2,000 best-in-class suppliers from China seeking to do business in India and offers top grade Chinese products at a competitive price to Indian consumers. Instead of Indians having to travel to China and search for Chinese counterparts, this trade provide them with a 3-day opportunity once a year, to build business relations.

Organised by Meorient International Shanghai, and managed by Winmark Exhibitions, 'China Homelife/ Machinex' India 2018 received a massive response not only from the Indian visitors but also from neighbouring countries on the day one itself. The key dignitaries invited for the inaugural ceremony were Mr. Tang Guocai Consul General Consulate General of the People's Republic of China, Mumbai, Mr Vandan Shah, Co-Chairman, WR CII Taskforce on GST Implementation & Executive Director, Veena Diecasters & Engineers Pvt. Ltd., Mr. Eric Pan, Chairman, Meorient International Exhibition, Mr. RK Jain-Chairman, IMC Chamber of Commerce and Industry, Mr. Prasanna Dongre-President - Bombay Industries Association

Meorient is currently the largest organizer of Chinese companies to participate in overseas exhibitions with fundamentals business composed by over 200 international exhibition projects of more than 20 industries in more than 30 nations.

Eric Pan, Chairman, Meorient International Exhibitions said "India offers huge potential for on-line growth in foreign trade www.Tradechina.com is our first step in this direction."

This year, China Homelife/ Machinex India 2018 conducted energizing panel discussion on developing Trade Relations & Enhancing Economic Partnerships between India and China which witnessed participation from the industry experts like Ms Suparna Singh Head - Strategy Larsen & Toubro Ltd, Ms Samata Dhawade Vice President - Economic Cell, Aditya Birla Group, Mr Deng Jian Deputy Director Municipal Commission of Commerce, Hangzhou, Mr Sanjiv Saraff Senior Vice President Investment Banking ICICI Securities Mr R Kannan Head - Corporate Performance Management Hinduja Group.

Binu Pillai, COO, Meorient International Exhibitions said, "The bi-lateral trade volume between India and Chi-

na is expected to exponentially grow in near future and we believe that 'China Homelife/ Machinex' India will play an instrumental role enhancing business relationship between the two countries to fuel this growth. Our focus has always been on creating an effective platform for leading Chinese companies as well as providing top class Chinese products to Indian consumers at a competitive price."

This year's show also had conferences on topics such as Industrial Laser Equipment Technology, Sewing machine motors- the new age solution, Petrochemical & Power-Sector Turbine Solutions, Magnet solutions from manufacturing industry and presentation on Online PSB Loans and Buy Factory from China.

Presentation done by The CEO of Buy From China provided key insights in the following sectors : furniture , appliances, leather goods ,sporting goods ,metal products, non - metallic mineral products, medical ,chemical , environmental recycling, handicrafts ,plastic, rubber products industry, transportation equipment, agricultural machinery, plastic molding, equipment, die casting equipment, cnc machining equipment, mechanical processing equipment, industrial robot and automation equipment.

People who are attending the event can look forward to interacting with high-quality suppliers and manufacturers on a direct business-to-business level and this will give them a huge amount of exposure to a variety of products across the diverse sectors.



CITI DIAMOND JUBILEE CELEBRATIONS ENDS ON A HIGH NOTE



The Hon'ble Vice President of India **Shri M. Venkaiah Naidu**, inaugurated CITI's Diamond Jubilee Celebrations – Global Textiles Conclave 2018 (CITI GTC 2018) on 27th November 2018, at Vigyan Bhawan, New Delhi. The entire textile and clothing industry was overwhelmed with the presence of the Hon'ble Vice President of India who attended the Conclave as the Chief Guest. The Hon'ble Union Minister of Textiles **Smt. Smriti Zubin Irani** also graced the occasion with her presence and delivered the Keynote Address in the Inaugural Session.

The Hon'ble Vice President addressed the audience by his motivational speech and requested the T&C Industry to carry forward the old age long tradition started by the skilled craftsman of the Indian textile industry. He also stressed that in the ancient time the Indian textile industry had the largest share in the growth of India's economy, while today, it has been mere reduced to 4% of the GDP.

Speaking at the Session, Hon'ble Vice President of India Shri M. Venkaiah Naidu stated that disruptions lead to innovations and transformations which should be focus area for textiles and apparel sector. Mr. Naidu also advised the industry to focus on backward and forward integration, value addition and diversifying products. He stated that according to the projections, Indian textile and apparel industry has the potential to grow at a CAGR of 14% and reach US\$ 300 billion by 2025 from US\$ 150 billion achieved in the year 2017. The exports are expected to receive boost in the wake of trade agreements with ASEAN and the proposed agreement with China, he added. He also said that industry should consolidate MSME sector by establishing Hubs and Spoke model of cluster development facilities, give major thrust to skill development, upgrade technology and adopt Industry 4.0. The industry also needs to adopt lean manufacturing systems to

remain globally competitive.

Shri Naidu also highlighted that Indian Government has taken various initiatives such as establishing textile parks, Technology upgradation through TUFs, etc., Scheme for Integrated Textile Parks which have fuelled the growth of the textile industry of India.

Hon'ble Union Minister of Textiles Smt. Smriti Zubin Irani highlighted initiatives like Silk Samagra, Samarth introduced by the Government to support Indian textile value chain. She expressed gratitude to the industry captains for supporting the Government by adopting GST reforms and urged them to tap the huge potential in technical textiles which has been identified as a sunrise sector. Hon'ble Minister also mentioned that the national sample survey organisation will collate the data of Indian textile retail market by collaborating with office of the Textile Commissioner. To establish the size of Indian market, the government is also going to conduct a size India survey. The Hon'ble Minister of Textiles was very appreciative of the efforts made by CITI.

Chairman in his welcome address thanked the Hon'ble Vice President of India for taking out time from his busy schedule for inaugurating the CITI Diamond Jubilee Celebrations. He also thanked the Hon'ble Union Minister of Textiles Smt. Smriti Zubin Irani for always supporting CITI and the Indian textile industry and resolving many of the industry's critical issues. He briefed the audience about the 60 years journey of CITI (erstwhile ICMF) and its contribution for the development of Indian textile industry, including cotton farmers by organising sensitisation program through kisan melas.

The Hon'ble Vice President of India conferred the Lifetime Achievement Award to Shri Suresh Kotak, Chairman, Kotak & Co. and also gave away Pioneering Awards to Shri Shekhar Agarwal, Vice Chairman, RSWM LTd., Shri P. Nataraj, Managing Director, KPR Mills Ltd., Shri Neeraj Jain,





Joint Managing Director, Vardhman Textiles Ltd. and Shri Sanjay Jayavarthanavelu, Chairman & Managing Director, LMW Ltd.

The Hon'ble Union Minister of Textiles felicitated the Past Chairmen of CITI for their commendable and untiring work contributed towards the development of the textile sector.

CITI Chairman signed MoUs with BGMEA and Uzbekistan Textile and Garment Industry for carrying out trade promotional activities in both the countries.

The Hon'ble Union Minister of Commerce & Industry and Civil Aviation Shri Suresh Prabhu Chaired the Valedictory Session on 28th November 2018 and gave away InnoTex 2018 Awards to the top three Winners for doing excellent work in their fields. Minister also awarded the trophies to Technopak and NITRA for being the knowledge partners of CITI Diamond Jubilee Celebrations and InnoTex 2018. In

his address, the Hon'ble Minister advised to the Industry stakeholders to have brainstorming sessions on the current challenges and opportunities prevailing in the global T&C Sector and prepare a roadmap for the future of the Indian textile sector. He assured the Industry stakehold-



ers that his government is willing to address the genuine concerns of the Industry.

Vice Chairman, Shri D.L. Sharma delivered the Vote of Thanks in the Valedictory Session and concluded the Conclave by thanking all the sponsors, speakers, jury members, past chairmen, Technopak, NITRA, delegates, media people, CITI team, agencies hired by CITI, security staff of Vigyan Bhawan for taking the event to such a grand level. He also said that it would not have been possible to manage such a mega event without the support of all the people.

Business Information :

TYPE OF ORGANIZATION :

| | |
|---|--|
| <input type="checkbox"/> Manufacturer | <input type="checkbox"/> Consultant |
| <input type="checkbox"/> Trading Company | <input type="checkbox"/> Association/Council |
| <input type="checkbox"/> Dealer/Agent/Distributor | <input type="checkbox"/> Government Office |
| <input type="checkbox"/> Retailer | <input type="checkbox"/> Education Institute |
| <input type="checkbox"/> Merchant Exporter/Importer | <input type="checkbox"/> Research Center |
| <input type="checkbox"/> Service Provider | <input type="checkbox"/> Testing Center |

VALUE CHAIN SEGMENT :

| | |
|---------------------------------------|--|
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| <input type="checkbox"/> Yarn/Spinner | <input type="checkbox"/> Trimming |
| <input type="checkbox"/> Fabric | <input type="checkbox"/> Fashion Accessories |
| <input type="checkbox"/> Processing | <input type="checkbox"/> Fashion Designer |
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| <input type="checkbox"/> Machinery | <input type="checkbox"/> Home Textile/Made Ups |

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THIRD EDITION OF THE WOOLMARK COMPANY'S WOOL RUNWAY WITNESSES STELLAR DESIGN INNOVATION



Nishant Raj from NID, Ahmedabad was announced the winner of the third edition of Wool Runway – a fashion design competition celebrating the best emerging talent from design campuses across India. Second and third place were Anam Husain from NIFT, Delhi and Franziska Knitsch from Pearl Academy, Rajouri respectively with the awards presented by Mr. Tony Huber, Consul General, The Consulate General Australia and Mr. Dilip Gianchandani, Country Manager, The Woolmark Company, India at a special event held in Mumbai.

An initiative by The Woolmark Company, Wool Runway invites tertiary students to design an outfit, made from the premium fibre Merino wool. Following the success of the previous two years awards, Wool Runway 2018 brought together students from 18 leading design campuses that included National Institute of Fashion Technology (Mumbai, Delhi, Gandhinagar, Shillong, Bengaluru, Chennai, Hyderabad, Patna, Bhubaneswar, Kannur, Kangra and Kolkata campuses), National Institute of Design (Ahmedabad and Gandhinagar campuses) and Pearl Academy (Mumbai, Delhi- Noida, Rajouri Garden and Jaipur campuses).

A first of its kind competition, Wool Runway aims to not only raise awareness, but also educate the next generation of wool consumers and inspire emerging fashion designers to work with Merino wool.

This year had extraordinary participation from more

than 195 students, with 15 making it to the final round selected by mentor Gautam Vazirani (IMG Reliance) and the respective student teacher consultants from each institute. The panel of industry experts included Mr. Kishor Bhatia, Director- Product, Raymond Fine Fabrics; Ms. Rina Singh, Fashion Designer; Ms. Priyanka Kapadia, Senior Fashion Editor, Vogue India; Mr. Partha Sinha, Creative Head, Louis Philippe and Luxor; Ms. Deepshika Khanna, Creative Head, Goodearth; and Mr. Rajat Bhattacharya, International Trainer in Luxury & Retail judged the final designs by the students. A once in a lifetime opportunity, the 15 finalists received personalised feedback from the judges along expert industry insights.

The final designs were displayed as live installations, giving the audience a first-hand look at the versatility of Merino wool. The students drew inspiration from various elements and topics close to their heart such as the blooming magnolia flower, Mumbai's dhobi ghat and sustainable fashion to name a few.

The top three students were awarded prize money amounting to INR 1,20,000, INR 85,000 and INR 60,000 respectively. The winner will also be given the opportunity of a portfolio shoot of the winning garment by Vogue.

"The designs were so unique and made with so much character, it's unbelievable that these are students and not professionals," explained The Woolmark Company, Country Manager India, Dilip Gianchandani. "The maturity they showed in working with Merino wool is astounding. We believe in encouraging consumers to learn the benefits of Merino wool, and Wool Runway does that at an amateur level. Our constant yearning is to encourage talent and give them a platform in the industry while working with this luxurious fibre; Merino wool. This is the third year we have held Wool Runway and we are excited about the response from both students and colleges."

"I am really excited to see such promising young talent," added Raymond Fine Fabrics Director - Product, Mr. Kishor Bhatia. "I have always believed in constant innovation with global benchmarking to provide great value proposition to customers. I was extremely heartened to see the students' hard work and imagination integrate into a great product synonymous with today's contemporary fashion."

GOLLER OPEN WIDTH KNIT MERCERISER

Mercerising is a treatment that adds value to cellulosic fabrics. It is a process of treatment of cotton or viscose fabric with highly concentrated caustic soda, under tension. Mercerisation is possible for both woven as well as knitted cellulosic fabrics. Mercerisation improves the dyeability of such fabrics and imparts dimensional stability and tensile strength to these fabrics. The lustre which is obtained through mercerisation stays permanently with the fabric and additionally this treatment gives a soft feel to the fabric, thus giving greater comfort to the end user. With the emphasis on comfortable clothing growing every year, mercerised knitted fabrics are in great demand for making garments.

Emerging trend: Open width knit processing

Indian knit processors have realised the immense benefits of switching over from tubular to open width processing for knit fabrics. Several processors in the country have already converted their knit process houses to open width bleaching, cold pad batch dyeing and washing.

The knit mercerisation uptrend has been prevalent since over 15 years. However, the growth in knit mercerisation was constrained as it so far was applicable only for tubular fabrics. Tubular mercerisation has its own limitations – it creates visible marks on the edges of fabric and it also causes a lot of effluent treatment issues due to the high chemical oxygen demand load per unit of fabric treated. This is where the development of the open width knit mercerisation process has helped considerably, as this process not only mitigates these issues faced by tubular mercerisation, but also improves the quality of fabric in terms of feel and comfort. It also has higher savings in dyeing related processing costs as compared to unmercerised cotton knits. Soon, we expect that open width knit mercerisation will be an integral part of the sequence of knitted fabric processing.

Goller's brief introduction

Goller is a pioneer and a global market leader in the manufacturing of open width textile processing ranges, including those for knit mercerisation. Goller was founded in Germany in 1948, and became a member of the CHTC Fong's Group in 2006. The integration of Goller into the CHTC Fong's Group helped it to develop and spread at a tremendous rate its highly engineered textile wet finishing ranges for the textile industry. Goller has assembled 239 ranges for woven fabric and 174 ranges for knitted fabric in its Shenzhen factory since 2007.

The benefits of Goller open width knit merceriser

- Better absorbency properties obtained in mercerised

fabric as compared to unmercerised fabrics

- Saving of dyes up to 15-20% when compared to unmercerised varieties
- Achieving excellent colour depths, especially medium dark or dark shade printed fabric
- Less pilling
- Less shrinkage of finished fabric in domestic washing
- Higher quality compared to tubular knit mercerisation
- Lower utility consumption per unit of fabric as compared to tubular knit mercerisation

Different process conditions applied in open width knit mercerisation

Cold/room/hot mercerising

| | Cold mercerising | Room mercerising | Hot mercerising |
|-----------------|---------------------|------------------|-----------------|
| Temperature | 25o C | 40-45o C | 60 o C |
| Time | 50-60s | 40s | 25s |
| Lye NaOH | 25-30 Be ' ° | | |
| Lye penetration | Slow | Medium | Fast |
| Use for | Yarn dye/dye fabric | Grey fabric | Grey fabric |

Technical and utility data of Goller knit mercerisation:

- Process: dry on wet, room mercerising (wet on wet/ cold/hot as option)
- Fabric quality: 100% cotton, cotton/viscose blends at lower caustic strengths
- Production speed: 20-30 or 30-40m/min configuration available
- Chemicals: caustic soda, acetic acid
- Caustic consumption: approx. 140g/kg of fabric @25Be
- Water consumption: approx. 5 – 6 [L/kg]
- Steam consumption: approx. 0.5 – 0.6 [kg/kg]

Success story of Goller open width knit mercerisers world wide

Goller has already successfully installed 8 open width knit mercerisers worldwide including one commissioned recently in a knit process house at Kolkata. Considering the benefits and current trends, open width mercerisation is no doubt the way forward for open width knit processing factories in India.

LEADER IN CAUSTIC RECOVERY PLANTS

UNITOP AQUACARE TO EXHIBIT AT DTG 2019

Unitop Aquacare Ltd, an ISO 9001:2015 certified company and a trusted name in the field of industrial evaporation and drying technologies is participating at DTG 2019 to be held in Dhaka in Hall 2, Stall- 129 at the stall of Pro Trading & Service Ltd. At the exhibition, Unitop will be promoting caustic recovery, which is used, when processing denim or during yarn dyeing mercerization.

Waste caustic is generated during these processes and has lots of colour and size impurities. Unitop Aquacare has the experience and know-how to make the recovered caustic reusable. The company designs tailor-made solutions to suit individual customer's need and the local condition like water quality, environmental impacts, space constraints, operational conditions, etc.



Unitop Aquacare offers absolute tailor-made designs which ensure optimum number of effects based on prevalent utility costs and its availability of the area. Hot condensate is flashed in successive effects and the waste flash steam is used to preheat the weak lye resulting in major steam savings.

The company has identified that most textile units face challenges of supplying constant higher pressure steam to any machine; or particularly CRP. Unitop optimised the design to operate its CRP at low pressure. This has resulted in low steam consumption or around 15-20% lesser than its competitors. This has been achieved by flashing steam condensate to generate steam, which is a heat source for preheating the feed.

The systems are incorporated with total one-touch operation involving minimum manual intervention; MIS daily reports in real time or history charts or graphic; plant analysis and troubleshooting module; report alerts on

mobile or email, offers remote controlled operations and also has mobile base service app, which helps to generate service calls and thereby bring about a faster solution.

The company already has a roster of renowned textile companies from Bangladesh, who have installed these technologies. They include; Mahmud Denim, Hameem Denim, Talha Tex Pro Ltd, Dacca Textiles, NZ Fabrics Limited, Thermax Woven Ltd, Tithi Textiles, etc.

Unitop Aquacare has a professional team of over 40 engineers experienced in commissioning and supporting the clients along with a dedicated engineering team to provide online support to clients for their urgent requirements. Quick delivery and efficient after-sales service, irrespective of location is a hallmark and to meet the same, has imparted technical training to its local representatives/channel partners.

"Traditionally, European CRP's generate a lot of hot water, which is around 2.5 times the feed capacity, but since now most of the processing machines have in-built heat recovery systems, so consumption of all the hot water may be practically impossible. Customers have been found draining the hot water which eventually spoils the ETP parameter. For such a situation, we offer a CRP with an Adiabatic System, which will not generate excessive hot water," Mr Sanjay Sawant, GM – Marketing at Unitop Aquacare said.

During the course of the several decades, Unitop Aquacare has made deep inroads into the Indian, European, Chinese, Turkish, Bangladeshi and Indonesian markets. Many customers have replaced their European technologies with Unitop technologies mainly due to low-operation costs, user-friendly technology, reliability of performance and good local after-sales support.

About Unitop Aquacare Ltd:

Unitop Aquacare is a leading Indian engineering company with four decades of experience in heat transfer and process engineering projects for design, manufacturing, supply, installations and services. The company manages two state of the art production plants, which have a combined capacity of producing 10 evaporation plants per month. Unitop has more than 450 customers in 15 countries with a number of repeat orders.

For more information on Unitop Aquacare, please visit <http://www.unitopaquacare.com/>

EGYPT IS ON A MISSION TO REBRAND ITS COTTON AS AN EVEN MORE SUPERIOR FIBER

The Cotton Egypt Association (CEA) has unveiled a new brand identity and digital platform to re-enforce Egyptian Cotton's quality standing in the world.



Khaled Schuman, executive director of CEA, said, "We believe that everybody should experience the luxuriously soft touch of Egyptian Cotton. We want people of all ages, worldwide, to seek out its strength, softness and durability. It's all about the personal human touch. Our sales and marketing partner, Salesworxs, created a powerful brand identity which reflects the brand's heritage whilst educating our audience as to our core values."

Salesworxs' managing director, Richard Newman, said: "We know that a brand is a story that is always being told. It's what people say about you when you're not around. Egyptian Cotton is without question the world's finest cotton. Our job is to ensure our global audience recognizes

this when making purchasing decisions on relevant products such as home textiles and clothing."

The rebrand is designed to increase consumer demand and retailer confidence and will support the CEA's drive to rid the supply chain of falsely labeled Egyptian Cotton goods.

The CEA says on its website, cottonegyptassociation.com, that it urges all its manufacturers to become accredited. "This is a simple process that ensures transparency and traceability," the site notes. "By using the latest scientific technology, we can identify the genomic fingerprint of the cotton, conduct DNA tests and confirm that 100 percent of the fiber is genuine."

CEA is a non-profit association established in 2005 with support from Egypt's Ministry of Industry and Foreign Trade. Its mission, working closely with local and international companies involved in the Egyptian Cotton supply chain, is to protect Egyptian Cotton's legacy of luxury and help promote all Egyptian Cotton licensees and their products. CEA manages, markets, promotes, licenses and monitors the Egyptian Cotton logo and its licensees, and guarantees the authenticity of products licensed to use the logo. In addition to working with Egyptian Cotton growers and manufacturers, CEA has partnered with the various organizations to ensure adherence to international labor, safety and trade standards.

RUNWAY ALERT: COLOR DENIM

The millennial-driven color wave, which washed over women's and men's apparel and accessories in 2018, is coming for denim

Colorful denim has been trending on the street with fast fashion retailers like The Gap, H&M and Old Navy offering a wide breadth of non-traditional blue hues this past spring/summer season, but now it's punctuating Spring '19 catwalks with gusto.

Intense color has become a key ingredient in many influential trends, including maximalism, the '80s reboot and fashion's role in activism. All three trends rely on bold color to make a statement, forcing designers to reconsider their traditional light and pastel spring/summer color palettes.

And while Pantone's Color of the Year, Living Coral, offers

"an animating and life-affirming coral hue with a golden undertone that energizes and enlivens with a softer edge," the Spring '19 runway glowed with colors that already have a positive track record at retail.

Pink and bright red maintain momentum, cropping up in Alberta Ferretti's and Off-White's spring collections.

Meanwhile, 'It' colors to watch in 2019 like orange and neon yellow inject a zesty youthfulness in Cristiano Burani's and Bode's collections. The citrus hues speak to the season's laid back surfer cool denim—a look that MSGM summed up in its streetwear homage to retro, seaside fashion.

And when one color isn't enough, there's always tie-dye. Denim is primed to take a psychedelic trip in 2019.



SHOW CALENDAR



JANUARY 2019

- 04-06 SITEX 2019
Surat/ India
www.sitex.sgcci.in
- 09-12 DTG
Dhaka / Bangladesh
www.bangla-expo.com/dtg/
- 11-14 MILANO MODA UOMO 2019
Milan/Italy
<https://www.cameramoda.it/en/milano-moda-uomo/>
- 14-17 HONG KONG FASHION WEEK FOR FALL
/WINTER 2019
Wanchai/Hong Kong
<https://event.hktdc.com>
- 15-16 PREMIERE VISION NEW YORK
New York/USA
<https://www.premierevision-newyork.com/>
- 16-18 62ND INDIA INTERNATIONAL GARMENT FAIR
Greater Noida/ India
<https://www.indiaapparelfair.com/>
- 18-20 YARNEX 2019
Ludhiana / India
<http://ludhiana.yarnex.in/>
- 18-20 GTTES
Mumbai/India
www.gttes.india-itme.com
- 21-23 TEXTSTYLE EXPO
Algeria / Africa
www.textstyle-expo.com
- 24-25 FUTURE FABRICS EXPO 2019
London/UK
<https://thesustainableangle.org/8th-future-fabrics-expo/>
- 27-28 BELETAGE SALZBURG 2019
Salzburg/Austria
<https://www.beletage-salzburg.at/de.html>
- 30-31 68TH NATIONAL GARMENT FAIR
Bombay Exhibition Centre / Mumbai
<http://www.cmai.in>

FEBRUARY 2019

- 3-5 SURTEX 2019
New York/USA
<http://www.surtex.com>
- 7 International Textile Conference
Hotel The Lalit/Mumbai
<http://textileassociationindia.com/>

- 11-14 AVANTEX PARIS 2019
Paris/France
<https://avantex-paris.fr.messefrankfurt.com/paris/en.html>
- 20-22 ASIA APPAREL EXPO BERLIN
Berlin/Germany
<https://www.asiaapparelexpo.com>
- 26-28 IGATEX PAKISTAN
Karachi/Pakistan
www.igatex.pk
- 28-02 YARNFAIR
Istanbul / Turkey
www.iplikfuari.com

MARCH 2019

- 1-4 KNIT TECH 2019
Tirupur/ India
www.hitechtradefairs.com
- 8-9 F&A 2019
Bangalore/ India
<http://www.fnashow.in/>
- 12-14 Yarn Expo 2019
Shanghai/China
<https://yarn-expo-springhk.messefrankfurt.com/shanghai/en.html>
- 26-28 Textile Asia
Karachi / Pakistan
www.textileasia.com.pk
- 28-31 Morocco International Machinery Fair 2019
OFEC, Casablanca /Morocco
www.moroccomachinery.com

APRIL 2019

- 4-6 Fibers and Yarns
Mumbai/ India
www.fibersnyarns.com
- 4-6 INTERTEX TUNISIA
Tunisia / Africa
www.bridgexpo.com/intertext-tunisia-2019
- 25-27 FABTEX
Mumbai/ India
www.fabtexexpo.in

MAY 2019

- 16-18 YIWUTEX
Zhejiang / China
www.zhejiangtextile.com

JUNE 2019

- 6-8 NON WOVEN TECH ASIA 2019
Delhi / INDIA
www.nonwoventechasia.com
- 20-26 ITMA 2019
Barcelona, Spain
www.itma.com

JULY 2019

- 15-17 YARNEX 2019
New Delhi/ India
<http://delhi.yarnex.in/>
- 15-17 F&A SHOW
New Delhi/ India
<http://www.fnashow.in/>

AUGUST 2019

- 3-5 Yarn Expo 2019
Surat/India
www.yarnexpo.sgcci.in
- 9-12 TEXTFAIR 2019
Coimbatore/ India
texfair@simamills.org

SEPTEMBER 2019

- 12-14 YARNEX
Tirupur/ India
<http://yarnex.in>
- 20-22 Textile Asia
Lahor / Pakistan
www.textileasia.com.pk

OCTOBER 2019

- 22-24 FILTECH
Cologne/Germany
www.filtech.de

NOVEMBER 2019

- 25-28 SHANGHAITEX 2019
Shanghai / China
www.shanghaitex.cn

DECEMBER 2019

- 5-8 ITMACH INDIA
Gandhinagar / India
www.itmach.com
- 5-8 ITES
Gandhinagar / India
www.itsexhibition.com



Marie Kinsella

CEO of IEC Group, Australia.

Marie's Views on Indian Market and Partners

We are very pleased to be working with India as one of our major partners for this trade fair because India is such an important trading partner of Australia with huge potential for both countries. Australia has a very fast-growing population so the ability and the opportunity for India to do substantially more business in Australia is going to occur; bilateral trade will increase quite significantly over the next 10 years, as a result of both formal trade arrangements but also because the Australian population is growing at a very rapid rate, mainly through immigration. We have had very high population growth over the past 5 years and it's going to continue and show it's benefit through the next ten years. India has always had a major profile at this event. In fact, the first edition was held in 2010 and India was the major partner at that show. We've

always valued the great support from India achieved through close contact with various associations, notably Federation of Indian Export Organisations, which leads the very large Indian participation. I've been involved since 2010 and I've seen huge development in the offering from India with the products that are very well suited to the Australian market here. India is well regarded for its capability in textile and fashion, and Australians look to India for both product quality and ongoing business partnerships.

How do you compare the Indian products and expertise with the one of China; China being one of the major competitor?

Of course China could be a major competitor in the area of textiles and Bangladesh and Pakistan has become more so in recent years. I think there is no doubt the workmanship and the quality of Indian

products is very high and of an excellent standard and I know there's great quality that comes out from India. So, there's a lot of confidence in the Australian market in dealing with Indian companies. It is understood that the finished products are of a very high standard, in fact Indian textiles are widely revered by consumers. The textiles sourced from India are just so beautiful and demonstrate the long tradition of textile workmanship that comes not only from India itself but from particular geographic and production regions.

So you think that India is still a cut above the competition?

It's hard for me to specifically comment on this but I will say that I can just see the quality is consistently high from India. Right from 2010 it just continues to retain a very high level of workmanship and so I think India has to be congratulated as we are aware of many of the initiatives that underpin India's success in this sector. India should be confident in maintaining a competitive position. It is clear that there is both capability and a willingness to innovate and maintain a position that is historically very strong, although there is still major opportunity for India to further grow its profile and find and develop new markets and market niches.

How has the overall response of the exhibition since it's inception?

2010 was the first fair. Since then we have seen significant growth from India in the participation which grew initially through partnership with India Trade Promotion Organisation and later Texprocil. Federation of Indian Export Organisations, Handloom Export Promotion Council, Apparel Export Promotion Council, Wool and Woollens Export Promotion Council and various regional



based industry bodies across India continue to support the event with consistent participation. The FIEO has been the lead exhibiting group from India for many years and we work closely with them to continue to develop and support the participation by Indian exhibitors and to understand their needs and aspirations for the Australian market.

For the past three years Council for Leather Exports India has been the major partner of the co-located Footwear and Leather Show – with 30 companies participating in 2018. Equally, we value our relationship with the CLE and do our best to support them in their promotion efforts within the Australian market.

Although we have always had a separate but co-located China Clothing Textiles Accessories expo it is the sourcing expo which draws a large percentage of the visitors because of the broader participation. I think in the first year, 2010, we had 6 or 8 countries and it was held here at the Melbourne Convention and Exhibition Centre. We were much smaller then. This year including Australia which has a small participation of around 10 companies, I think we have 21 countries participating. This is the largest international participation we've had. We are pleased that we have Serbia involved this year and that we're starting to get more European involvement as well as the

Asia and the Asia Pacific area. We are strong in representation from the Indian subcontinent and Asia – Pacific but we want to encourage more participation from Europe and eastern Europe –we expect that these regions will increase steadily over the next few years. Continued broad, deep participation, with quality companies exhibiting, will be what continues to drive strong growth in visitor numbers to this event.

Is Europe showing interest to exhibit in Australia?

As we know, Australia is a long way by physical distance but we're slowly getting more interest and we're developing our relationships all the time with European countries. So at this stage we see Australia as a great centre for the whole Indian sub-

continent and Asia Pacific region to come together; it's good to do business here and easy to do business. There has been growing interest from Europe and the United States and although the current participation from these regions is relatively small we are receiving increased enquiries from these regions. Naturally then, we can expect participation to increase. With no doubt we are a hub here as a meeting point to connect Australians and New Zealand trade buyers with suppliers not only from the region but from further afield and open up new sourcing activity. Australia is still a relatively small population, but is a dynamic, stable and relatively affluent economy. It also includes one of the highest per capital spending rates on fashion and textiles. This event is about developing connections across the Indian subcontinent and the Asia Pacific more broadly, and beyond, and creating new commercial opportunities for all participants.

How have Australian buyers been in the exhibition?

I have spoken directly to about 10 buyers and they are all very impressed with the breadth of offering and capability; both in the range of apparel for men's, women's and children, but also fashion accessories, fabric and footwear. The buyers all comment that the standard just keeps getting better and better, and the show itself keeps evolving in a



positive way.

And this year for the first time we have introduced the Global Runway. We were disappointed that we didn't have India this year, but we are really looking forward to having India participation in 2019 as part of the Global Runway. So that's been worthwhile for many countries; Indonesia, China and Australia. For Australia, the designers and garments featured on the runway so they could make a direct connection with buyers and the very valuable domestic and international fashion and apparel industry network that this show delivers. We just feel that it adds quite a different angle to our event. It's great to see the garments on the runway under the lights. It's a totally different feel on the runway, you can really see the beauty of the garments.

We also have a Global Sourcing Seminar program which we see as very important. People want information in Australia; they are very hungry for information about sourcing from overseas countries, especially India. We were really pleased with the quality of presentation as well and we've had great feedback on the content of the seminars this year.

Australia finds it easy to do business in India. One is because of the language, two because of the British connection. A lot of Australians and New Zealanders like doing business with India.

How are you finding the footfall every year?

We've got more numbers through this year than last year in Sydney. The exhibition is very big for Australia. So we've opened it up and put in more space because it was very claustrophobic for us last year. Some people have said that it feels quieter but in reality the visitor numbers were much higher this year. The show space itself is larger and we wanted to open it up to include more features and generally more space for a better experience. There are more than 700 companies to see, so that's



a very big show for Australia. We certainly always would like more people to visit but we really are looking at getting the quality bias here; not just the numbers. Visitor numbers were more than 10% higher than the previous year, so we are very pleased about that. We also introduced a VIP buyer program this year which drove a significant increase in the number of attendees from the tier 1 major fashion and retail brands and buying groups.

How do you go about the advertising and marketing about the exhibition?

We do a whole range of things. We do a lot of direct marketing; we have a marketing center in our office where we actually build databases that are very up-to-date about who the latest buyers are and the quality managers from all the major chain stores; all the retail chains and department stores. We call them our tier 1 - our big buyers. We do this across Australia and New Zealand. We also work with distributors and wholesalers and invite them to come and find more importing opportunities. We also invite selected manufacturers here to come and connect with the overseas manufacturers. We do all of this through direct mail and calls. We advertise in magazines here and overseas and of course augment this through advertising, social media and industry networking. We do some work with CCCT with the China fair and they advertise in some of the

daily newspapers.

Is this exhibition happening in Melbourne for the first time?

We used to alternate between Melbourne and Sydney every alternate year. There is a sense that the big buyers are here in Melbourne, so we have now decided to keep it in Melbourne for the next few years and really build the base here.

Have you already started working towards the next year's fair?

Yes we have already received a lot of interest. A lot of country pavilions have already committed, they say that they are going to be involved. In particular we anticipate that the participation from India will, we expect, through the various group bodies, exceed the total of 130 companies that exhibited from India this year. But while we are confident of an increase in the number of exhibitors and countries participating in 2019 it is the visitor growth that is our major focus. If we continue to produce strong growth in visitor numbers and quality of visitors, exhibitors will find their way to the show. This is one of Australia's most established B2B events, with a strong growth profile, and while we do not take this for granted, we are confident of making the event better with each edition and providing value to all participants.



DN Associates represent in India the following Textile Machinery & Accessories manufacturers

| | |
|---|--|
|  | N.Schlumberger, France : Spinning preparatory machines for Spun and filament LONG fibres (Website:www.nsc-schlumberger.com) |
|  | ANDRITZ Asselin Thibau, France : Complete Nonwoven Lines : Drylaid-Needlepunched, Hydroentangled and others, Wetlaid, Spunlaid and special machines for chemical/hydro finishing (Website:www.andritz.com/nonwoven) |
|  | Laroche SA, France : Opening and Blending Lines, Textile waste recycling Lines and “Airly” Nonwoven Lines (Website: www.laroche.fr) |
|  | LACOM GmbH, Germany : Hotmelt Laminating and Coating Systems – Multi Purpose, Multi Roller, Gravure Roller and Slot Die for complete range of Technical Textiles (Website:www.lacom-online.de) |
|  | Schott & Meissner, Germany : Ovens, Dryers, Heat Recovery Systems, Heating/cooling calenders, Wet/Dry cooling systems, Cutters, accumulators, Winders, Palletisers and Bonding systems (Website: www.schott-meissner.de) |
|  | Mariplast Spa, Italy : All type of Yarn Carriers for spun and filament yarns including dye tubes for filament/long fibre yarns (Website: www.mariplast.com) |
|  | MORCHEM S.A.U., Spain : PUR Hotmelt Adhesives for Technical Textiles, Solvent Based, Water Based adhesives, cleaners and primers https://www.morchem.com/markets-and-solutions/textile-lamination/ |
|  | Valvan Baling Systems, Belgium : Baling and Bump forming machines for spun fibres and textiles waste recycling lines (Website:www.valvan.com) |
|  | C + L Textilmaschinen GmbH, Germany : Reeling (Yarn Hank Forming) Machines, steaming, Bulking and Banding Machines for yarns (for Western and Southern India) (Website:www.croon-lucke.com) |
|  | Schmauser Precision GmbH, Germany : Pin Strips, Faller Bars, Disposable Faller Bars for Intersecting Gills and Chain Gills. Top Combs for Combing Machines in long fibre Spinning Preparatory Lines (website: www.schmauser.com) |
|  | Groz-Beckert Carding Belgium NV, Belgium : Clothing for Cards and Cylinders used in processing of long fibres, nonwovens and waste recycling (website:www.groz-beckert.com) |
|  | FARE' S.p.A., Italy : Complete Lines for Spunbond / Meltblown nonwoven products /complete line to produce all type of fibers including mono and bicomponent including PET and PET fibers. Machines for producing Tapes and Rafia (website www.farespa.com) |

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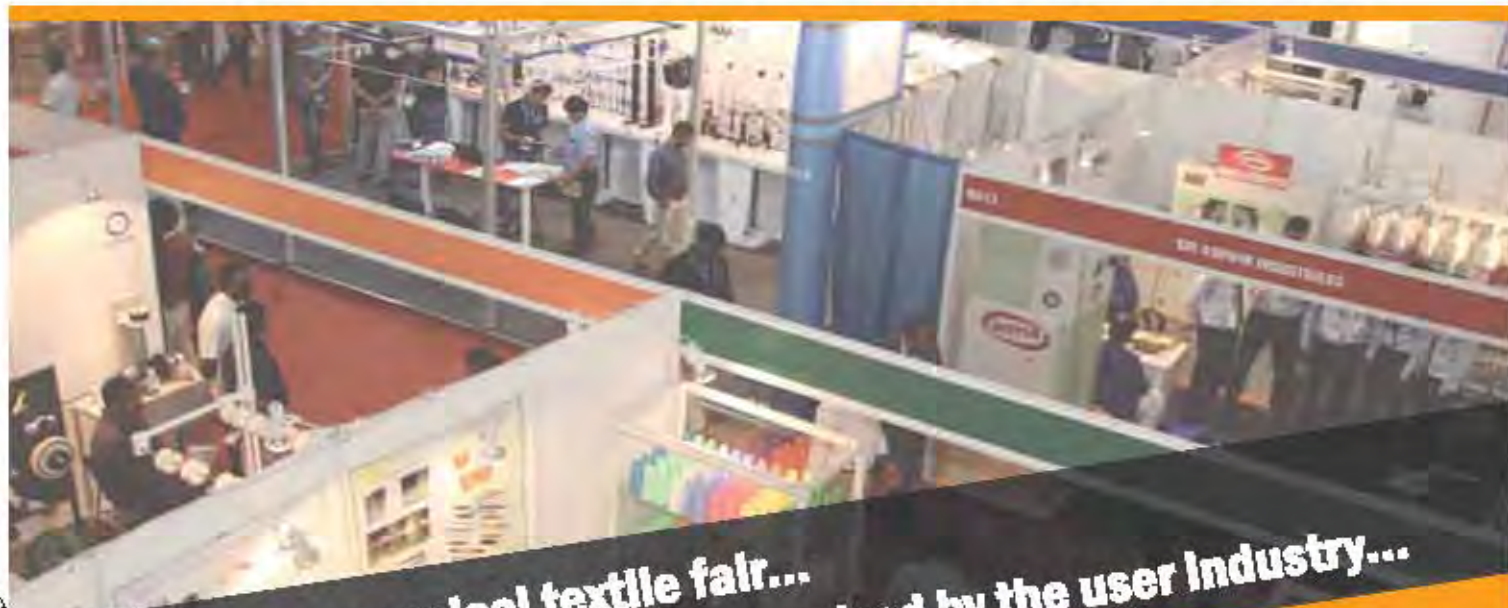
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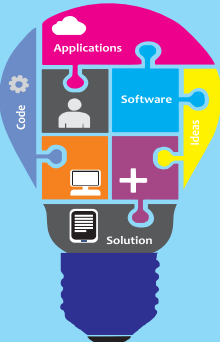
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