APPAREL MANUFACTURING

BY; SWEETY JAGGAL

TOPIC:- **Cutting and Marker Planning;** Functions of cutting department Preparation – Shade Sorting, Shrinkage Calculation, Marker planning – Definition, Types, Marker Utilization, Spreading, Definition, requirements, methods, Types of spread, fabric packages Cutting – Definition, objectives, tools; Ready to Stitch – Bundling and Ticketing

FLOW CHART OF GARMENTS MANUFACTURING PROCESS

A basic garment manufacturing flow chart is presented below:

Design

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Pattern Making

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Sample Making

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Production Pattern Making

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Grading

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Marker Making

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Fabric Spreading

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Fabric Cutting

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Cutting Parts Sorting or Bundling

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Sewing

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Garments Inspection

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Garments Ironing and Finishing

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Final Inspection

↓

Garments Packing

↓

Cartooning

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Shipment

CUNTTING; INTRODUCTION

- **The department of any garment industry, where several layers of fabric are cut together by pattern for the production of the garment, *is called cutting department.***

- Cutting department has special importance in garment manufacturing, it is not possible to make garment in abundance(किसी वस्तु की बहुत बड़ी मात्रा) without cutting department.

- The fabric is first cut using the first pattern to make any garment. To make complete the garment, the fabric is cut into several parts, then these cut parts are sent to the sewing department for stitching, where the whole garment is made by adding these parts.

- The cutting room has a huge contribution in the garment industry. It the fabric is not cut properly according to the design, it ruins the entire order. In other words, also the cutting department is the fundamental foundation of any garment industry.

Functions of cutting department

- The main function of the cutting department is cut the fabric according to the design.

Firstly, the cutting department provides the pattern of garment to be cut by the production department. The various parts of the pattern are then spread to the appropriate location above the spread fabric by the cutting master. After this, all the parts of the pattern are removed by marking with chalk and all these layers are cut together by cutting machine.

THE WORK TO BE DONE BY THE CUTTING DEPARTMENT, WHICH IS AS FOLLOWS.

Take fabric from the fabric store

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Relaxation of fabric

↓

Cut order planning

↓

Fabric spreading

↓

Planning and making markers

↓

Fabrics Cutting

↓

Shorting

↓

Bundling

↓

↓

Numbering of garment plies (Parts)

↓

Inspection component

↓

Shorting embroidery or printing parts

↓

Re-cutting panels

If required

↓

Send the garment plies(parts) to the sewing section

- **TAKE FABRIC FROM THE FABRIC STORE:** The cutting department receives the order form the production manager to cut the fabric. After receiving the order, the cutting incharge sends the fabric requirement, and receives the fabric from the fabric store.

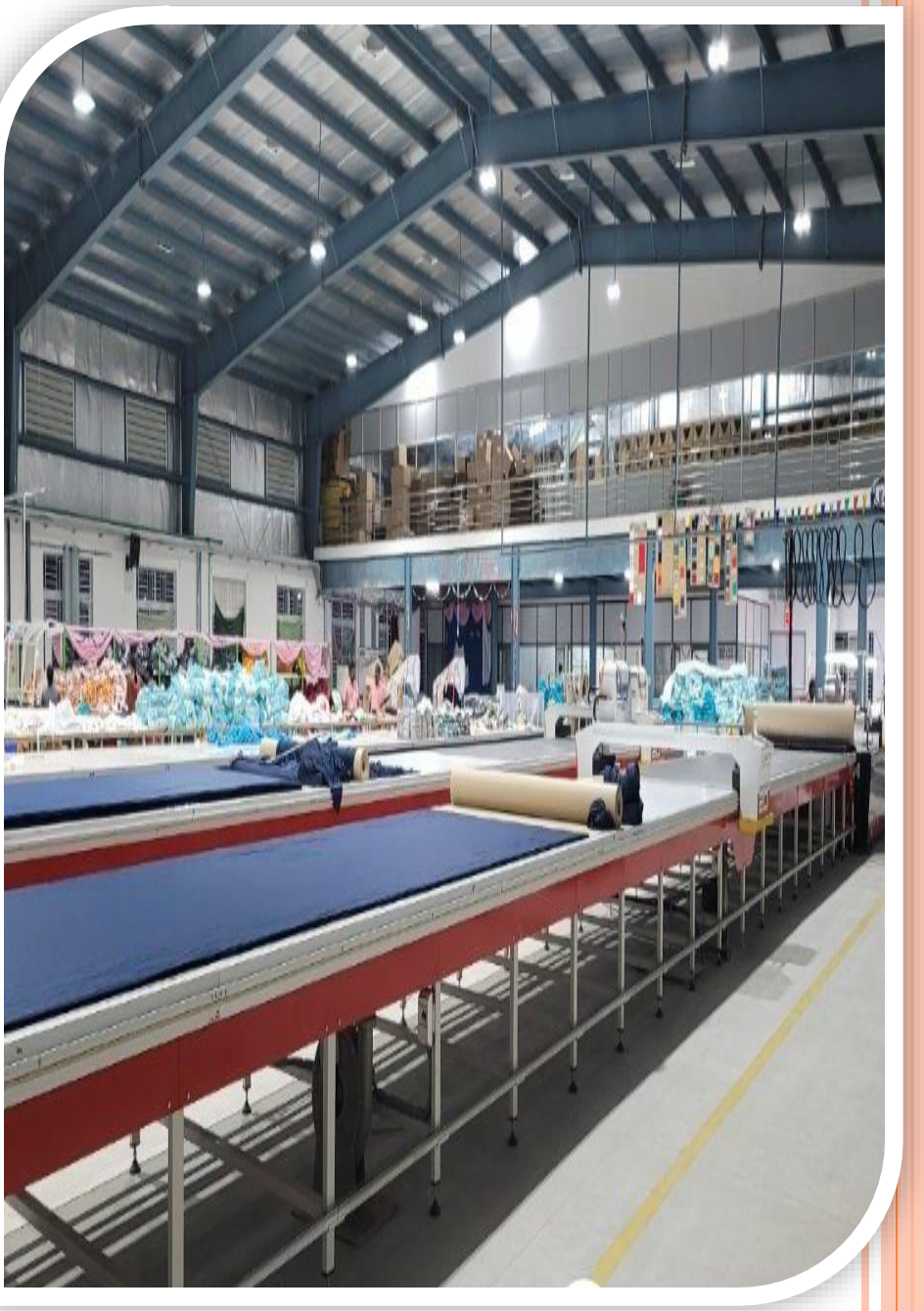
- **RELAXATION OF FABRIC:** Knitted fabric takes longer to relax than woven fabric. So, after getting the fabric from the fabric store, the cutting department first opens the fabric rolls, and then spreads the fabric on the table and leaves it to relax overnight. As a result, the fabric is fully rested.

- **CUT ORDER PLANNING:** The cutting master first plan to cut any order. This planning takes into account the cutting master, garment design, numbers of pattern, pattern components, types of fabric, fabric print, fabric design, embroidery, fabric spreading length and thickness and machine available for cutting etc. there is no mistake in cutting and the fabric wastage should be minimized in cutting.

- **FABRIC SPREADING:** It is very necessary to spread the fabric properly for cutting. There are large tables in the cutting department to spread the fabric. Several fabric layers are spread on these tables for mass production.

The length of fabric spread on the table is kept as per requirement and the number of layers of fabric to be spread is determined according to the cutting machine or cutting order.

Spreading is the process of unwinding large rolls of fabric onto long, wide tables and laying them in superimposed plies of specified length.



- ***LAYING PARAMETERS***
- Pattern matching.
- Relaxing the fabric to remove all the tensions.
- Alignment of ply edges in correct position over each other.
- ***METHODS OF FABRIC SPREADING:***
- Completely manual laying-up;
- Electrically driven laying-up by spreading machines (Semi-automatic or fully automatic)
- Manual laying-up aided by spreading and cutting off devices;
- Manually driven, mechanized laying-up using carriages;

- **<u>Planning and making markers:</u>** After fabric spreading, the cutting master systematically spreads the pattern on the topmost surface of the fabric. First the large parts of the pattern are spread, and later the smaller parts are spread.

Now these stretched patterns are traced over the fabric with the help of chalk and after marking all the parts of these patterns are removed.

- **<u>Fabrics Cutting:</u>** All the layers are cut together by a cutting machine after marking by paper pattern. Several types of cutting machines such as: straight knife cutting machine, round knife cutting machine, band knife cutting machine, Die cutting machine, notcher machine, computerized cutting machine etc. are used to cut these layers of fabric.

Types of cutting equipments:

- Scissors
- Round knife
- Straight knife
- Band knife cutting m/c
- Die cutting (collars and cuffs)

Preparation for sewing:

- Position marking: Egg- pocket positions, tucks, pocket positions etc
- Shade marking: each component is marked with a unique no. printed on a small ticket stuck on the component.
- Bundle making: according to size, color, quantity
- Bungle tickets: to identify each bundle to size, lot, style and color wise.
- Fusing parameters: There are different types of fusings depending upon the end use and type of fabric.

Computerized methods of fabric cutting:

- Computer controlled knife cutting.
- Cutting by a Laser beam.
- Cutting by Waterjet.
- Cutting by the Plasma Torch.

- **SHORTING:** After cutting the fabric, all these parts should not be mixed together. For this, different sizes and colors are shortened.

- **BUNDLING:** After shorting the cut fabric parts or components, the cut parts are made into separate bundles size wise and color wise. So that it does not mix with other parts, color or size.

- **NUMBERING OF GARMENT PLIES (PARTS):** After the bundle is created, the numbering on the layers starts. After bundling all the separated parts, stickers are numbered on each layer of the bundle. And now all these bundles are placed on the inventory table before sending them to the next operation.

- **INSPECTION COMPONENT:** After shorting, the cutting quality and standard of all these cut components are inspected and if any type of defect is seen in any component, then the defective parts are either replaced or removed.

- **SHORTING EMBROIDERY OR PRINTING PARTS:** Now in these finished bundles, according to the order requirement, the panels of the garment on which painting or embroideries are to be done, the size vise is taken apart and then these parts are sent for printing or embroidery. After embroidery or printing, all these are re-examined by the cutting department. Now after the investigation, all these bundles are sent to the sewing department together.

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- **RE-CUTTING PANELS:** Whatever panel of garment is found to be defective in the bundle is re-cut. After receiving these bundles by the sewing department, the parts in which the defect is found are replaced by cutting of the cutting department.

TOPIC:- Sewing; Definition of sewing and assembly, Functions of sewing department, Seam types-British Standards, seam strength; Stitch types- British standards; Sewing threads- Types, Sizes and Packages;

SEWING DEPARTMENT

After receiving the processed fabric at the cutting department, the sewing floor will assemble the fabric into clothes through a chain of production. So their work includes:

- Production line installation, inspection and maintenance
- Sew the parts of the garment together
- Maximum amount of fabric used in sewing
- Iron the parts of garment
- Make changes to the sew way to make the garment more beautiful
- Check the quality of sewing parts made of sewing
- Take notes to track the production of your product

Functions of Production Department in Garment Industry (Stitching Department)

The main function of the production department is stitching garments. But there are many associated activities performed by the production team to run the production floor smoothly.

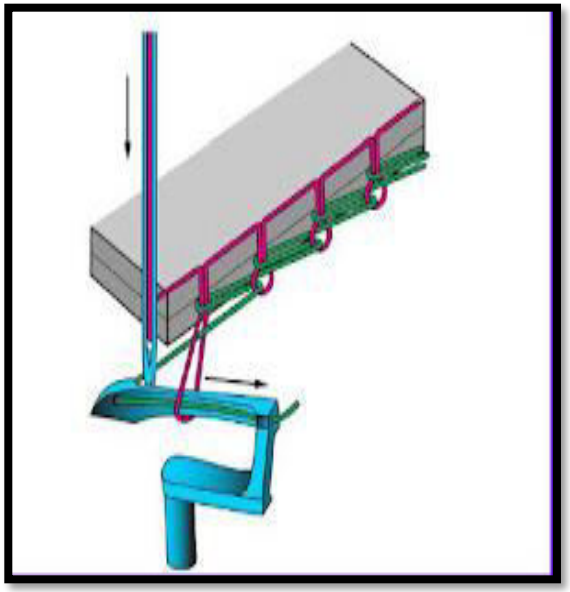
- **Style Analysis :** The line supervisor analyzes the garment construction of the style to be loaded to the line. He calculates the machine requirement for the style, based on the garment construction.
- **Estimating labour costs:** Line supervisors calculate the estimated cost per operation. In the piece-rate-production system, the supervisor sets piece rates for stitching operations. Those factories that have industrial engineering departments calculate direct labour costs based on the standard allowed minutes (SAM) to produce a garment.

- **Planning and scheduling floor level production**: The floor in-charge and line supervisors plan the daily production output. They take information on upcoming orders from merchandisers or the planning department and plan manpower and machine requirements in advance.
- **Setting the line :** Line supervisors set the sewing line for new orders. Line setting involves the tasks of placing sewing in a sequence, by allocating operators to each machine, giving work to operators and helpers and giving instructions to operators on how to undertake operations and the required stitching quality.
- **Stitching garments :** The sewing department stitches garments and makes clothes. Operators sew garments using different types of sewing machines. An operator can be given single or multiple operations to sew.
- **Balancing the assembly line:** To get maximum production from the line, line supervisors balance line by adding additional operator, or by clubbing operations.

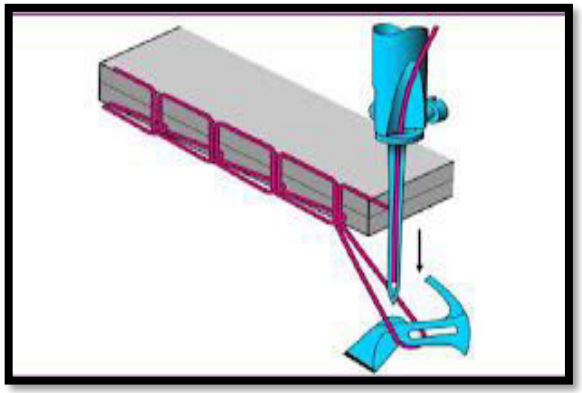
Stitch Class

Stitch: Loops or loops of one or more threads when connected by interlacing, interlocking, intralooping or any combination during sewing. Then every unit of this kind of structure (Seam) is called a level.

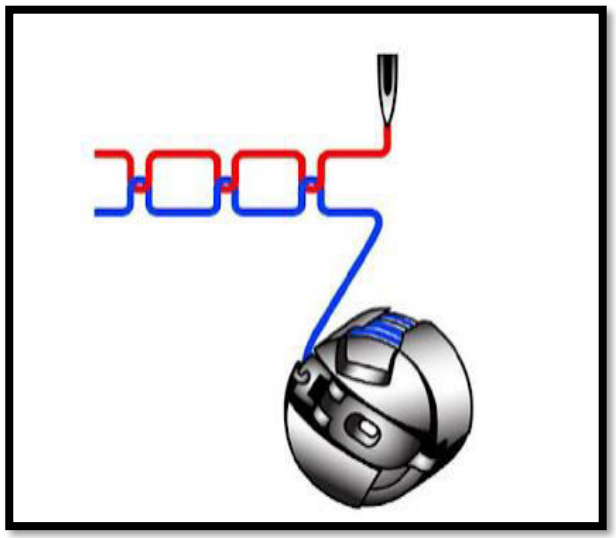
- **Interlooping:** Passing of a loop of thread through another loop formed by the different threads.



- **Intralooping:** Passing through another loop of a thread created by the same thread.



- **Interlacing**: Passing of a thread over or around a different thread or loop.



STITCH TYPES

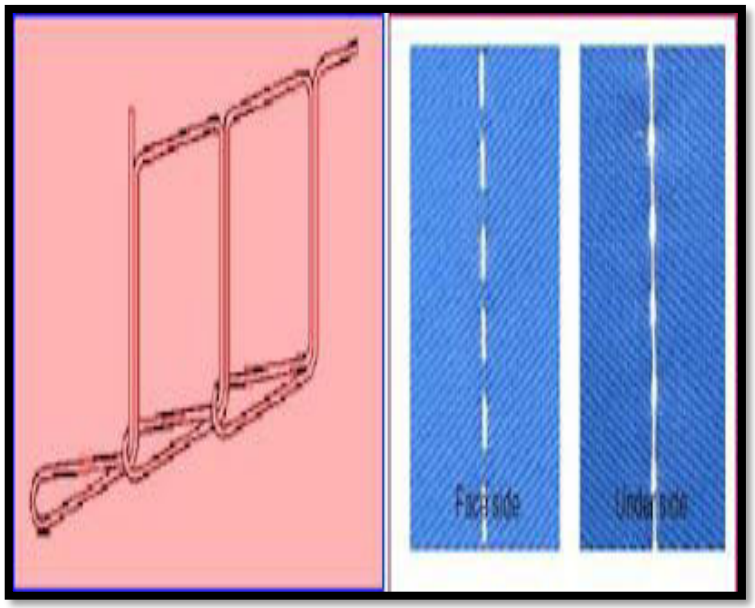
STITCHES ARE BROKEN DOWN INTO 6 CLASSES:

- Stitch class-100 (Single Needle Chain Stitch)
- Class stitch-200 (Hand Stitch)
- Class-300 Stitch (lock stitch)
- Stitch class-400 (Multithread Stitch Chain)
- Stitch class-500 (Stitch Over Edge)
- Stitch class-600 (Covering Stitch Chain)

Stitch Class 100 (Single Needle Chain Stitch)

- Intralooping forms this class of stitches.
- One or more needle threads are used to form stitches.
- The needle passes a thread through the fabric and a loop is prepared which is connected with the previous loop made of the same needle. The line of the stitch is rendered in this way.
- This stitch form includes the type-101, 103, etc.

Applications: Used in the positioning of lap and flap, temporary joining, positioning, basting, hemming, blind stitching, holing of buttons, button attachment.



Stitch Class 103 (Blind Stitch)

- This stitching style is clearly seen from the back but not from the front. Uses primarily holing keys, adding buttons, hemming.
- This stitch isn't long-lasting.

Stitch Class 200 (Hand Stitch)

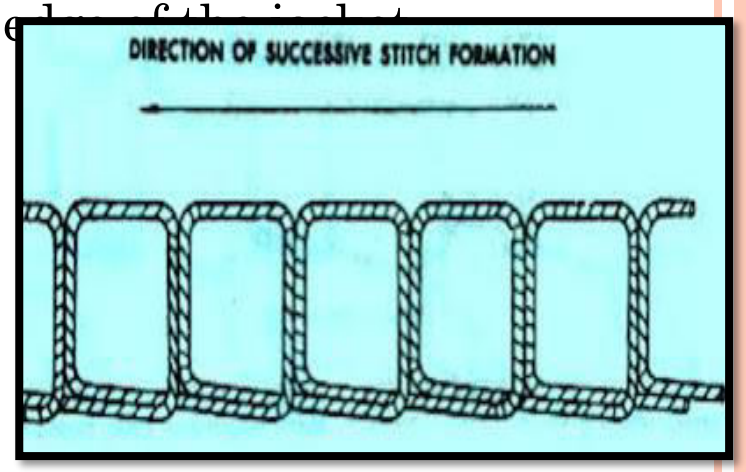
- This stitch class looks like a home-made hand stitch.
- It is crafted from a special type of needle and sewing machine which is called a sewing machine pick stitch.
- The needle thread is moved through the fabric from one hand to another and creates a sewn line.

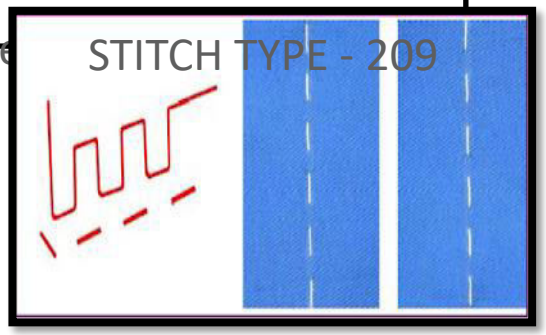
Applications :

- Mostly used in the lapel of jacket, coat and expensive clothes.
- Stitch type-209 is always used for the e[illegible]

Disadvantages : .

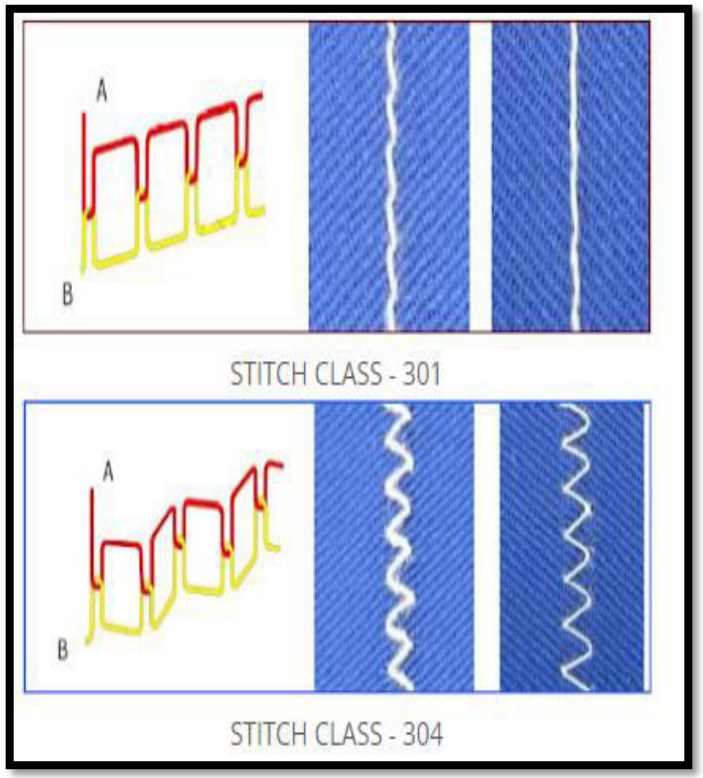
Time-consuming operation.
Higher cost.
The speed of sewing is very slow.
Rare in use





Stitch Class 300 (Lock Stitch)

- Two or more thread sets are used in this stitch class.
- One thread is called a needle thread and another thread is called a bobbin thread.
- Here, one set of threads is interlaced with another set of threads and a bond is made.
- Fine yarn is preferable for this kind of stitching.
- Type 301 stitch is the most common stitch in the 300 class.
- General purposes include sewing, joining different components during garments making, topstitching, etc.



Requirements:

- Widely used in sewing and stitching for pocket, bracelet, scarf, face, etc. Which is used in top-stitching, button-hole, a button fastening, blind stitching, etc.
- Stitch type 304 is zigzag form, used for fastening lace, elastic and so on.

Benefits:

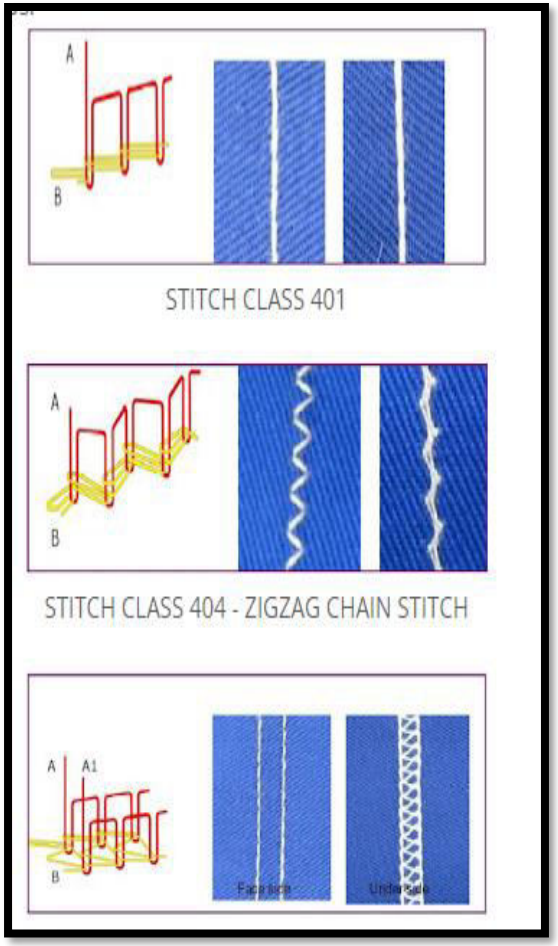
- Strong stitches, higher strength, and functionality.
- Both sides of this stitch look the same.
- More stable stitch than chain stitch.

Disadvantages:

- The main issue with the lock stitch is that the lesser capability of the bobbin thread involves a frequent change of the bobbin thread.
- Not suitable for knit sewing of fabric.

Stitch Class 400 (Multi Thread Chain Stitch)

- Stitches are created by two or more threads.
- One thread is called the needle thread, and another thread is called the looper thread.
- The loop of one thread is passed through the fabric and connected to another thread formed by interlacing and interlacing.
- Stitch type 401 is the most common in the 400 range.
- The front of the stitch looks like a lock stitch, and the back of the stitch looks like a double thread.
- Sometimes this form of chain stitch is called a double locked stitch, since one needle thread is bound with two lower thread loops.



Applications:

- Stitch type-401 is used for long stitching in jeans and pants. That form of the
- stitch is also used with a stitch over the bottom.
- Stitch type-406,407 is used to tie a ribbon, a braid, an elastic with a sweater.

Advantages:

- The power of 401 is greater than 301.
- Less possibility of producing seam puckers.
- Extensibility is exactly the same as the Lock stitch.
- Chain stitches can be made by a comparatively lower thread tension so that these
- stitch groups are created at a high speed.
- The SPM of the chain stitch machine is 8000, the SPM of the lock stitch machine is 6000.

Disadvantages:

- Lower resistance to run back and raise the bulk underneath the surface

Stitch Class 500 (Over Edge Stitch)

- Each type of stitch is created by one or more thread sets and bound by the minimum loops of one thread set by rotating the edge of the fabric. As a consequence, the thread can not be extended from the edge of the cloth.
- » Before stitching, the edge of the fabric is cleaned by the knife of the machine which is positioned at the front of the needle.
- It's sometimes called over the locking tool, but it's mostly over the edge stitch.
- The width of the stitch may vary from 3 mm to 5 mm. » The stitch type-504 is the most common. Stitch type-503, 512, 514 have also been classified in this group.

STITCH CLASS 503 - (TWO THREAD OVER EDGE)

Applications:

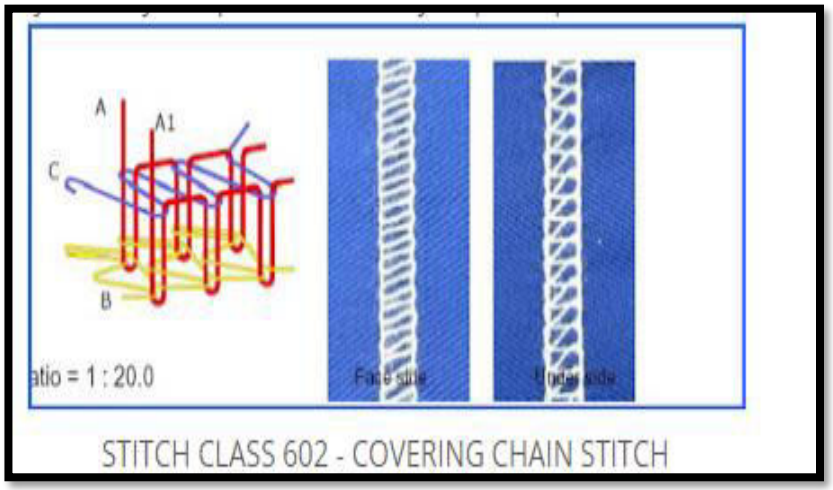
- Stitch type-504 is used to decorate the end of the fabric.
- It is also used in conjunction with a ring stitch and a chain stitch.
- Soft fabric stitch type-512 is used.
- For coarse fabrics such as denim, jeans, cord stitch type-514 is used.

- **Advantages:**
- Extensibility is higher (up to 30%).

- **Disadvantages:**
- This style of a stitch is susceptible to seam grinning (the threads are exposed when the seam is drawn at right angles to the stitching line).
- Due to the complexity of the seam construction, the finish may be somewhat thick.

Stitch Class 600 (Covering Chain Stitch)

- Stitches under 600 are made up of three sets of threads.
- The first thread set is called the needle thread, the second thread set is called the top thread cover thread, and the third thread set is called the bottom thread cover thread.
- Stitch type-602 is the most common type.



Applications:

- Stitch type-602 is used for the fastening of thread, lace, braid, elastic to the knit fabric.
- Stitch type-606 is used to make knit underwear. This is also used for decorative purposes.
- To render the cover stitch, the top-stitching on the bottom of the fabric is also used.

Disadvantages:

- Stitches in this category are very complicated and may require up to 9 threads.

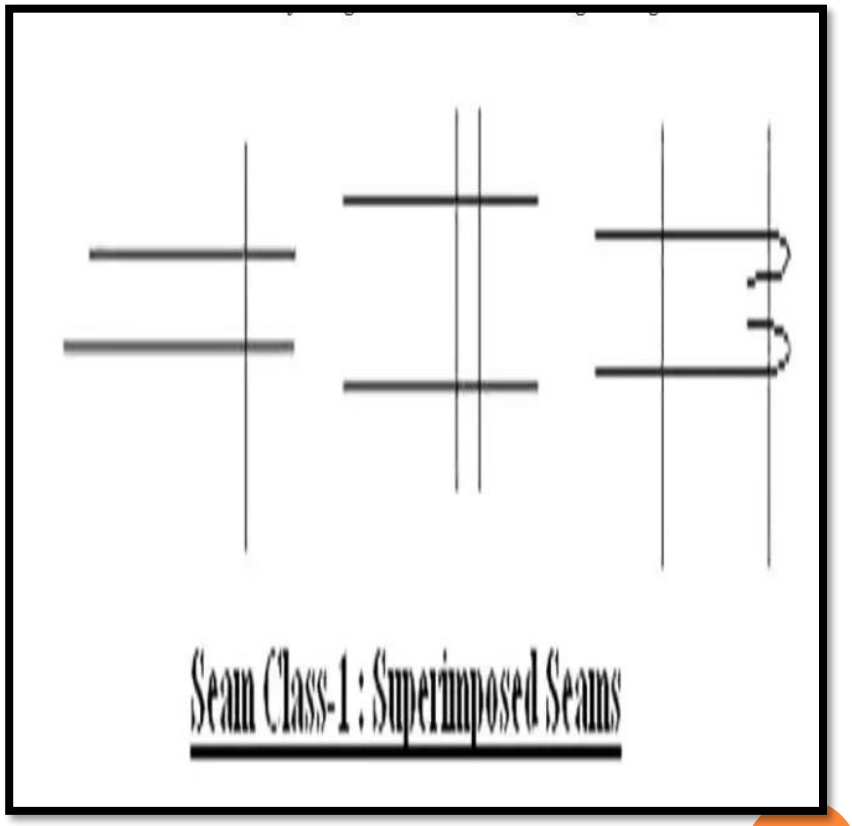
Seam Types or Classes

The following are the 8 classes of seam:

- Seam Class-1: Super Imposed Seam
- Seam Class-2: Lapped Seam
- Seam Class-3: Bound Seam
- Seam Class-4: Flat Seam
- Seam Class-5: Decorative Seam
- Seam Class-6: Edge Neatening
- Seam Class-7: Applied Sea
- Seam Class-8: Enclosed Seam

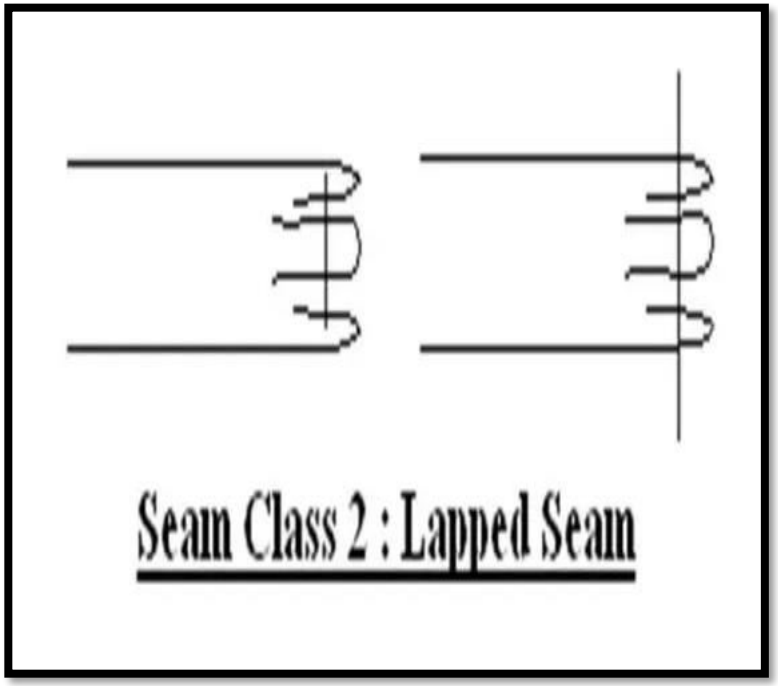
Seam Class-1 (Super Imposed Seam):

- This is most ordinary used seam.
- This type of seam is formed by correctly placing the ends of the fabric on the other ends of the fabric and sewn.
- Generally the seam ends are in the same direction.
- Different types of stitch are used to form this type of seam.
- Seam strength may be changed.
- This seam can be used for joining the fabric and neatening the edge.



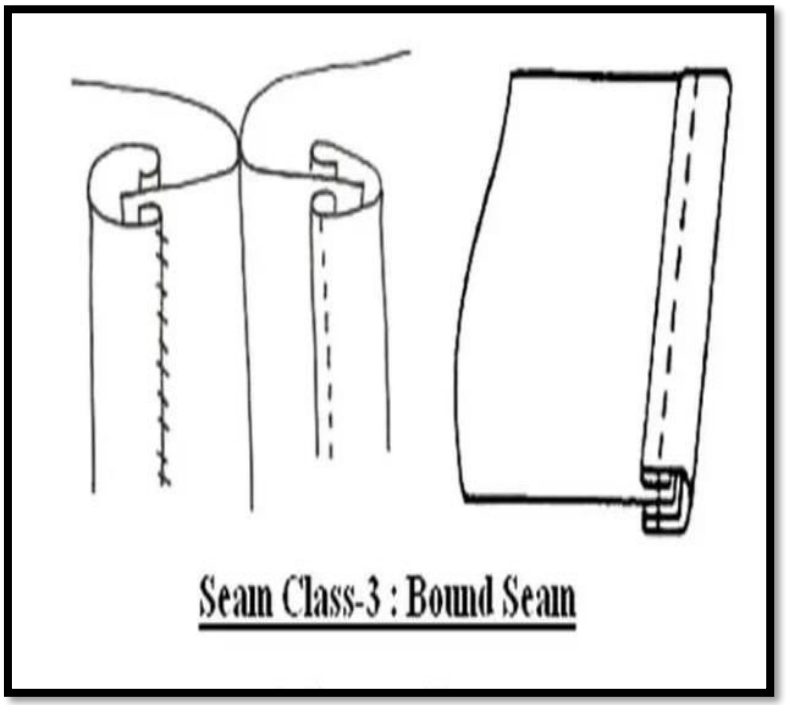
Seam Class-2 (Lapped Seam):

- Simplest seam is formed by lapping of two pieces of fabric.
- Two sewn ends of the fabric are in opposite direction and overlapping one ends on other.
- Uses of this seam is very less because the threads draw off from the fabric edge and create problem.
- The seam thread may be damaged due to frictional resistance.
- Seam strength is higher.
- Possibility of **seam** slippage is very less.
- Seam thickness increased.
- Twin needle sewn machine is used to prepare seam.



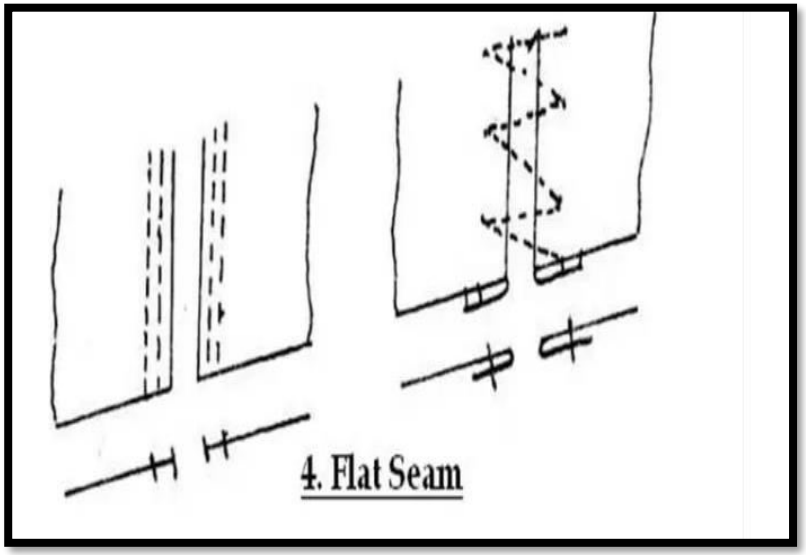
Seam Class-3 (Bound Seam)

- Two fabrics are required.
- Here one edge of the fabric is bounded by the other fabric.
- The binder fabric may be of different colors.
- Widely used.
- Can be applied for both functional and decorative purposes.
- Folder must be required to produce bound seam.
- Mostly used for knit fabric than woven fabric.



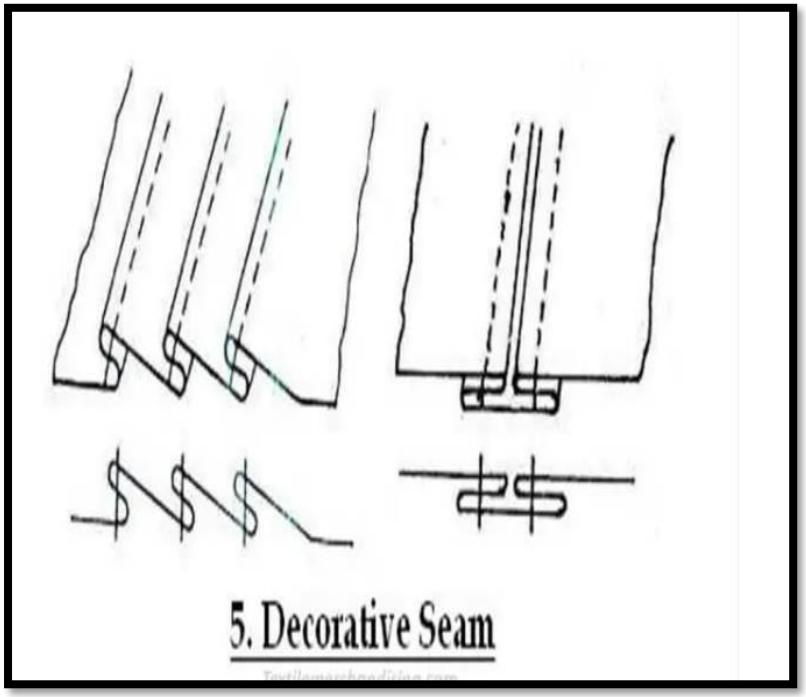
Seam Class-4 (Flat Seam)

- Two or more fabric ends are joined without overlapping.
- Seam can be made with the gap of the ends of the fabric for decorative purposes.
- Generally twin needle sewing m/c is used to produce this type of seam where continuous binding can be made by covering thread between needle threads
- Seam thickness is comparatively less.
- Zigzag stitch causes sufficient stretch for knit fabrics.
- Neat join forms.
- Before sewing, Edge should be cleaned.



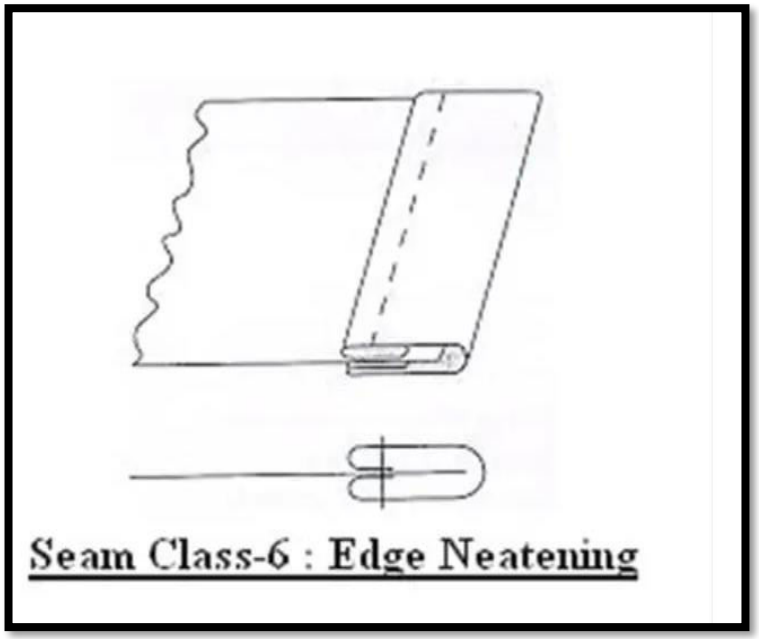
Seam Class-5 (Decorative Seam)

- This type of **seam** is made by making one or more adjacent stitch lines in one or more layer of fabric.
- Multi-needle sewing machine is used.
- This type of seam is called decorative stitching.
- This seam is produced and used to increase the beauty or decorative value of fabrics.



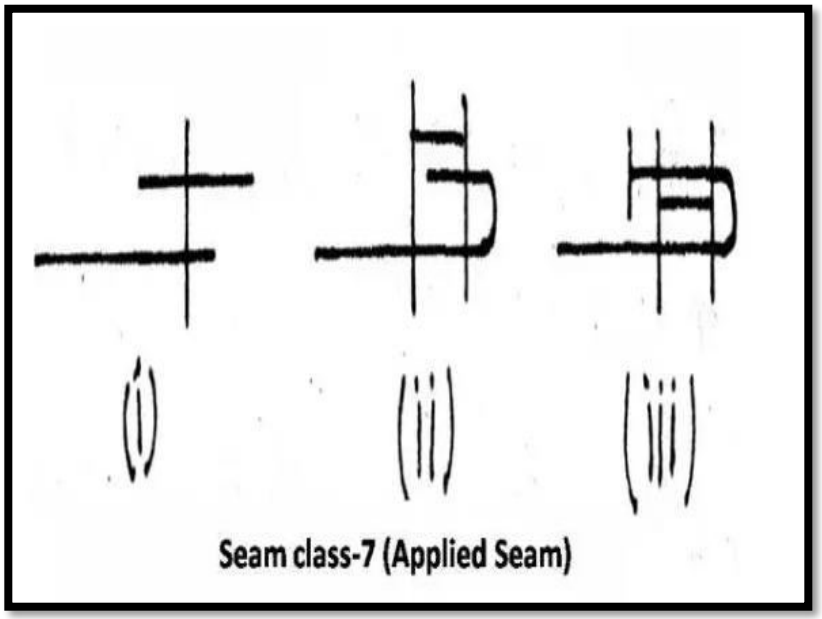
Seam Class-6 (Edge Neatening)

- This type seam is used to bind the edge of fabric, so that thread cannot be drawn off.
- Various stitches are used in this type of seam.
- It can be made by over lock machine.
- If folder is used, the seam can be made easily



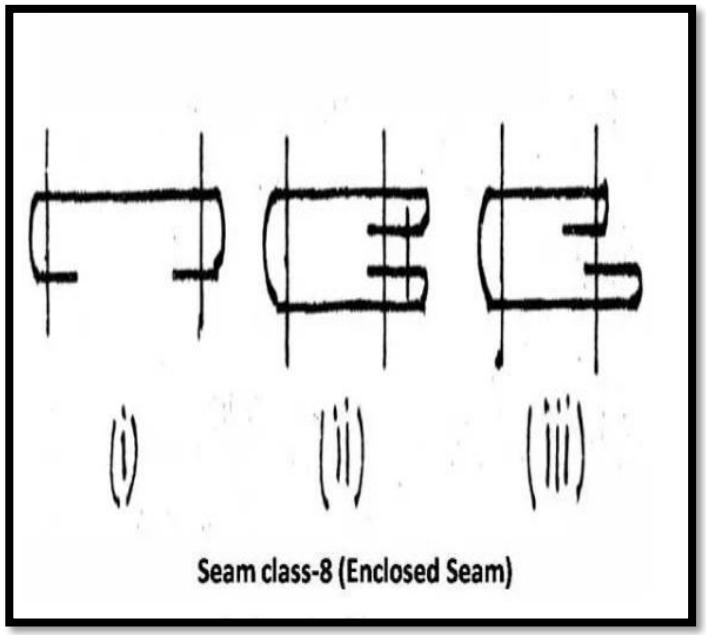
Seam Class-7 (Applied Seam)

- Similar to lapped seam (Seam Class-2), but the joined component is extended limited on both sides from sewn line.
- This is used for joining of different parts of garments with additional or extra materials such as lace, elastic braid, elastic etc.
- Multi needle **sewing machine** and folder is used to produce this seam. It will be easier this function is involved.



Seam Class-8 (Enclosed Seam)

- Mainly one piece of fabric is used.
- The edges of fabric are sewn by folding in various ways.
- Very used of folder to make the seam.
- Seam is made in one time completed by twin needle machine and folder



Seam class-8 (Enclosed Seam)

SEWING THREAD

Sewing threads: Sewing thread is a trim which ensures the functional properties of a garment or any clothing product by securing the seams. It is a special type of yarn which is used for sewing but not for knitting or weaving.

- Sewing thread is the yarn used to combine two or more fabric pieces together in garments, accessories, and other textile products.
- Thread may be comprised of the same construction and fibre content as the garment, but is often different.
- Sewing thread is a basic raw material for giving desired shape to a garment and holding the body parts together by creating seams.
- It has both functional and aesthetic properties

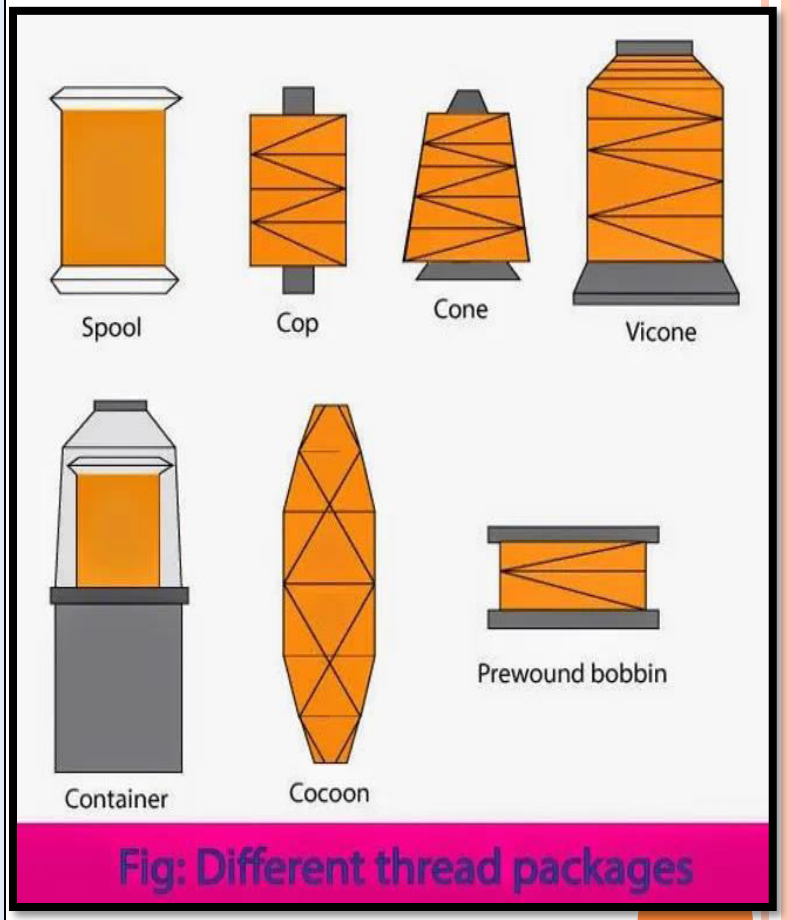


Fig: Different thread packages

Classification And End Uses Of Sewing Threads

Above 90% of sewing threads are manufactured for industrial and commercial purposes.

Now a day manufacturers are producing threads of several categories according to end uses with tons of shades with better quality.

There are several types of sewing threads are available but the main three basic types are done according to follows –

1. Substrate
2. Construction and
3. Finish

Sewing Thread Classification According To Substrate

According to substrate threads can be classified into two main categories: natural and synthetic.

- **Natural Thread**

These are used in a small quantity in the industrial area. It can be made of cotton, silk, wool, linen etc.

Cotton thread is the most used natural sewing thread and ideal for basic sewing.

It has better sew ability with less kinking or drop stitch. When sewing machines run for a long time needle generates heat which can easily be absorbed by cotton thread.

It can easily be dyed and also well molded into the seams. Strength and abrasion resistance are not so good as compared to synthetic threads. Cotton thread can be classified into three categories as follows:

- Soft
- Glace and
- Mercerized

Uses

1. Tea bag string

2. Soft finished threads are used in the low graded garments.

3. Glazed threads are used for sewing heavy materials, leather and canvas.

4. Mercerized cotton threads are used in the lingerie products and also for garment dye program.

- **Silk thread** is costly compared to cotton thread. There are mainly three types of silk thread. They are lightweight, medium weight and heavy weight. Though silk thread is known for its use on embroidery purpose, it is also used for sewing silk and woolen products. It is an excellent sewing thread as it is very flexible and leaves no hole on seams of the products. It can be of double ply or triple ply.

Uses

1. Used for embroidery purposes.
2. Hand sewing and embellishment purposes.
3. Coarser silk threads are used for quilting, making appliques, bindings and tailoring button holes.
4. Light weight silk threads are used for delicate fabrics.

Woolen threads are stronger than cotton and linen threads and used for embroidery projects and also for making stitches on blankets. Woolen threads are of three types. They are Persian, tapestry and crewel. Persian woolen threads are heavy weight, tapestry threads are medium weight and crewel are light weight.

Uses

1. Used for embroidery purposes.
2. Used for making stitches on blankets.
3. Stitching heavy weight fabrics like canvas and woolen.

Linen thread is the oldest textile sewing thread. It is suitable for lock stitch seams. It is very easy to dye and swells when wet. Seam made of linen thread enhances the aesthetic properties of a garment as for its natural look.

Uses

1. Bedding and mattress.
2. Book binding.
3. Canvas.
4. Carpets.
5. Lace.
6. Outdoor goods and sports.
7. Automotive industries.

SYNTHETIC SEWING THREADS

- The most common synthetic sewing thread used is made of polyester and nylon. Synthetic fibre threads have more resistance to abrasion, less shrinkage, good colorfastness and stronger than natural fibre threads. Due to limitations of natural fibre threads, manufacturers turned to synthetic fibre threads.

- **Polyester threads** are stronger and have excellent sew ability. Lubrication is done to make these ready to easily pass through the fabric or leather with little friction. These are suitable for sewing knitted, woven or leather products according to construction and finishes. These are shinier to look at than plain cotton threads.

Uses

1. Blouses
2. Jeans
3. Lingerie
4. Shirts
5. Suits
6. Uniforms
7. Swimwear

- **Nylon Thread** It is stronger, finer and more durable sewing synthetic thread. It is suitable for sewing light to medium weight clothing. Sometimes it is specially lubricated for high temperature resistance and better performance without breakage or staining

Uses

1. Leather footwear
2. Leather goods
3. Luggage and travel goods
4. Outdoor goods
5. Sports goods

Sewing Thread Classification According To Construction

Can be classified as follows:

- **SPUN THREAD** can be made of either from natural fibre or from synthetic fibre. The most common used spun thread is polyester. Staple or spun thread is made from short length fibers. Cotton, wool, flax etc. are natural staple fibers. Synthetic fibers such as polyester or acrylic can be cut into short length and twisted together to create spun or staple thread. Durable and long lasting seams can be made with staple or spun thread.

Uses

1. **Blouses**
2. **Children wear**
3. **Denim/Jeans**
4. **Knitwear**
5. **Shirts**
6. **Underwear**
7. **Jackets**

- **Core-Spun Thread** It is an industrial thread. Core-spun means continuous filament is in center and staple fibers are mess up around it. It is 40% to 50% stronger than normal spun thread of same weight. Core-spun thread can reduce the number of broken stitches during sewing seams or hems on heavy weight fabric like denim.

Uses

1. **Blouses**
2. **Jeans**
3. **Lingerie**
4. **Shirts**
5. **Leather products**
6. **Uniforms**

FILAMENT THREAD

IT CAN BE MADE OF A SINGLE FILAMENT OR BY TWISTING MORE THAN ONE FILAMENT TOGETHER OR BY A LITTLE TWIST OF BULK FILAMENTS. THERE ARE MAINLY THREE TYPES OF FILAMENT THREADS AS FOLLOWS:

- **Monofilament Thread** It is made of single continuous fibre. It is stronger and inexpensive but has limitations in usage due to stiffness and less flexibility. Silk is an example of natural continuous monofilament thread.
- Uses

1. Invisible seams
2. Hair wraps.
3. Quilting
4. Flags
5. Upholstery
6. Clothing

- **Multifilament Thread** It is made of more than one continuous filaments twisted together. Normally nylon or polyester fibers are used to make this type of threads. It is used where more strength is required.

- **Uses**

1. Leather goods
2. Footwear
3. Garment embellishment
4. Vehicle interior
5. Luggage and travel goods

- **Bulk filament or texturized thread** Many filaments are bonded together with a very little twist to make this thread. Usually polyester filaments are used to make it. It is soft, voluminous and skin friendly and used for cover stitch seams. It gives maximum edge covering.

- **Uses**

1. Men and ladies wear
2. Sports and outdoor wear
3. Underwear and lingerie

Sewing Thread Classification Based On Finishes

In the sewing thread manufacturing factories, finishes are given on sewing threads in the finishing departments to improve sew ability and to achieve any specific functional requirement.

- **Flame Retardant Finish** This type of finish is given to make the sewing thread resistant to flame.
- **Uses**

1. Flame resistance and protective wear
2. Industrial gloves
3. Military protective wear
4. Work wear

- **Anti Static Finish** A special type of finish is given to make the thread protective against static charge build up.
- **Uses**

1. Suits and footwear for electric assembly line workers
2. Conductive textiles

- **Water Repellent Finish** Hydrophobic finish is given to make the thread water repellent which is used to make water repellent seams.
- **Uses**

1. Rain coats
2. Outer wear

SEWING THREAD SIZE

- **Sewing thread** is a very important element for **making complete garment**. Threads are usually made up of several single strands twisted or plied together.
- Sewing thread size or count is a numerical expression used to indicate threads size, is the relationship between length and weight of yarn.
- Sewing thread size is the most significant factor in accomplishing the functional and aesthetic requirements of the finished garment
- Sewing thread sizes could be expressed in direct or indirect numbering systems. Normally, metric count (Nm) is used to express synthetic, spun and core spun thread size while English count (Ne) is used to express the size of cotton thread.
- Filament sewing threads are generally expressed in denier or decitex.

DIFFERENT TYPES OF THREAD PACKAGES

- Sewing threads are put up on different types of thread packages called spools, cops or tubes, cones, king tubes or vicones, containers, cocoons, and prewound bobbins to suit different types of threads, machines, and sewing needs.
- Sewing machines require specific types of thread packages in order for the thread to be presented correctly to the machine.
- Thread packages may be color coded by size and type of thread to assist operators in correct thread section.
- Thread is sold by length instead of weight. The following figure shows several types of thread packages –

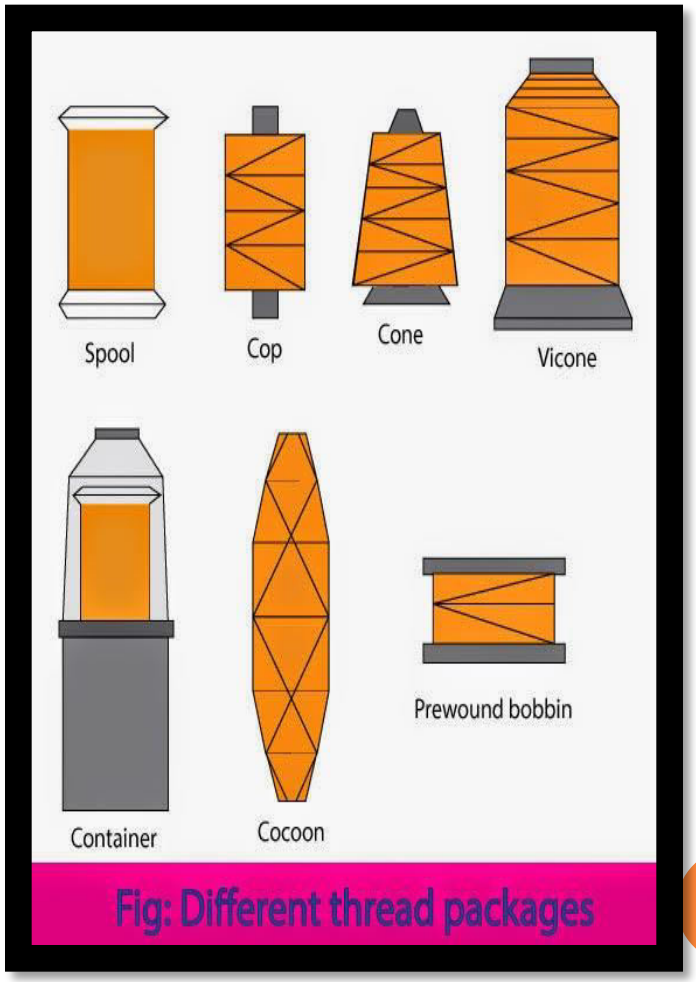


Fig: Different thread packages

AND HAVE THREAD WOUND IN A PARALLEL POSITION. SPOOLS HAVE A FLANGE EITHER END THAT INTERFERES WITH OFF WINDING ON INDUSTRIAL MACHINES. SPOOLS ARE DESIGNED FOR HOME SEWING USE.

- **Cops** – Cops are used primarily on lockstitch machines where a variety of colors are used and productions runs in any one color are short. Thread is cross-wound on cops or small tubes to increase in off winding.

- **Cones** – Cones are symmetric, tapered forms made of paper or plastic that hold over 5,000 meters of cross-wound thread. Cones provide good off-winding performance for high-speed machines. Cones are the most economical packages for sewing threads in situations when thread consumption is high and production runs are long with limited shade changes.

VICONES OR KING TUBES – VICONES OR KING TUBES MAY BE PARALLEL TUBES OR LOW-ANGLE CONES WITH A FLANGE AT THE BOTTOM, WHICH IS DESIGNED TO CONTAIN SPILLAGE OF SMOOTH OR CONTINUOUS FILAMENT THREADS DURING OF WINDING.

- **Containers –** Containers are designed to handle lively monofilament threads that may be difficult to control with traditional packages. Very large spools of thread may have lubricant applied as the thread is off-wound.

- **Cocoons** – Cocoons are centerless thread packages designed for insertion in shuttle less of multi-needle quilting machines and some types of embroidery machine.

- **Prewound bobbins –** These are precision-wound packages designed to replace metal bobbins in lockstitch machines. Generally, more thread is available and the length is more consistent on prewound bobbins than on operator wound bobbins. Downtime is minimized by eliminating time for winding bobbins. Off winding is also improved because of precision winding. Prewound bobbins are available in different thread types and sizes for different models of machines.

TOPIC:- **Washing;** Labels- Types (main, wash care, size, brand, fibre content, fit, country of origin, designer), representation of symbols used in labels, color Matching.

Garments Wash

- The technology which is used to modify the outlook, appearance, fashion, and comfortability of garments is called **garments washing.**
- Garments washing are the aesthetic finish given to the denim fabric to enhance the appeal and to provide strength.
- Garment washing is applied on solid dyed garments or solid **printed fabric**.

Process Flow Chart of Garments Washing:

Actual process flow chart for garments washing are mentioned in the following-

Garments receive from the sewing department

↓

Garments sent to the dry process (If there's any dry process)

↓

Hand scrapping

↓

Whiskering

↓

Tacking

↓

Garments sent to the wet process

↓

Garments loading into the **washing machine**

↓

Washing (Maintaining wash reference)

↓

Extracting

↓

Drying

↓

Garments sent to the dry process (If there's needed any more dry process)

↓

P.P spray (If the process needed)

↓

P.P sprayed garments sent to the wet process

↓

P.P sprayed garments loading into the washing machine

↓

Washing (Completing rest of the wet process)

↓

Extracting

↓

Drying

↓

Garments sent to the dry process (If there's needed any more dry process)

↓

3D (If needed)

↓

Curing

↓

Quality check (Q.C)

↓

Send to the finishing department.

ALL THE ABOVE GARMENTS WASHING PROCESSES ARE DISCUSSED IN THE BELOW TABLE:

SL No.	Process	Procedure
01	Garments receive from the sewing department	At first, garments should be received from the sewing department.
02	Garments sent to the dry process	All the garments are sent to the dry process department if the buyer approved wash reference garment containing dry process.
03	Hand scrapping	Here hand scrapping is done by the following buyer approved wash reference garment.
04	Whiskering	Whisker process is completed here by following buyer approved wash reference garment.
05	Tacking	If buyer approved wash reference garment contains tacking effect then tacking process should be done here by following approved garment.
06	Garments sent to the wet process	After completing all the required dry processes, garments are sent to the wet process department.
07	Garments loading into the washing machine	Here the garments are loaded into the washing machine for a required wash.
08	Washing	By following buyer approved wash reference, garments are washed here using the required chemicals.
09	Extracting	When the garments wash will complete, then these are unloaded from the washing machine and extracted by using a hydro extractor.

19	3D	Here the 3D process is completed by the following buyer approved wash reference garment.
20	Curing	Applying the 3D process, the garments are cured here by using the woven machine.
21	Quality check (Q.C)	After completing all above the processes, washed garments are checked here by following buyer-approved wash reference garments.
22	Send to the finishing department	Finally, all the clothing is sent to the finishing department for the next required processes.

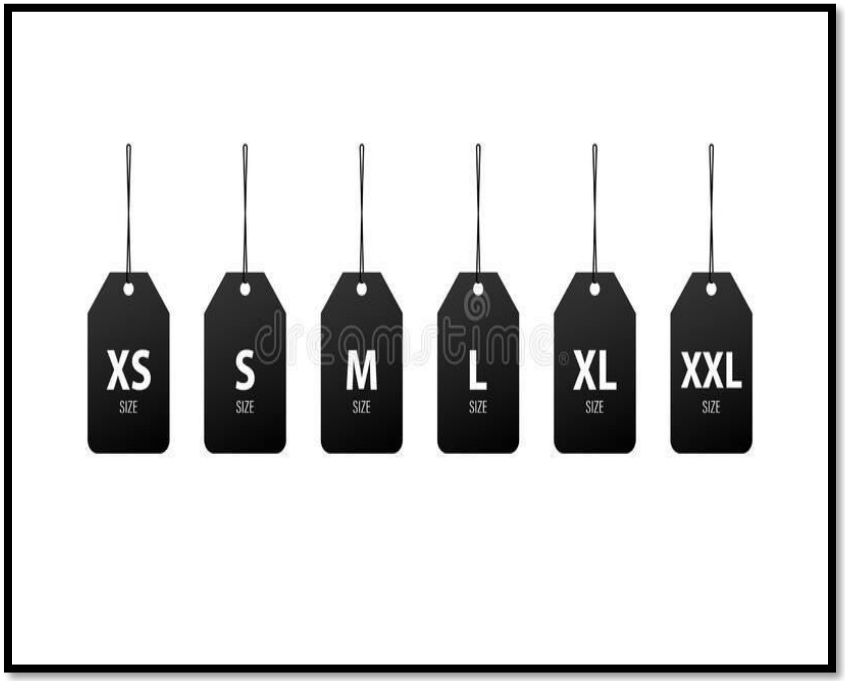
1. Brand or Main Label

- Main labels indicate a Brand name or Brand Logo of the company that sources and sells clothes.
- Brand labels play a big role to customers as because customers only know the brand and they buy the brand.
- A brand level is associated with the product quality, durability and feel good factor.

Like, we go buy Levis jeans and Tommy Hilfiger for shirts and Polo shirts, Zara for dresses etc.

2. Size Label

- Size label defines a specific set of measurements of the human body.
- Sizes labels may be printed only a later to denote a specific size. Such as S for Small, M for Medium and L for Large size garments.
- The customer knows which size fits them well. When a customer goes for shopping, s/he picks garment according to his/her size that fit him/her well.

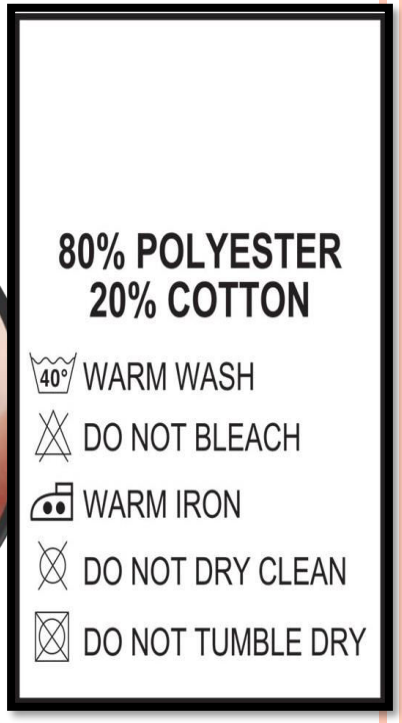


3. Care Label

- This label includes wash care and ironing instruction. For details of wash care instructions refer Garment wash care symbols.
- Care labels are attached at side seam. the purpose of care labels is to warn wearers what not to do to during washing, drying and ironing to maintain color, specifically printed designs, after wash shrinkage and color bleeding issues.
- A care label may include few other information such as

Fiber contents are also included in care labels. i.e. 40% Poly and 60% Cotton

Country of Origin: Name of the country that manufactured the particular product is also written on care label. Like, Made in India, Made in Italy.



4. Fiber Contents

- Fiber contents are also included in care labels. i.e. 10% Poly and 78% Cotton

5. Designer label

The term designer label refers to **clothing, luxury automobile manufacturers and other personal accessory items sold under an often prestigious marque** which is commonly named after a designer, founder, or a location-like where the company was founded (such as BMW). The term is most often applied to luxury goods.

COLOUR MATCHING

- Color Matching Cabinet booth for visual assessment of color under 6 standard lights, folding body and button switch.
- Suitable yarn, fabric dyeing plant, garment manufacturer.
- Suitable for staining, change in color test by using grey scales during color fastness test.

Perception of colour

- The Light source

- The object

- The human eye

The Human Eye and Brain

- Light receptors
  - Rods - Perceives light and darkness
  - Cones-Perceive Colours
- Rods
  - The black & white world. (Night vision)
- Cones
  - Red, Green & Blue sensitive receptors
- The optic nerves transmits stimuli to the brain which interprets colour.

Computerised Colour Measurement

- Spectrophotometers are very effective in measuring and recording Colours
- The CIE System is commonly used
- Software is crucial in recording, analysing, comparing and matching colour samples.
- Samples should have the same surface finish and shape as far as possible.
- The Spectrophotometer scans samples for comparison and the Software takes over.

TOPIC:- Finishing and Packing; Functions of finishing and packing department, Stain removal methods- chemical and natural methods; Pressing- Purpose, types of pressing; Packaging and folding, Types of packing material

Functions of Finishing & Packing Department

- Finishing activities are performed prior packing garments into poly bags. The major activities of a finishing department include thread trimming, checking garments and ironing.
- The folding, tagging and packing of garments are done in the packing section in the finishing department.

1. Thread Trimming:

In the stitching department, thread trails and thread chains are not trimmed neatly. Uncut threads and thread tails in garments are trimmed in the finishing department by helpers. Uncut and loose threads on garments are considered defects.

2. Checking garments:

All garments are checked at the finishing stage for visuals and measurement. Finishing checkers check the complete garment inside and out. Checking is done for garment detailing, such as care labelling, and trims.

3. Button attach and Butting holing:

Products those have trimming like button, snap button, eyelets are attached in finishing section.

4. Removing stains:

Stains and spots are found on garments. Spots are removed using a hand spot gun or by using a stain removing machine prior to pressing. Dust and stains can be removed by machine washing. So, many times finishing department wash garments inside department.

5. Repair work and mending

Defective garments may need to repair for stitching and fabric defects. All repair activities are done in finishing department itself instead of sending defective garments to stitching department.

6. Ironing garments:

Garments are ironed using a steam iron. This is done to remove creases in the garment. For knitted garments measurements are set by steam press. Vacuum pressing tables are used for garment pressing.

7. Folding and tagging:

Pressed garments are folded in a specified dimension. Tags, such as price tags and hang tags are attached to the garment by means of a kimble gun or threads.

8. Packing garments:

Finally, properly folded garments are packed into poly bags as per customer requirements. Individual poly bags are then packed into bigger cartons.

9. Preparation of packing list:

The packing in-charge prepares a packing list for the shipment. After packing is completed for an order, the finishing department informs the concerned merchant.

10. Internal shipment audits

Quality department perform internal shipment audit in the finishing department. This audit is done prior to final inspection.

11. Documentation and reporting

Like other departments, finishing department maintain production records for pressing, and packing.

Stain Removal Methods

- Stain removal is **the process of removing a mark or spot left by one substance on a specific surface like a fabric**.

Stain is an area of discoloration that penetrates the cloth surface, caused by a local deposit of soil or discoloration on a substrate cloth that exhibits some degree of resistance to removal, as by laundering or dry cleaning.

Classification of Stain and Removal Techniques from Clothes:

Stains are broadly classified under six headings. Namely,

- Protein stain
- Tannin stains
- Oil – based stains
- Dye stains
- Combination Stains
- Stains require special treatment methods

1. Protein Stains:

Baby food, Milk, Blood, Cream, Cheese sauce, Pudding, Egg, White glue, Ice cream

Removal Techniques:

Soak the fabric having fresh protein stains in cold water and rut it against itself to dislodge stains (use of hot water at first time is useful to remove the stain) If the built up stains of old, scrape or brush off crusted matter, then soak in cold water using a detergent or an enzyme pre-soak product.

2. Tannin Stains:

Types of Tannin stains are as follows:- Alcoholic beverages, Beer, Berries, Coffee, Tea, Juice, Cologne, Washable ink, Soft drinks.

Removal of Tannin Stains:

These are usually removed by laundering the cloth using detergent in hot water without any treatment. Natural soap should never be used due to tannin stain will be stayed permanent and more different to remove it.

3. Oil – based stains:

The following are known as oil- based stains: Automobile oil, Hair oil, Lotion, Butter, Grease, Cooking oil, Creams Collar, Cuff greasing rings.

Removal of oil- based stains:

These stains are “built up stains” and can be used only by the use of hard removal substance like an aerosol petroleum based solvent pre-treatment spray, or a pump type detergent based spray is used on an oil stain surface. Even heavy duty liquid detergents are more useful to remove oil stains.

4. Dye Stains:

Types or dye stains are as follows:- Cherry, blue berry, color bleeding in wash (dye transfer) Grass, Indian IWL, Paint, Felt tip pen ink and mustard.

Removal of dye Stains:

Using of heavy duty liquid detergent, then rinse thoroughly. Soak the stained cloth / garment in a dilute solution of all fabric powdered bleach.

A few highlighter (maker) stains also be removed by applying and rubbing gently with isopropyl alcohol and flushing with hot water is the quick & easy remedial measure.

5. Combination Stains:

Combination of these type of stains are grouped under A and B tittles.

The following are the mentioned here under

- **Group A**

  Ball point link, Candle wax, Carbon paper, Crayon, Eye make-up pencils, Floor wax, resin, shoe polish, Tar.

- **Group B**

  Lotion ketsup / tomato sauce, Cocoa or Chocolate, Face make up (powder, foundation), Hair spray

Removal of group A mentioned stains.

Spray or sponge with dry cleaning solvent like perchloroethylene, trichloroethylene, after that gently rub with heavy – duty liquid detergent before washing. It fabrics are colorfast to bleach, use liquid chlorine bleaches for tough dye stains for the group B tyre or stains before **washing**.

6. Stains require special treatment methods:
Chewing gum, Deodorants, Nail polish, Lead Pencil varnish, pesticide, Rust, smoke, water spots.

Removal techniques:
Removal techniques of light stains can be pre-treated with liquid laundry detergent and then launder.

- **For heavy stains:** Pre – treat with pre wash stain remover for 5 to 15 minutes. After that laundering is to be done using an oxygen bleach.
- **Nail Polish** can be removed with acetone and spot treatment method.
- **Lead pencil**, Spray with pre-treatment aerosol product, rub in heavy duty liquid detergent, rinse in worm water and then launder.
- **Mildew** is removed with heavy duty liquid detergent and then launder in hot water. Bleach as safe for cloth.
- **Paint / Varnish:** using of thinner turpentine spot washing and then heavy duty detergent work is recommended perspiration, stub born stains may be responded to washing in an enzyme. Containing product or oxygen bleach in hottest water as safe for cloth.

- **Rust :** Hydrofluoric acid, oxalic acid
- **Smoke :** Heavy – duty phosphate based detergent or liquid.

Applying stain removers are four methods namely, Dip method, Steam method, Drop method, Sponge method.

Stain removal products are Five types namely, Absorbent materials, Detergents, Bleach, Pre-treatment products, Odor reducing agents pre-treatment products are, Aerosol sprays, Gel tyres, Pump spray, squeeze bottle, stain stick.

Stain removal chemical are Alcohol, Ammonia, color remover, color whitener, Dry cleaning fluid, glycerin white vinegars.

PRESSING

Pressing is the application of heat, moisture and pressure maintaining actual time to give shape, mold, or crease on fabrics, garments, or garment parts into the geometric forms. Pressing is done for making the fabric smooth or to give it a perfect form. It is an important finishing process in apparel industry. Pressing or ironing is done during assembly or as a final finishing process.

Pressing may be done

- During assembly to facility other operations and improve quality
- Final finishing process

The process of pressing is to make the fabric smooth or to give it a form, such as turn-up or hem

Elements of pressing

○ Heat: heat is needed in most pressing process to soften fibers, stabilize and set the desired shape. Temperatures must be selected to suit the fibers, yarns and fabrics used in a particular style
Sources of heat include heated surfaces and steam.

- Steam (Moisture): it is the fastest means of transferring heat into the fabrics.

Steam is created by heating water in a pressure/boiler.

The higher the pressure, required different amount of moisture and heat, excessive moisture may cause shrinkage and color bleeding and must be used under controlled conditions.

- Pressure: it is applied to alter shape and increase the permanency of the molding or creasing.

Too much pressure may distort fabric surface, flatten texture and create permanent garment or fabric damage

- Vacuum: after application of heat and moisture it is the vacuum which sucks ambient air through the garment as it lies on the buck or pressing table.

This rapidly dries out residual moisture from the garment and ensures that the set imparted by pressing is retained.

Suction also ensure garments is in place before pressing and it does not shift.

Types of pressing Equipment

- Buck pressing
- Iron pressing
- Block or die pressing
- Form pressing
- Steamers
- Steam tunnels

BUCK PRESSING

- These are commonly used by manufactures of slacks , skirts , and jackets.
- Components-

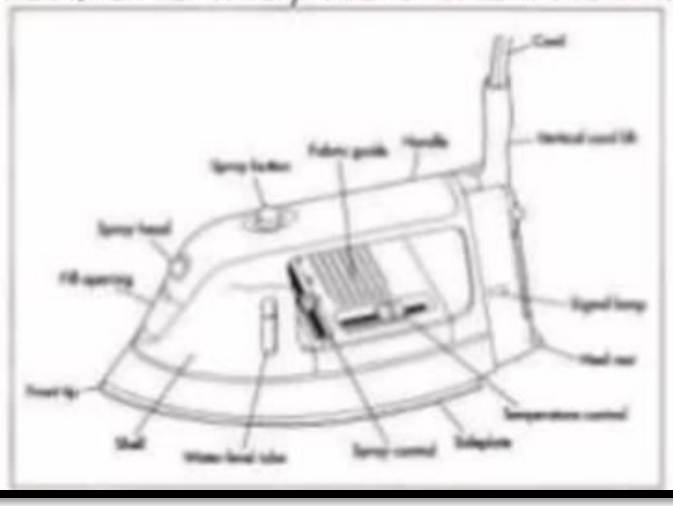
1. Lower buck
2. Moveable head with a linkage system
3. Buck padding stem and vacuum system frame
4. Manual or automatic control for steams, vacuum ,heat and pressure.
5. Covered with heat resistent silicon Foams

- It may be used for in-process pressing & finish pressing.

Press for jacket shoulders and collars.

IRON PRESSING

- **Ironing** is the use of a heated tool to remove wrinkles from fabric.
- **Ironing** involves sliding an iron back and forth to remove wrinkles and is normally only done to finished garments.
- The heating is commonly done to a temperature of 180–220 °Celsius, depending on the fabric.
- Ironing works by loosening the bonds between the long-chain polymer molecules in the fibers of the material.
- While the molecules are hot, the fibers are straightened by the weight of the iron, and they hold their new shape as they cool.



TYPES OF IRON

A. **Dry Iron**

- light weight irons weighing about 1.4 kgs with a heat range of between 70 and 240 degree C and electronic temperature controls that have a reliable accuracy of +/- 3 degree C.
- This type of iron is made in a variety of shapes and is mainly used for smoothing or finishing operations where steam is unnecessary.

Electric Steam Irons

- These are the most commonly used type of hand iron and carry out a wide variety of operations, especially those concerned with under pressing.
- The iron has a heating element and steam is fed from a central or independent boiler into the steam chamber in the base of the iron.

- The heat generated can be controlled by a thermostat, and supplied with steam either from factory's main steam supply or from a small boiler adjacent to the pressing unit.
- The steam function of the iron is activated by the touch of a button.

BLOCK PRESSING

- It is a molding process that establishes a products conformance to a form.
- It may change the surface characteristics and dimension of a product.
- The fabric is placed on a fixed form before pressure heat and steam is applied.
- It is used to crease patch pockets and pocket flaps.

Fig:-Block pressing

FORM PRESSING

- Form presses are made in the approximate shape of the finished garments.
- Steam is forced from the inside of the form through garment while the form expands to fill all the space inside the garment.
- It is designed to reduce the amount of positioning and re-positioning time.

Fig:- Form pressing

STEAMERS

- These are the pressing machine that uses only steam to mold and smooth the garment.
- Types of steamers-
  - steam jets.
  - steam guns.
  - steam puffs.
  - steam tunnels.
- These devices may be used either to form and stabilize garment shape.

fig:- Steamers

STEAM TUNNELS

- These are used for final pressing.
- Garments are de-wrinkled within a chamber by the average pressure of circulating steam.
- Garments are carried over the nozzle of a steam jet in order for the garment to receive the full force of the steam pressure.
- It reduces labor costs and process garment at a rate of 1200 to 3600 units per hour.

VACUUM

- Vacuum systems are used to remove the excess steam used in the equipments of finishing and pressing sub processes and for suction of waste produced by cutting and sewing sub processes.

Over-consumption in this area is due to:

- All or nothing utilization, i.e, even if only one production machine is in use the suction is being applied to all machines;
- Leakage in network;
- Extracted hot air is wasted (of steam consumer machines)
- Lack of electronic control and frequency variation.

PURPOSES OF GARMENT PRESSING

The main aim of garment pressing is to increase the adornment of the garments. Also, the following are the key objects of garment pressing:

- **Removal of unwanted creases and crinkles:**
  Different types of unwanted creases and crinkles are happened during making of garments. It may be forms due to the washing of garments. To remove these unwanted creases and crinkles from the garments, pressing or ironing is done.
- **To apply creases where necessary:**
  Sometimes, it is applied creasing effect to the garments to increase the beauty of that garments. Also, this is done before sewing to increase the beauty and proper sewing to the garments. These creases are applied by pressing.
- **Shaping:**
  Dart and seam are use to the garments for proper shaping to the wearer. To increase the beauty and attractiveness of created shape by using dart and seam is done by pressing. Sometimes it needs to shrink or stretch of garments parts for shaping, generally, pressing machine consists of a special type of bed is used for pressing.

Apparel finishing process (folding and packaging)

GARMENT FOLDING

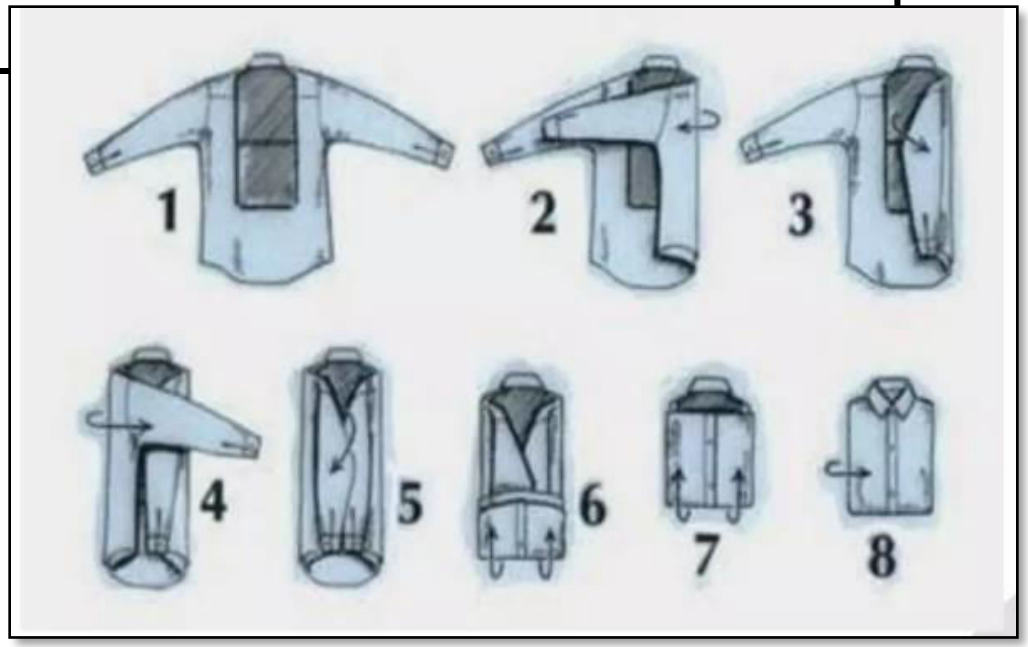
After completing pressing, the garment are folded with a predetermine area. Garments are folded according to the buyers direction, requirements in a standard area.

FOLDING OF BASIC SHIRT

2.2.1) Folding of a basic Shirt

There are mainly 4 types available for folding shirt is given below-

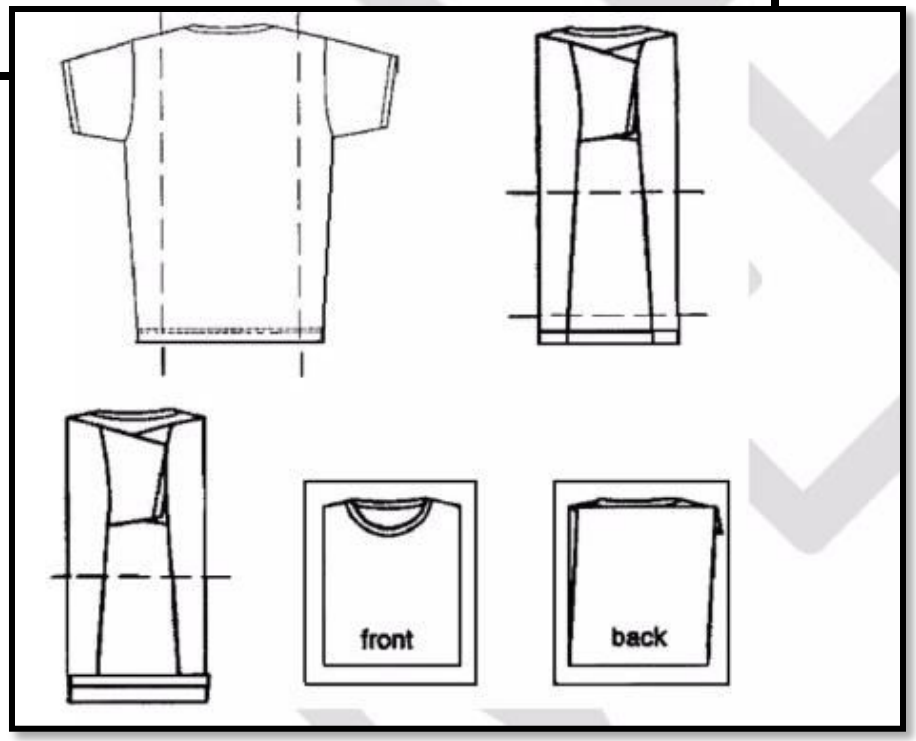
- Stand up: Collar is folded with body and situated at 90 degree angle.
- Semi-stand up: Collar is folded with body and situated at 45 degree angle.
- Flat pack: Collar is spread as a whole on the body of shirt.
- Hanger pack: Shirt is packed and transported by hanging on the hanger. At the end of folding , garment are placed into a polythene packet, the size of polythene packet is permanent.



FOLDING OF A SHORT-SLEEVE T-SHIRT

2.2.2) Folding of a Short-Sleeve T-shirt

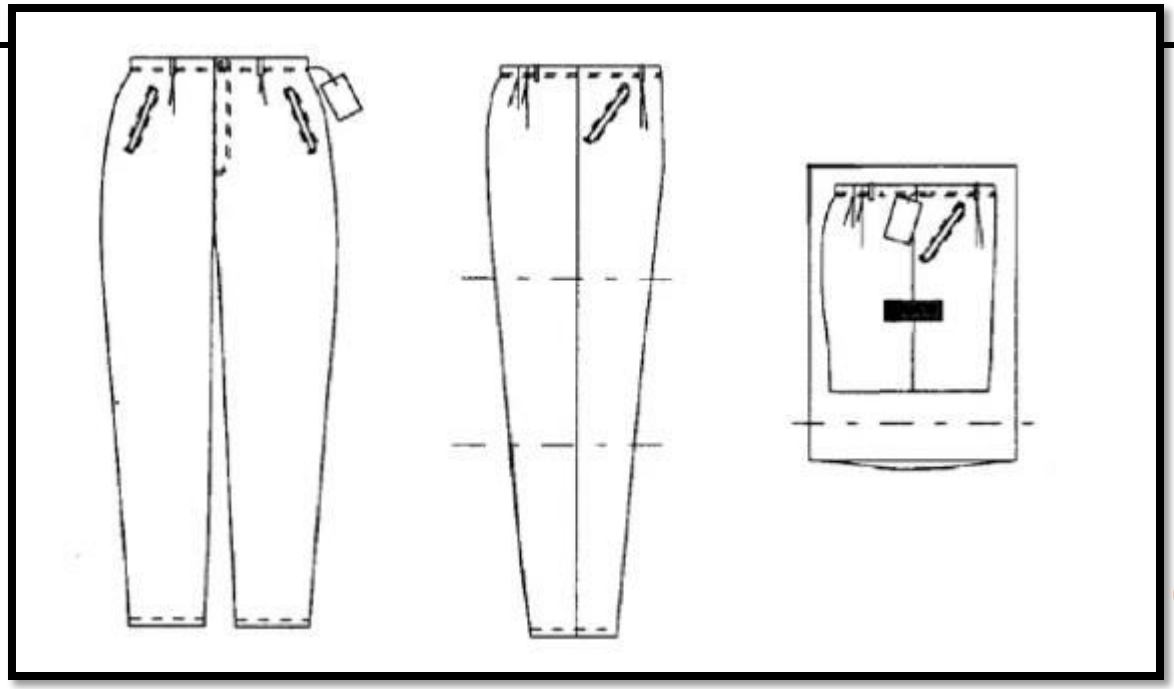
- Fold the arms straight across back.
- Fold the shirt side seams across back of shirt.
- Fold the bottom edge of shirt about 2-inches from the bottom.
- Fold the shirt in half



PANT FOLDED SIDE-TO-SIDE

2.2.3) Pant folded side-to-side

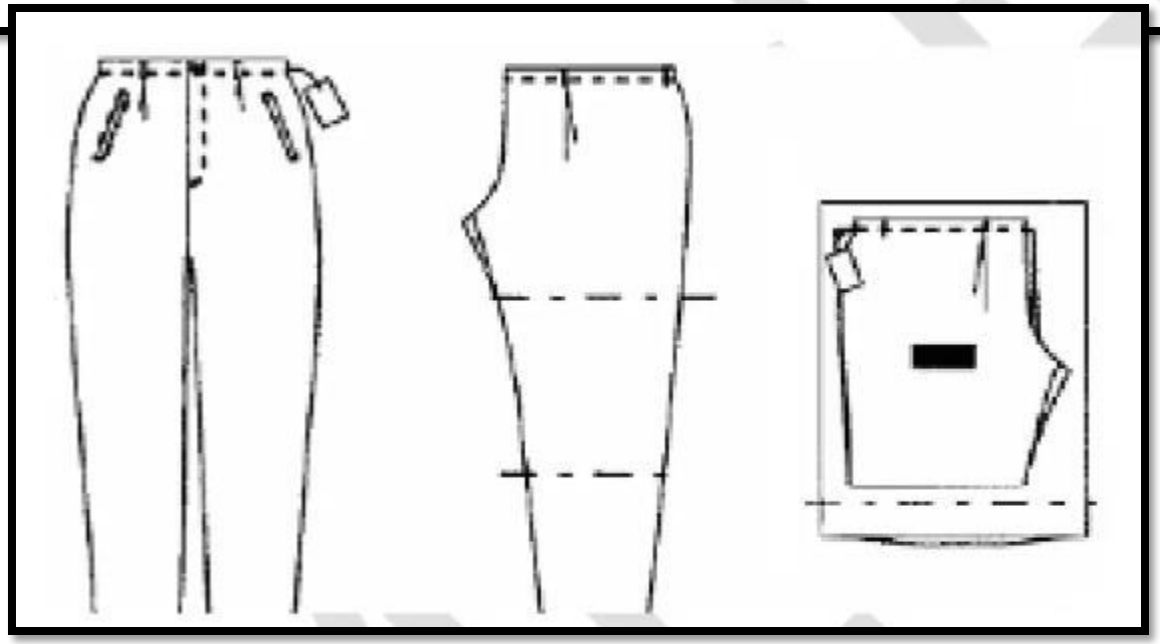
- Close zipper and waist buttons.
- Fold pant in half, with inseam to out seam keeping ends of waistband to inside of pant.
- Fold leg in thirds – fold bottom edge to above knee and fold up to waist edge.



PANT FOLDED FRONT-TO-BACK

2.2.4) Pant folded front-to-back

- Close zipper and waist buttons.
- Fold pant front to back with fold at rise
- Fold leg in thirds – bottom edge to above knee and fold up to waist edge



Garment packaging

- Garment packaging is the procedure of wrapping, compressing, filling or creating of goods for the purpose of protection too their appropriate handling. It is also use to get lot of attention from the customer.
- This is the procedure inward(आंतरिक, towards the inside or centre)the production of garments, which prepares the finished trade for delivery to the customer. It is an of important part of the garment manufacturing process.
- Garment packaging is also job to learn lot of attending from the customer.

Flowchart of Garment Packaging:

Received garments from the finished subdivision

↓

Hang tagging

↓

Folding amongst inserting dorsum board, tissue

↓

Poly Bagging

↓

Cartooning

↓

Applied adhesive record on the pack

↓

Bar-coding

↓

Packing consummate

Different types of packaging

Different types of packaging are there for different types of garments.

- Stand up pack: Shirt (90° angle)
- Flat pack: Sport wear/Shirt/Trouser
- Hanger pack: Blazer, Coats, Pants
- Semi stand up pack: Shirt
- Half fold pack: Pant

Merchandising packaging

The merchandise package is the unit the consumer receives when he selects the product. From the consumers point of view the merchandise package should :

- Identify the product
- Enhance the appeal of the product
- Attract the consumer to the package
- Protect the product quality until the consumer uses the item

Transparent plastic film is useful in meeting all of the requirements. Seeing the product makes it easy to identify and attract the consumer. Color and design on the package are other ingredients that are used to identify, enhance and attract.

Vacuum Packaging

The function of a vacuum packaging is:

- To reduce the shipping bulk of unfinished garments
- To reduce the shipping weight of garments shipped
- To prevent a garment from accumulating dust or objectionable odours before and during shipping
- To prevent garments from acquiring wrinkles or creases, during shipping, this will have to be removed before the retailer displays the garments
- To minimize storage space for both the manufacturer and retailer

Vacuum packaging is used not only for packing and storing garments, but also for packaging household accessories made from textiles, such as blankets, bedspreads, pillows and towels-anything with bulk that can be easily compressed.

- Reducing the moisture content of the garment;
- Encasing the garment in a plastic film sack; after which
- The air in the sack and garment are vacuumed out as the garment is compressed within
- Which is sealed at the end of the vacuum and compression cycle.
- The moisture content is removed by passing the hung garment on a conveyor through a conditioning chamber which decreases the moisture content of the garment with hot dry.

Shipment Packaging

The shipment package performs the distributors function. It is the package the carrier receives and delivers to the retailer. It delivers the merchandise package to the retailer (or the wholesaler).

Shipping packing's may be divided into the classes with respect to the protection from

- **Closed containers carrying garments**

1. covered completely individually by a merchandising package (closed merchandising packages)
2. without a covering merchandising package (an open merchandising package)

- **Open containers carrying garments**

1. In closed merchandising packages,
2. In open merchandising packages.

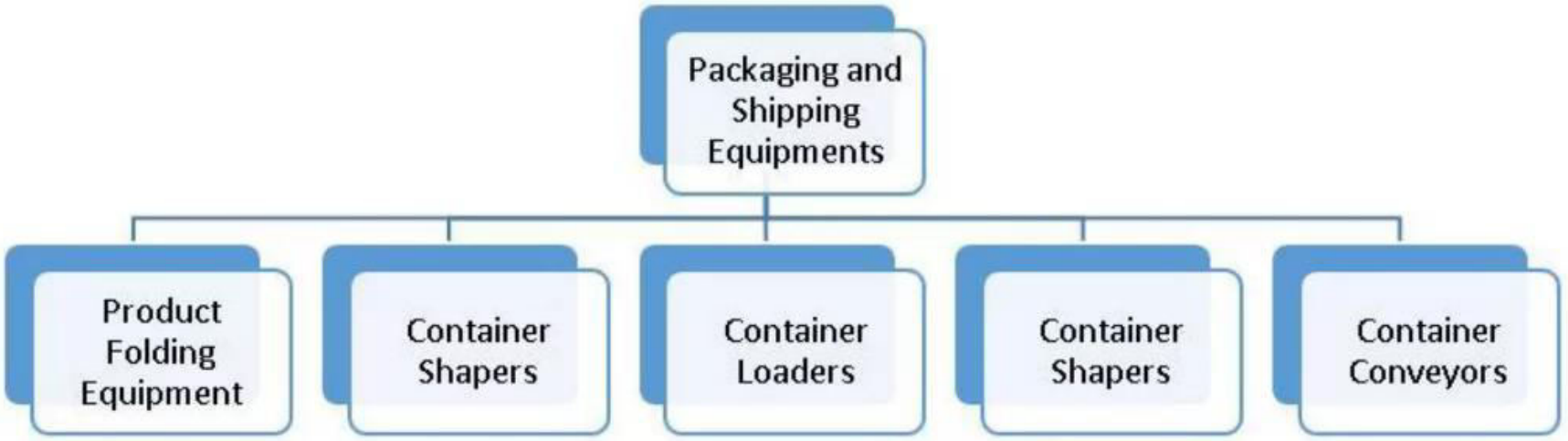
Costs, suits, or dresses transported without individual covers on hangers, suspended from portable hanger racks, are examples of open merchandising packages carried in open containers.

Cartons with hanger racks. "Hanger Pac", are examples of **closed containers** designed to carry the garments in **open or closed merchandising packages**.

Packaging Materials

- Plastic clip
- Paper board
- Wooden Boxes and Crates
- Butterfly
- Plastic collar
- Tag pin
- Ball head pin
- Poly bag
- Inner box
- Tissue paper
- Carton
- Scotch tape

PACKAGING AND SHIPPING EQUIPMENT



PACKING DEFECT

CARTON DAMAGED	MISSING TAG
CARTON PROTUBERATED	MIXED COLOR
CARTON QUALITY POOR	MIXED PO#
CARTON SIZE INCORRECT	MIXED SIZE

CASE LABEL INCORRECT	INCORRECT TAG
INCORRECT BARCODE	INCORRECT GMT PACKED
INCORRECT COLOR	INCORRECT POLYBAG PRINT
INCORRECT COUNT	MISSED SILICA GEL
INCORRECT FOLDING	INCORRECT INNER BOX
INCORRECT SHIPPING MARK	MISMATCHED ODD PAIR-FOOTW
INCORRECT SIZE	MISS SHOE TREE SUPPORT-FW
INCORRECT PO	INFERIOR POLYBAG
MISSING DETACHABLE ACCESS	EMPTY INNER BOX

MISSING GARMENT TEST REPT	MISSED HANGER
MISSING PLASTIC STRAP	TORN/DAMAGED/WRINKLED LAB
MISSING STICKER	POOR ADHESION OF LABEL

MISSED SHOES	DIRT MARKS

FUNCTIONS OF PACKING

Packing is the last stage of apparel manufacturing process. A perfect packing is an important part for any product that helps to receive the customer attention. Some essential packaging functions are following:

Protection:

The main function of packaging usually involves protecting the products from the any environmental hazards and others. It helps to protect the goods from loss, damage and stealing. During transport, handling and storage operations different types of protections are needed. They are two types like Physical and Barrier protection.

Physical: Physical protection from vibration, mechanical shock, electrostatic discharge

Storage:

Packaging products must be stored in many different locations. So, to fill up this storage function all the packaging materials and packaging containers are should be checked before packaging the product or garment.

Loading and transport:

During the loading and transportation time packaging product may be lifted, moved, set down and store in a warehouse manually or mechanically. To complete this process easily, efficiently and safely the perfect external shape and strength of the packages should be required.

Promotional function:

The packaging is the important promotional functions to attract the customer's and buyers attention and to have a positive impact upon the purchasing decision.

Sales:

It helps to promote the sales process and to make it more feasible.

Information transmission:

Packages and labels give the detail information about product like how to use, ingredients, transport, nature, composition, weight, quantity, storage, recycle or dispose of the package or product.

Security:

Packaging can play an important role in reducing the security risks of shipment.

TOPIC:- **Supporting Services;** quality department, stores department, maintenance department, engineering department, sampling department, design studio, HR department, merchandising department, PPC department, Security department, industrial engineering department, marketing department and general management. (only functions of each department)

Supporting Services an introduction

- As is the case with many industries, garment manufacturing requires multiple support operations to enable production in the facility.
- Many of these support operations are common to any manufacturing industry, such as administrative functions, facility and equipment maintenance, and boiler and backup power generator operation.
- Support services typically refer to a business' use of technology in the workplace. These services provide the necessary support to ensure a business operates technology in an efficient and safe manner.

In garment industry there are following departments who provides their services for the better product:

- Quality Department,
- Stores Department,
- Maintenance Department,
- Engineering Department,
- Sampling Department,
- Design Studio,
- HR Department,
- Merchandising Department,
- PPC Department,
- Security Department,
- Industrial Engineering Department,
- Marketing Department And General Management

FUNCTIONS OF SAMPLING DEPARTMENT

The **sampling department** coordinates with the merchandising and production department. It is carried out to foresee finished product appearance and fit when produced in bulk and to confirm whether there are any inconsistencies in the pattern according to the buyer's specification. It also aids to determine the fabric consumption along with that of thread and other accessories used.

Sample department of apparel manufacturing industry has to maintain the below responsibilities:

1. Getting clarifications about style details from the merchandiser,
2. Checking pattern's work-ability,
3. Preparation of different samples and getting the buyer's approval,
4. Informing quality related problems, encountered during preparing samples to QC,
5. Minimizing operations and consumption.

1. **Getting clarifications about style details from the merchandiser:** It is the first task of any kinds of garment sample department. Here, the responsible person has to know about the details of sample from the garment merchandiser. In this stage, apparel merchandiser explains various important matters related with sample garment to the sample department personnel such as style, size, color, fabrication, washing, embroidery etc.
2. **Checking pattern's work-ability:** After receiving all the information's of sample garment, here sample department personnel has to cut the pattern paper according to the buyers instruction which he received from the apparel merchandiser.
3. **Preparation of different samples and getting the buyer's approval:** Fabric has to cut here according to the definite pattern and sewing the garments by maintaining buyer's instruction. Others instruction also maintained here such as wash, embroidery, print etc. Finally it's sent to the buyer for approval. In this way, various types of samples such as proto sample, fit sample, photo shoot sample, salesman sample, size set sample, top sample, shipment sample etc. are made here.
4. **Informing quality related problems, encountered during preparing samples to QC:** It is one of the most important tasks of any sampling department. If found any problems during making the sample then it should be informed to the quality controller (QC) instantly. After that, quality controller will take necessary steps to solve those problems.
5. **Minimizing operations and consumption:** Sampling department has to maintain other tasks of minimizing operations and fabric consumption which will be maintained during garment production.

Functions of Quality Department

The Quality Control Department is responsible of monitoring and ensuring that each stage of production is followed by all the necessary procedures for **safe use** of machinery and that each product coming out of the production process, complies with all **standards** and **specifications** that have been defined so to ensure a **smooth** and **trouble free** operation.

But the most common functions of quality control department include the following.

1. Quality checking of internal process and outsourced work
2. Quality control system development
3. Auditing output of each process
4. Quality awareness development among the employees
5. Preparing quality reports
6. Coordinating product quality issues with buyers and merchandisers

1. Quality checking of Internal processes and outsourced work

Followings are the various checking activities performed by the quality checkers.

- **Inspection of raw material:** Checking of raw materials to ensure there are no defective or abnormal goods.
- **Testing of raw materials:** The quality control department does not conduct testing of raw materials but they send samples to a testing lab for testing the physical and chemical properties. Once the factory receives the test report, the quality control team gets assurance whether raw materials to accept or not.
- **Inspection of Sample:** Visual inspection and measurement checking is done prior to sending sample to respective buyers.
- **Cutting room inspection:** The quality department also inspects work done by the cutting room. Like, layering of fabrics on cutting table, cut layer inspection, cut component inspection, Bundle inspection, etc.
- **Preparatory work inspection:** In high fashion garments, many preparatory works are outsourced like printing, machine embroidery, hand embroidery, beadwork, special decoration on garments, etc. Before feeding these outsourced goods to the cutting section or to the sewing lines, the quality department checks and approve for further process (sewing process).
- **Sewing process:** On the sewing floor, there are multiple checking processes is practiced by exporters, like, Inline inspection, end of line inspection, stitching quality audit, etc.
- **Finishing Process:** Finally, quality personnel checks finished and packed goods and do auditing prior to handover shipment to the external inspector.

2. Quality System Development

Raw material checking and garments checking are the bottom-level activities done by the quality checkers. Before doing any checking, the department must set up a plan of what to check, how much to check, and what would be the quality standards for each process.

- Development of quality checking procedure
- Developing mock of defective work and correct work
- Training of quality checkers, quality inspectors through in-house training or through workshops conducted by external experts.
- Developing quality manuals

3. Auditing output of each process

Other than checking of garments, raw material and cutting panels, quality team has another role in quality auditing of checked work. Remember quality checking is done for 100 percent of work. But auditing of work is done for certain percentage of work - like 5-10 percent. Even **AQL sampling method** can be used for deciding how many garments need to audited from the ready lot.

4. Quality awareness development among employees and workers

One of the major role of the quality control department in a garment unit is to bring quality awareness among the workers and all employees. Displaying banners in importance of making quality first time right. Explaining them the cost of poor quality and the delays in shipment a factory need to face due to quality issues.

5. Preparing quality reports

At the all checkpoints and auditing process, quality checkers and quality auditors need to prepare quality checking reports on daily basis.

- For the fabric checking, they prepare whether fabric lots are accepted or rejected based on the penalty points.
- In cutting rate of damaged panels are calculated
- In stitching, defective percentage of each production line is calculated and reported.
- In finishing process, Defective percentage reports are prepared. Also the damaged garment are reported.
- Identifying major defects and identifying frequently occurring defects
- Further, quality team prepare Quality on daily and weekly basis
- Some companies used to prepare cost of quality reports,

6. Coordinating product quality issues with buyers and merchandisers

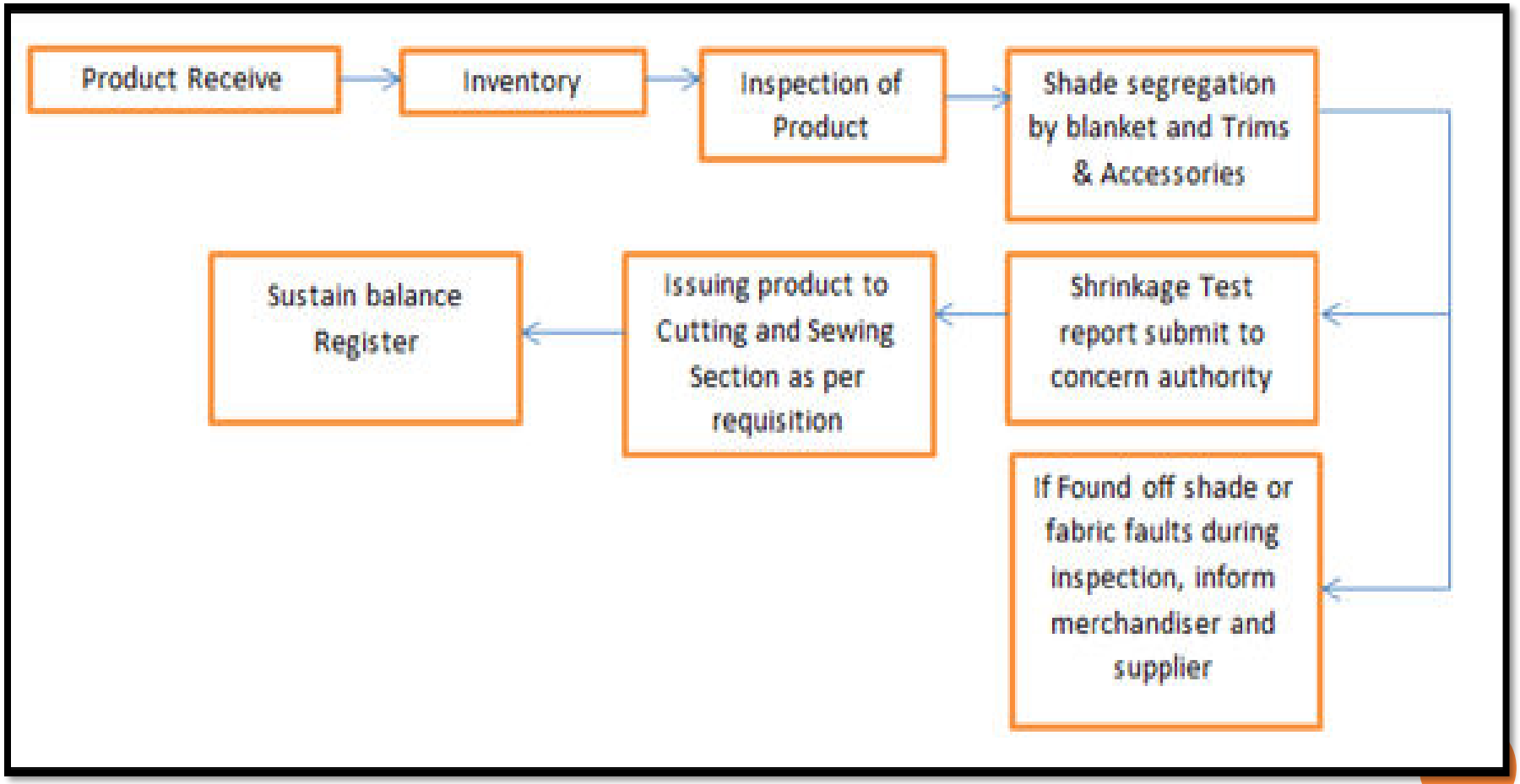
The quality control team of a garment factory need to understand quality requirement for the new styles.

- For this they normally do meeting with factory merchandiser or buyer's representatives and discuss quality requirements point by point following the apparel techpack and garment specs.
- Quality team take approval of trims and production quality from the buyers and merchandiser.
- They need to submit quality report for each order to the buyer.
- During sample submissions, quality team prepare quality checking report

Functions of Stores Department

- The fabric and **accessories** stores department is centralized in apparel industry and all the fabric and accessories comes to this unit first from the supplier and audited here and kept until it is distributed to other units.
- For an export oriented and bulk production of garment industry, it is essential to maintain a well-organized and well equipped inventory system.
- Proper store room management in apparel industry can reduce wastage of materials and lead time.
- The main responsibility of this department is to store all the raw material necessary to produce garments.
- Store keeper follows a strong and appropriate working procedure

Process Flow of Store Room Management:



- **Product Receive:** Here invoice is collect by Merchandiser, without invoice it is not possible make the inventory, because there is a list of Goods In invoice.
- **Inventory:** After Comparing invoice with received goods, the goods are placed in inventory.
- **Inspection of Goods:** Generally 10% goods are inspected, if found defects more that tolerance, the lot will be declared as reject and inform supplier for replace. Trims and accessories will be inspected 10% of total quantity. if found defects more than tolerance , then declared as reject.
- **Shade segregation:** Here pieces of fabrics from all roll have to cut and made a blanket to segregate shade.
- **Shrinkage Test:** From the fabric roll, 10% roll will be selected for shrinkage test . Piece of fabric cut from each roll at 50cm ×50cm and sends for shrinkage test. Shrinkage test repost then send to Pattern Section.
- **Issuing Product:** Store always issues product for cutting and sewing section as per pre-requisition from that department.
- **Sustain balance:** Store always keeps the sustain record after the issuing product in cutting and sewing section.

FUNCTIONS OF FINISHING DEPARTMENT

The finishing department is the last section in the garment production prior to packing and dispatch and it plays a significant role in the final garment appearance. It involves the following processes.

- **Trimming:** It removes the extra threads from the garment at the stitched areas.
- **Inspection:** The inspection is done as per the AQL 2.5 system and mainly depends on the buyer requirements.
- **Pressing:** This is carried out after the garment has been inspected completely and the garments are pressed or finished based on the method of their folding during packing.
- **Tagging section:** After the completion of fabric inspection and pressing, they are sent for labeling, which includes the size labels, price tags and miscellaneous labels if any are mentioned in the specification sheet.
- **Packing:** The packing is done in the carton boxes. Individual packing of garments in the poly bag and folding the garments and organizing them in the carton boxes without placing them in the poly bag are the two types of packing followed in the garment industry.

FUNCTIONS OF PRODUCTION DEPARTMENT

The production department will obtain the details like

- The garment style
- Number of operators required
- The batch for which the style has to be installed
- Target for each day
- Breakup of the production quantity

After receipt of all of the above details, the production department sends a request from the cutting section for the cut parts. After assembling of the components, a line check has to be done where the shade matching and the measurements are checked.

SAMPLE DEPARTMENT OF APPAREL MANUFACTURING INDUSTRY HAS TO MAINTAIN THE BELOW RESPONSIBILITIES:

1. Getting clarifications about style details from the **merchandiser**,
2. Checking **pattern's** work-ability,
3. Preparation of **different samples** and getting the buyer's approval,
4. Informing **quality-related** problems, encountered during preparing samples to QC,
5. Minimizing operations and **consumption**.

1. Getting clarifications about style details from the merchandiser:

It is the first task of any kind of garment sample department. Here, the responsible person has to know about the details of the sample from the **garment merchandiser**. In this stage, the apparel merchandiser explains various important matters related to sample garments to the **sample** department personnel such as **style**, size, **color**, fabrication, **washing**, embroidery, etc.

2. Checking the pattern's work-ability:

After receiving all the information of sample garments, here sample department personnel has to cut the **pattern paper** according to the buyer's instruction which he received from the apparel **merchandiser**.

3. Preparation of different samples and getting the buyer's approval:

The fabric has to cut here according to the definite pattern and sewing the garments by maintaining the **buyer's** instruction. Other instructions are also maintained here such as **wash**, **embroidery**, print, etc. Finally, it's sent to the buyer for approval. In this way, various **types of samples** such as proto sample, fit sample, photoshoot sample, salesman sample, size set sample, top sample, shipment sample, etc. are made here.

4. Informing quality-related problems, encountered during preparing samples to QC:

It is one of the most important tasks of any sampling department. If found any problems during making the sample then it should be informed to the **quality** controller (QC) instantly. After that, the quality controller will take the necessary steps to solve those problems.

5. Minimizing operations and consumption:

The sampling department has to maintain other tasks of minimizing operations and **fabric consumption** which will be maintained during **garment production**.

Functions of Production Planning and Control (PPC) Department

Production planning and control department is one of the important department for the apparel manufacturing company.

1. Job or Task Scheduling:

Preparation of time and action calendar for each order from order receiving to shipment. The job schedule contains list of tasks to be processed for the styles. Against each tasks planner mentions when to start a task and what is dead line for that task. Name of responsible person (department) for the job is being listed. For example, scheduling planned cut date (PCD), line loading date etc.

2. Material Resource Planning (Inventory):

Preparation of Material requirement sheet according to sample product and buyer specification sheet. Consumption of material (fabric, thread, button, and twill tape) is calculated and estimated cost of each material.

3. Loading production:

Planner defines which style to be loaded to the production line and how much quantity to be loaded.

4. Process selection & planning:

Processes needed to complete an order vary style to style. According to the order (customer) requirement PPC department select processes for the orders. Sometimes extra processes are eliminated to reduce the cost of production.

5. Facility location:

Where a company has multiple factories (facilities) for production and factories are set for a specific product, planner needs to identify which facility will be most suitable for new orders. Sometimes there may be a capacity shortage in a factory, in that case, planner need to decide which facility will be selected for that orders.

6. Estimating quantity and costs of production:

Planner estimate daily production (units) according to the styles work content. With the estimated production figure, production runs and manpower involvement planner also estimate production cost per pieces.

7. Capacity planning:

PPC department plays a major role during order booking. They decide (suggest) how much order they should accept according to their production capacity. Allocating of total capacity or deciding how much capacity to be used for an order out of total factory capacity. Regularly updating factories current capacity (production capacity).

Functions of Merchandiser Department

Garment merchandiser is like a bridge between the **buyer** and industry. He has to look after every job like buying the raw materials which are required to finish the product, making the garment, **finishing** the garment, preparing documentation, and finally shipping. Actually, he is the main responsible person to make the product timely. As its importance, this article has presented a vast discussion on the roles and **responsibilities of a merchandis**

An **apparel merchandiser** should follow the below responsibilities:

1. Internal & external communication,
2. **Sampling**,
3. Preparing internal order sheets,
4. **Accessories** & trims in-housing,
5. Preparing purchase orders,
6. Getting approvals on lab dips,
7. Advising and assisting production and **quality department**,
8. Taking responsibility for **inspections**,
9. Giving shipping instructions and following shipment.

1. Internal & external communication:

A merchandiser has to communicate not only with the buyers but also with the others such as suppliers, nominated factory owners, fabric manufacturers, etc.

2. Sampling:

It is one of the most important tasks for all apparel merchandisers. Here, samples have to develop according to the buyer's instruction. Different types of samples should be developed here such as proto sample, fit sample, fit sample, photoshoot sample, salesman sample, size set sample, etc.

3. Preparing internal order sheets:

An apparel merchandiser has to prepare various types of internal order sheets such as costing sheets, booking sheets, etc.

4. Accessories & trims in-housing:

After confirmation of a garment export order, a garment merchandiser has to book and in-house all kinds of trimmings and accessories according to the buyer's instruction.

5. Preparing purchase orders:

Different types of purchase orders should be prepared here by the garments merchandiser such as fabric, sewing thread, trimmings, and accessories, etc.

6. Getting approvals on lab dips:

It is the other important task of an apparel **merchandiser**. At first, lab dip should be done by maintaining the buyer's recommendation and submitted by the merchandiser to the buyer for its approval. If it's ok then the buyer approved it for running **garment production**.

7. Advising and assisting production and quality department:

A garment merchandiser must have to make a good relationship with the garment production and **quality** department for smooth and **fault-free** production. This also creates a great impact on shipping the product timely.

8. Taking responsibility for inspections:

Inspection should be done before shipping the product to the buyer. Here, the merchandiser plays a significant role to inspect the product by using a strong quality department or third-party **quality** inspector.

9. Giving shipping instructions and following shipment:

It is the last and final task of an **apparel merchandiser**. Here, the garment merchandiser advises various instructions to the commercial department about the shipment of a garment **export order**. By maintaining those instructions, the commercial department will ship the products to the buyer

FUNCTIONS OF MAINTENANCE DEPARTMENT

- Maintenance is **the routine job for keeping sewing machine fit for garments manufacturing**. Every factory assigns maintenance team to ensure the proper functioning of a sewing machine. Sewing Machine maintenance team make Schedule and take preventive action.
- **To maintain machines at maximum operating speed and efficiency**.
- To minimize the maintenance cost.
- To ensure best possible quality of output product.
- To reduce lead time and waste occurs due to the breakdown of parts.

The function of Maintenance Department :

1. Inspection of sewing machines and other machinery in the factory, repairing and up gradation.
2. Maintaining and ensuring continuous power supply in the factory.
3. Maintaining proper water supply, compressors, boilers etc.
4. Planning, design and implement any kind of expansion of the factory.
5. Supply purified water for factory using and washing plant.
6. Maintain WHO standard PH value for ETP (Effluent Treatment Plant).
7. Purchase of new machinery.
8. Issuing of different spare parts and accessories according to the production requirement.
9. Housekeeping.
10. New constructions, paintings, and furnishing of the factory.

Maintenance Department supervising and controlling the activities by the head of the maintenance department. Mechanical & Electrical section, Civil section, Raw Water Treatment Plant (RWTP) and Maintenance Store are the four different sectors of this department.

FUNCTIONS OF DESIGN STUDIO DEPARTMENT

- Apparel design department is responsible for **product development**.
- They focus on developing garment designs in similar product categories the company does its business.
- Designers develop new design collection every season.
- Designers make designs as per the latest trends and buyers test

The design department can be considered as the research and development department of a clothing factory, because it is in this department that the prototypes of garments are developed and prepared for selling and production. For most factories the process of product development involves seven stages

There are the following functions of design department

1. Forecasting
2. Designing
3. Collection Planning
4. Pattern Making
5. Technology
6. Production of sample garments
7. Pattern Grading

- Forecasting
  Fashion forecasting is information that offers effective and highly accurate trend predictions to the fashion, style and related industries. Fashion intelligence and industry experience shape the reports which are creative, inspiring and highly focused on various product. This provides analysis of current and future fashion trends and a very comprehensive coverage of Color & trend direction, 18 months in advance of the season followed by design reports for each trend, 12 months ahead.
- Designing
  The designers work in different ways. Some sketch their ideas on paper, while others drape fabric on a dress form and some others use computerized design system. These systems are becoming widely used and provide the designer with a highly versatile and flexible tool for creating new designs in the shortest time. The designer with the help of forecasting trends of style, color and fabrics develops the illustrations/sketches for haute couture or readymade or mass market.
- Collection Planning
  This process is in effect the pre production phase of sampling and the objectives are to set out in detail the styles, fabrics and colors which will represent the company's proposals for the forth-coming season. The designer works in close co–operation with the marketing department and tighter they attempt to determine the best possible style, fabric and price combinations.

- Pattern Making
  Pattern making may be done manually by a trained patter maker with a paper and measuring tools or by using an auto CAD or by draping fabric directly onto the dress form. The resulting pattern pieces are used to construct the garment in required size. Various shapes and sizes of pattern pieces can be produced for various styles of garments.
- Technology
  Technological innovations in the garment industry have been tremendous. Each and every department of the apparel industry has the scope of highly efficient machines. Use of sophisticated and advance ,machine improves the quality of the product and maximizes the profits of the company.
- Production of sample garments
  Sampling unit within the industry makes sample garments supervised by the pattern maker or the designer. Sampling is a continual process during the development of new product. A sample needs to conform to the design, fabric and color trends along with the perfect fit analysis. Cost of each sample must be accurately calculated in order to determine the cost price and then the selling price.
- Pattern Grading
  Pattern sizing and grading done on computer or manually is link between pattern design and generation and preparatory stages of cutting in different sizes. It is the process where patterns of different sizes are produced from the original master pattern.

FUNCTIONS OF HR DEPARTMENT

Human Resource

This department is concern about the social issue of the employee. They look after recruiting and employee welfare.

The **role of human resource management** in organization is at counter stage. Managers are aware that HR is a function that must play a important role in the success of organization. Its focal point is people, people are the life blood of the organization. The uniqueness of HR lies in its emphases on the people in work setting and its concerns for the well living and comfort of the human resources in an organization.

The HR function is much more integrated and strategically involved. HR and every other functions must work together to achieve the level of organization. Effectiveness required competing locally and internationally.

Following are Functions of HR department

1. Contribution HR to organization
2. This department maintains employee attendance and absent records.
3. Handle labor issues
4. Factory compliance and social compliance
5. New employee orientation
6. Helping the organization to search its goal.
7. Employing the skills and the activities of the workforce efficiently.
8. Providing the organization with well trained and well motivated employee.
9. Increasing to the fullest the employee's job satisfaction.
10. Developing and maintaining quality of work life
11. Communication
12. Helping to other department and function

FUNCTIONS OF INDUSTRIAL ENGINEERING DEPARTMENT

Industrial Engineering department assists production department in setting line, improving production and measuring production performance. Major activities of Industrial Engineering department are product analysis, making operation bulletin, calculating garment SAM, making line layout and workstation layout. They capture production data and prepare daily production report.

In a typical garment unit, industrial engineering department handles following activities

1. Estimating the SAM (**Standard Allowed Minutes)** of the garment for a new style for costing
2. Calculating thread consumption for garments
3. Providing operational breakdown with SAM (**Standard Allowed Minutes)** and target for each operation for an order (style)
4. Selection of machines and work-aids and number of machines for each operation of a particular order
5. Method improvements through method study
6. Time study of the operators
7. Capacity Study of operators
8. Line Balancing
9. Calculating direct labor cost
10. Develop detailed production methods, from detailed manual movements to major decisions on technology.
11. Documentation of all methods using manuals, computer-based system as appropriate.
12. Operator performance improvement
13. Operator training program
14. Production Control system

If you planning to set up a garment factory, you must consider employing industrial engineers. Don't fear about extra manpower cost but you will get a return of it. You have to utilize IE's skill in product and production planning.

Functions of Marketing Department And General Management

The marketing department in a garment company is responsible for marketing products made by the factory, finding new customers, and bringing more and more orders for the company. A marketing department is headed by the marketing manager and supported marketing team.

1. They meet with prospects and existing buyers. They show their latest product development (designs) to the buyer. They are given responsibility for business development for the company.
2. This department showcases factory's ability for developing new designs, factory compliance, and quality policy and quality performance.
3. The most common marketplace for manufacturers is international apparel shows and exhibitions, where buyers and sellers meet to find each other. In the exhibition, buyers pick their interesting design and place orders if their target price is met.
4. In this internet age, garment factories build websites for marketing purpose and increase their visibility to potential customers. Small factories post their product in online yellow pages and do content marketing to reach a bigger market. Social Media like Face book, LinkedIn and Twitter are used as marketing tools.
5. More than just developing new clients, retaining existing customer is also important. To retain your existing customers, you need to satisfy your customers by shipping quality products and timely delivery and providing quality services. The main mantra to retain customers and making them marketer for you is to deliver more than you are paid for. Deliver more than commitment and customer expectations.

FUNCTIONS OF SECURITY DEPARTMENT

Overall, security officers are tasked with **securing the premises and personnel by staying on patrol, monitoring surveillance equipment, performing building inspections, guarding entry points, and verifying visitors**.

Following are the duties or job responsibility of the security department:

1. **Observe and Report**
2. **Be Visible**
3. **Maintain Order**
4. **Help Guests**
5. **Protect the Property**
6. **Enforce Safety Precautions**
7. **Additional Security Guard Responsibilities**
8. **Administrative Support**

- **Observe and Report:** These are the two most crucial responsibilities a security department has. A security guard has to **patrol areas and perform security checks**, keeping their eyes open for anything out of the ordinary. If a crime or emergency occur, having a clear recollection of preceding events will allow the responders to handle the situation better.
- **Be Visible:** The presence of a security guard can prevent someone from attempting something illegal or acting up. That's why being visible is an essential part of a security guard's duty.

They must position themselves in public, high-traffic areas to create a feeling of safety.

- **Maintain Order:** Security guards are required to maintain law and order within the property. Maintaining order could involve:

1. Enforcing company policies, rules, and laws
2. **Controlling access** to the building
3. **Monitoring surveillance systems** and **alarms**

If emergencies occur, the guard should manage the situation, maintaining order as best as they can. They should also have good communication and **decisive leadership qualities** while awaiting responders to arrive on the scene.

- **Help Guests:** A security guard could be stationed at the entrance of a building. In such a case, one of the guard's duties will be to assist guests. This responsibility will involve providing them with different information and directing guests to where they need to be.
- **Protect the Property:** A security guard must always be mindful of their surroundings to protect the property. This duty could involve patting down people who are entering the building. The guard must stay vigilant, utilizing their keen sense of sight, hearing, and smell.
- **Enforce Safety Precautions:** In an emergency, the security guard is responsible for enforcing safety precautions in line with company policy. These precautions will help protect employees, guests, and the public from danger and will enable the guards to direct them away from harm.
- **Additional Security Guard Responsibilities:** Besides the duties we have mentioned above, there are certain situations that security guards can also lend their expertise and experience.
- **Administrative Support:** Security guards can offer the following to reduce the administrative burden your staff might be under:

1. **Liaison Services:** They can act as the liaison between public safety officials and your management team.
2. **Telephone Assistance:** They can also answer phones, screen and direct calls, and take messages when necessary.

Thank You