



TRANSFORMING LIVES
Through Skilling

Supporting Partners



CHAPTER - 5
SEAMS AND STITCHES

- The trainer will show a PPT which will demonstrate the decorative samples of different types of seams and stitches made on fabric and later he/she will discuss about it with the trainees.

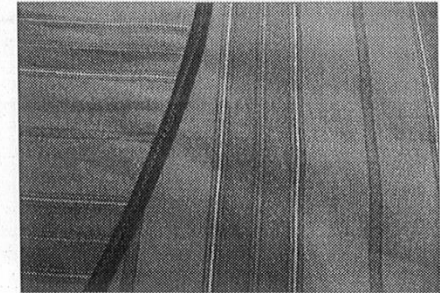
5.1 Seams: Definition

The place where two or more layers of fabric, leather or other materials are joined together with the help of stitches is called a seam.

- Seams nowadays are stitched by computerized machines for bulk production in textile industry.

5.1.1 General introduction: Seams and its Types

Although there are a large variety of seams in clothing construction, there are four basic types from where the alternative style of seams and stitches evolves. These four basic types are-



Plain Seam

French Seam

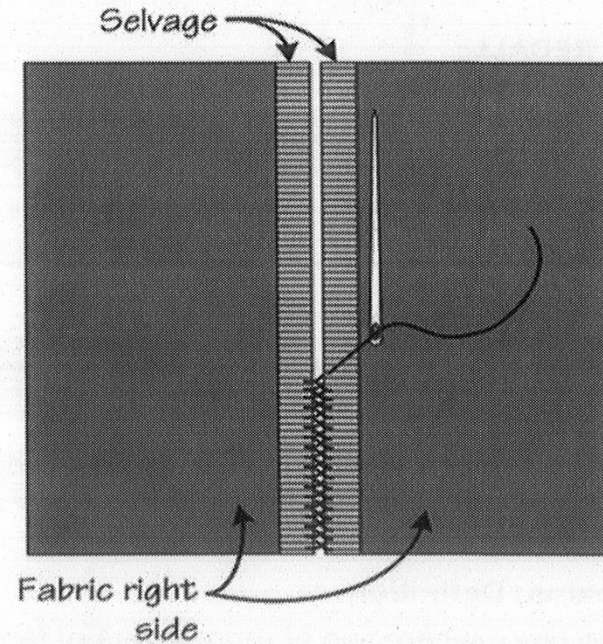
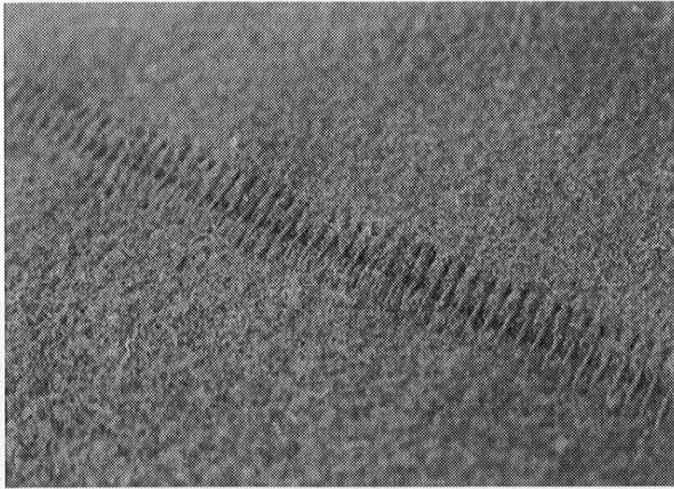
Flat or Abutted Seam

Lapped Seam

Different types of Seam

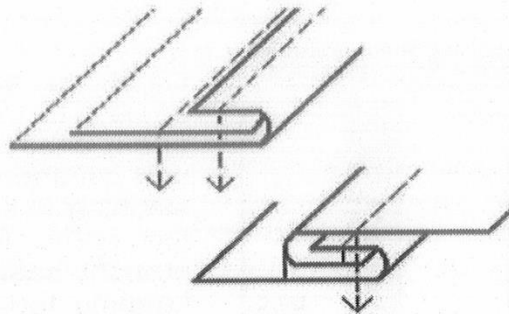
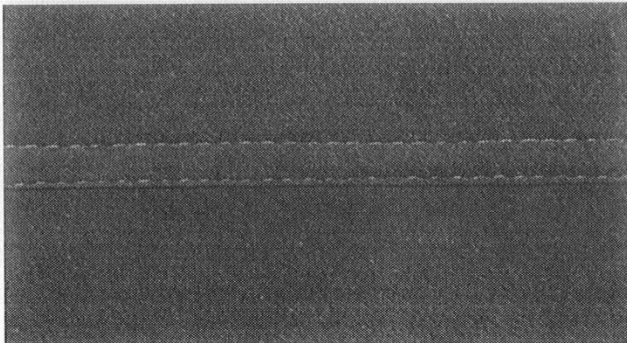
A. Flat or Abutted Seam:

- Two pieces of fabric are joined edge to edge in a flat or abutted seam.
- There is no over-lapping in this type of a seam.
- Flat seam is mostly used in traditional linen clothes.



B. Lapped Seam:

- The two layers of fabric overlap with each other in this seam formation.
- The wrong side of the top layer is laid against the right side of the lower layer.
- Lapped seam is mainly used for sewing heavy materials that generally do not ravel like leather and felt.



5.2 Types of Seams

5.2.1 Basic Seam

Seams are result of joining together two or more pieces of fabric by means of stitching or fusing, but the basic function of a seam is to hold pieces of fabric together. To perform its function correctly the seam should have properties or characteristics closely allied to those of the fabric being sewn. The careful selection of the most appropriate seam, a suitable stitch type together with the correct thread and machine settings for the fabric and end product is therefore of paramount importance. In addition to holding a garment together, seams can be used as a design element.

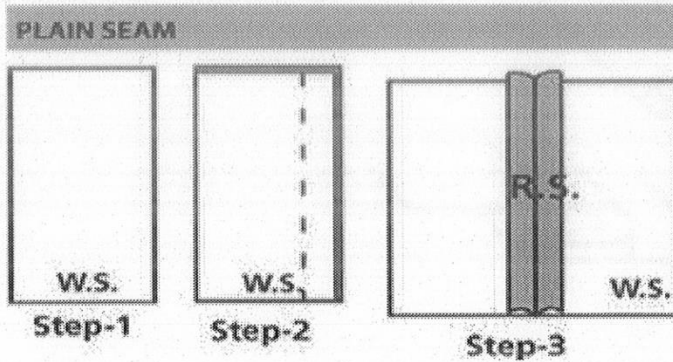
Seams placed in unusual locations or top stitched with contrasting thread add interest to a garment. Whereas puckered, crooked or uneven seams spoil the fit as well as the look of the garment. Most seams are constructed on inside or wrong side of the garment, but there are some seams which are constructed from right side of the garment. A "seam line" is designated line along which the seam is to be joined.

A "seam allowance" is the distance from the fabric edge to the stitching line farthest from the edge. Seam allowance is planned according to the width needed for the type of seam, seam finish or garment design. There are only a few fundamental seams but by using a wide variety of finishes it is possible to adapt seams to materials of different weight and texture, to the different location and design of the garments so that the type of seam selected depends on-

- The type of fabric i.e. the firmness, weight & texture of the fabric.
- The use of garment.
- Placement or position of seam on garment.
- Care of garment.

Most plain seams require a seam finish to prevent raveling. A seam finish is a way of treating or enclosing the raw edges of seam allowance so they are more durable and do not ravel. Variations of the plain seam include bound encased, top stitched and eased seams. Some, such as the flat fell seam, add strength or shape. Others such as French or bound seams, improve the appearance of the garment or make it longer wearing.

5.2.2 Plain Seam

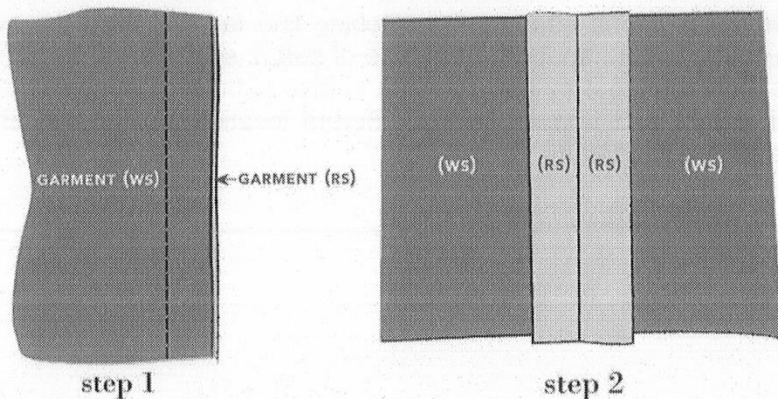


Of all the seams, a plain seam is the most basic and easiest to use. Its seam allowances are usually pressed open, although on lightweight fabric they can be trimmed and neaten together. In a well-made plain seam, the stitching is exactly the same distance from seam edge till the entire length of the seam. To ensure absolutely straight seam, it is advisable to practice stitching while keeping the fabric edge aligned with seam guideline on the throat plate of needle, it is basically used on:

- Fabrics that will not ravel like fine to medium weight cottons, linens or fine wools.
- On seams of garments that will be covered by a lining.

5.2.3 A Straight Seam

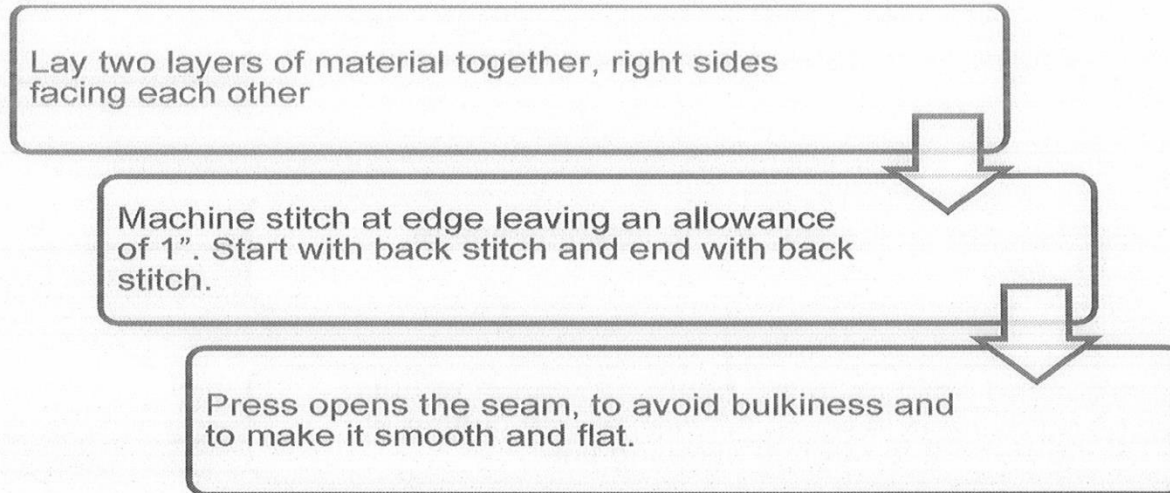
A straight seam is the one that occurs most often in most cases, a plain straight stitch is used for stretchy fabrics, and however a tiny zigzag or special machine stretch stitch may be used. It is rarely used for transparent fabrics such as voile, georgette, organdy etc. It is frequently chosen for side seams in blouses, Kameez and frocks etc.



DO YOU KNOW?

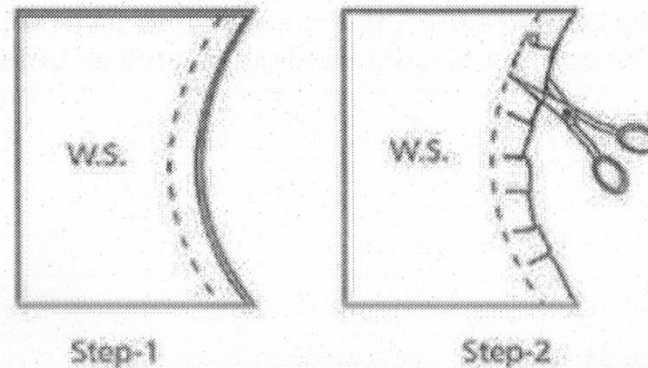
Sewing machines are primarily used to create clothes, but can be used to make other textile items like furnishings, toys and books.

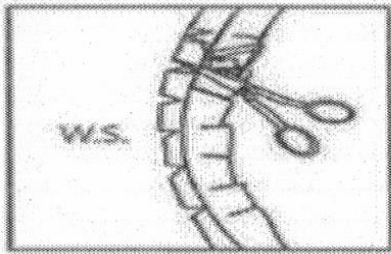
Steps of Construction



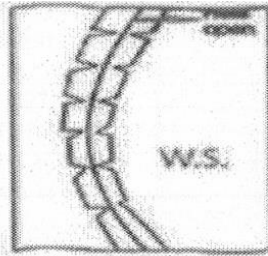
5.2.4 A Curved Seam

A curved seam requires careful guiding as it passes under the needles so that the entire seam line will be the same even distance from the edge. The separate seam guide will help greatly. To get better control, use a shorter stitch length (15 per stitch) and slower machine speed.





Step-3



Step-4

Steps of Construction:

Stitch a line of reinforcement stitching just on seam line of the curve.

Clip into seam allowance all the way to the stitching line at intervals along the curve.

Cut out wedge-shaped notches in the seam allowance of outer curve by making small folds in seam allowance and cutting at slight angle. Be careful not to cut into stitching line.

Press seam open over the curve, using tip of iron only. Do not press into body of the garment. If not press to contour, seam lines become distorted and look pulled out of the shape.

5.2.5 A Cornered Seam

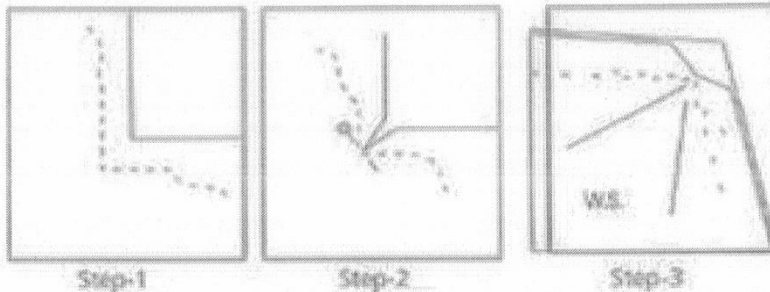
A cornered seam needs reinforcement at the angle to strengthen it. This is done by using small stitches (15 to 20 per inch) for 1" on either side of the corner. It is important to pivot with accuracy when cornered seams are enclosed, as in a collar; the corners should be bluntly so that better point results when collar is turned.

Steps of Construction

To join an inward corner with an outward corner or straight edge, first reinforce the inward angle stitching just inside the seam line 1" on either side of corner. (Step 1).

Insert a pin diagonally across the point where stitching forms the angle clip exactly to this point, being careful not to cut past the stitches (Step 2).

Spread the clipped section to fit the other edge; pin in position then with clipped side up, stitch on the seam line pivoting at the corner (Step 3).



5.2.6 Seam Finishes

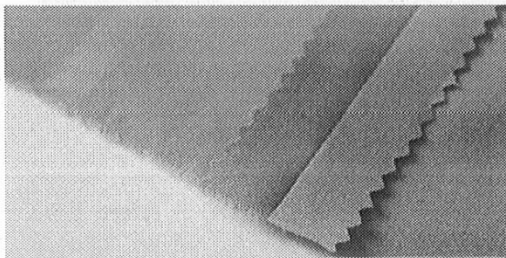
A seam finish is any technique used to make a seam edge look neater and or prevent it from ravelling out. Though not essential to completion of the garment, it can add measurably to its life. Less tangibly, finished seams add a trim professional touch, in which you can take pardonable pride.

Three considerations determine the seam finish decision.

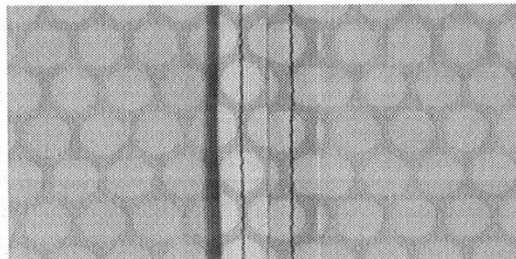
- The type & weight of fabric. Does it ravel excessively, a little, or not at all?
- The amount & kind of wear & care the garment will receive. If a garment is worn often then tossed into washer, the seams need a durable finish. On the other hand, if the style is a passing fad, or will be worn infrequently, you may select not to finish the seam edges.
- Whether or not seams will be seen. An unlined jacket warrants the more elaborate bias binding finish. A lined garment requires no finishing at all, unless the fabric has a tendency to ravel a great deal.
- Plain straight seams are finished after they have been pressed open. Plain, curved or cornered seams are seams finished right after stitching, next clipped or notched, then pressed open.

In this category, we have the following seams:

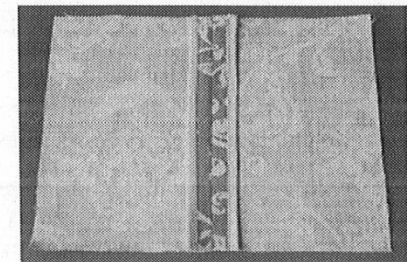
- Stitched & Pinked seam.
- Turned & stitched seam.
- Hong-Kong seam.



Stitched & Pinked Seam

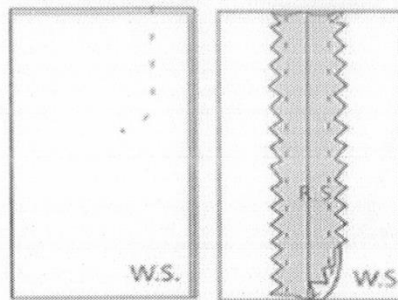


Turned & stitched Seam



Hong-Kong Seam

A. Stitched and Pinked Seam



Step-1

Step-2

A seam finish in which a line of machine stitching is made $\frac{1}{4}$ " from the raw cut edge before pinking. It is done to prevent the pinked edge from knotting, to prevent the seam from curling & on fabrics which ravel slightly. It is a quick and easy finish suitable for firmly woven fabrics. Given below are the figures that depict the construction of this seam.

Steps of Construction

Take two layers of fabric, right sides facing each other; stitch on the wrong side, leaving a distance of 1" from edge. Press open the seam allowance. (Straight Plain Seam)

Using a short stitch place a line of a stitching $\frac{1}{4}$ " away from the edge of the seam allowance, on one side of seam allowance. Repeat the same on the other end of seam allowance.

Then pink the outer edge of the seam allowance away from the seam you have just applied.

Press open the seam.

B. Turned and Stitched Seam

A seam finish in which the raw edge of the seam allowance is turned under stitched and concealed. Tailored edge, turned and stitched or clear finish all are the names of one seam. It may be helpful on difficult fabrics. This is a neat tailored finish for light to medium weight fabrics of cotton, linen and viscose. It is done to:

- Prevent the seam edge from fraying.
- On straight edge seams.
- On garments where seam allowance will not show on the face of the garment.
- On plain weave fabrics.
- On unlined coat, jacket or vests.

Steps of Construction:

1. Take two layers of fabric, right sides facing each other, and stitch from the wrong side at a distance of 1" from the edge. Press opens the allowance.
(Straight plain seam)

2. Turn under the edge of the seam allowance $\frac{1}{4}$ " stitch along the edge of the fold. Repeat the same step on the other edge of seam allowance.

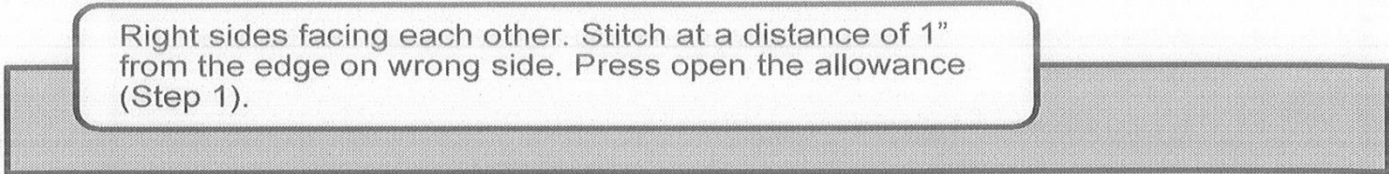
C. Hong Kong Seam

A seam finish in which the raw edge of the seam allowance is covered with a folded ribbon tape or bias binding. Hong-Kong seam is basically a couture finish on the hem edge, the Hong-Kong finish takes a little extra time and requires superior workmanship. This is done on heavy fabrics that ravel easily.

- On the seams of unlined coats, jackets and vests.
- When the inner side or WRONG SIDE of clothing may show.
- To reduce the abrasion of seam edge.
- To cover the raw edge of fabric that may chafe the skin.
- To protect the raw edge of easily frayed fabrics.
- On fabrics that are too thick to be turned under and edge stitched.

It is also taken as an alternative to bias bound finish.

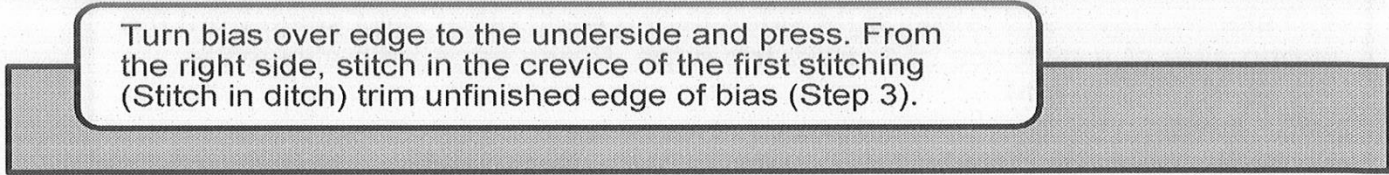
Steps of Construction:



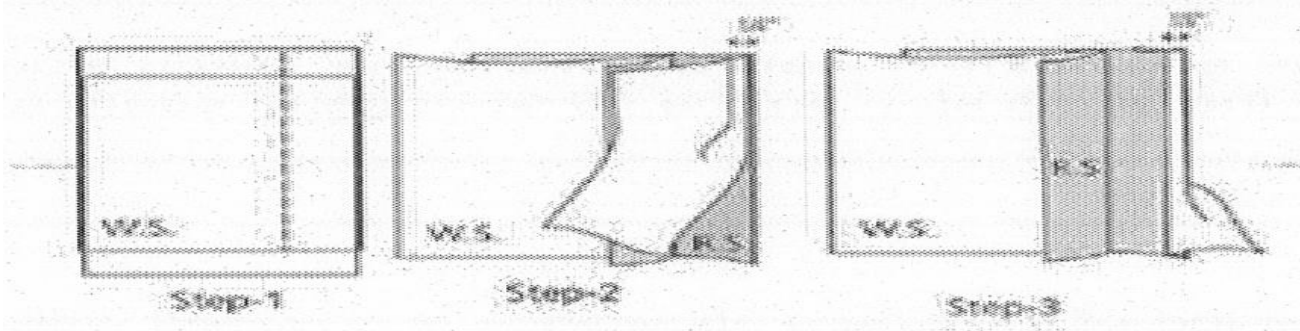
Right sides facing each other. Stitch at a distance of 1" from the edge on wrong side. Press open the allowance (Step 1).



Cut 1 or 1½" wide bias strip from a light weight material. With right sides together stitch bias strip to seam allowance ¼" from edge (Step 2).

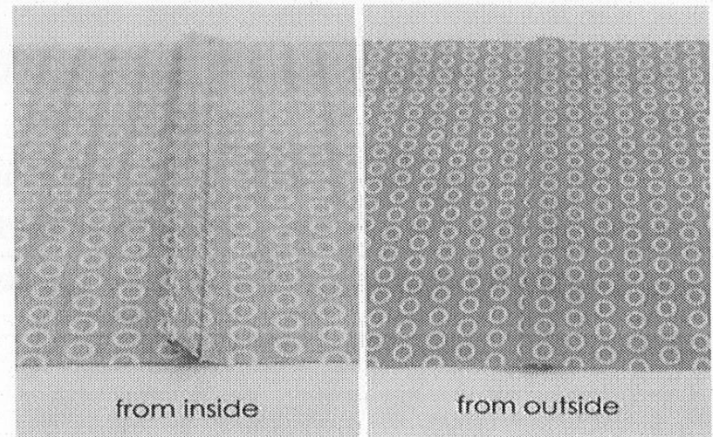


Turn bias over edge to the underside and press. From the right side, stitch in the crevice of the first stitching (Stitch in ditch) trim unfinished edge of bias (Step 3).



5.2.7 Self-Enclosed Seams

Self-enclosed seams are those in which all seam allowances are contained within the finished seam, thus avoiding the necessity of a separate seam finish. They are especially appropriate for visible seams, such as occur with sheer fabrics & in unlined jackets. Also they are ideally suited to garments that will receive rugged wear or much laundering. Proper trimming and pressing are important steps if the resulting seams are to be sharp and flat rather than lumpy and uneven. Precise stitching is essential, too.



This selection includes following seams:

- The French seam.
- Fat felled seam.
- Mock French seam.

A. French seam

A seam constructed so that a narrow seam is contained within a cage on producing a clear finish. This is a very secure and neat seam as the raw edges are not exposed. Since the finished seam consists of four layers of cloth, it is likely to be bulky. Hence it is suitable for thin/sheer fabric such as voile, organdy, and georgette. It is also used for dainty garments and lingerie.

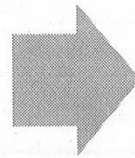
This is done to prevent fabrics from fraying.

- Where the seam finish will show through garments made of sheer fabrics e.g. chiffon, organza, georgette, and organdy.
- On children's & infants wear, underwear and outerwear.
- On straight seams when a seam is to appear as a plain seam on the face of the garment and a clear finish is desired on the inside.

It is not used in couture, industry but is suitable for garments that require frequent washing e.g. night wear. This seam is also known as "lote pote silaye" and "gum silaye" in Hindi.

Steps of Construction

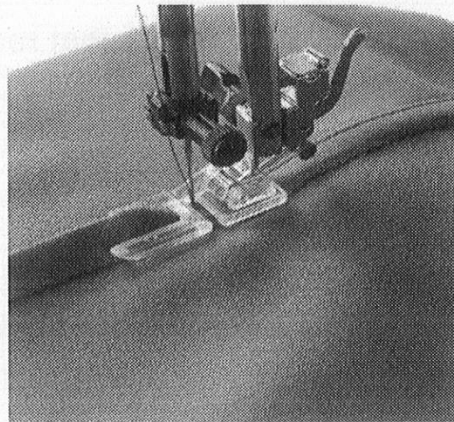
Lay two layers of material together, wrong side facing wrong side. The first stitch is $\frac{1}{8}$ " or $\frac{1}{4}$ " outside the fitting line, depending on the desired finished width of the seam. Trim the edge so that it is less than desired finished width of the seam. It looks best when finished width is $\frac{1}{4}$ " or less (Step 1).



Press the seam in one direction. Turn the fabric so that right side is facing right side. Fold on the line of stitching. Machine stitch on the seam line. Since the raw edges are enclosed, this seam requires no special finish (Step2).

B. Flat Fell Seam

- Place two layers of fabric with wrong side facing wrong side stitch from right side leaving an allowance of 1" press open the seam.
- Trim inner seam allowance to $\frac{1}{4}$ ".
- Press under the edge of the outer seam allowance which is trimmed to $\frac{1}{2}$ ".
- After pressing or folding outer seam allowance on inner one stitch this folded edge to the garment.



C. Flat Felled Seam

A flat felled seam is the results of enclosing both seam allowance by machining opposing folded edges beneath a row of machine stitches through all piles. The flat-felled seam is very sturdy and so often used for garment that are made to take garments for rough use e.g. sports clothing and children's wear. Since it is formed on the right side, it is also decorative and care must be taken to keep the widths uniform within a seam and from one seam to another. Be careful to press like seams in the same direction (e.g. both shoulder seams to the front). Other examples are men's shirts, boy's trousers & women's tailored garment & unlined garments. Flat felled seams may be produced in all in on operation with a felling foot attachment on an industrial machine. In non-industrial production, seam may be made in two or more steps.

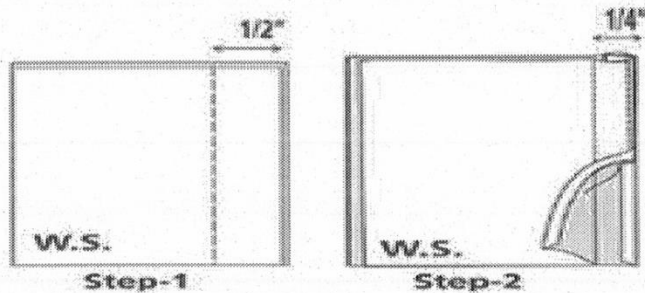
Steps of Construction:

1. Place two layers of fabric with the wrong sides facing each other. Stitch from right side leaving an allowance of 1". Press open the seam. (Straight Plain Seam), as shown in Step 1.

2. Trim the inner seam allowance to $\frac{1}{4}$ ". Press under the edge of the outer seam allowance which is trimmed to $\frac{1}{2}$ ", as shown in Step 2.

3. After pressing or folding outer seam allowance on inner one, stitch this folded edge to the garment, as shown in Step 3.

5.2.8 Mock French Seam



A plain seam is made to resemble a French seam by the face-to-face enclosing of the folded seam edges. The mock French seam which is also known as False French or Imitation French seam can be used in place of the French seam, especially on curves of armholes and princess line garments, where a French seam is difficult to execute on transparent fabrics that ravel easily and where a strong finish is required. Basically used for fabrics where two turnings are

difficult to make, as in matching plaids.

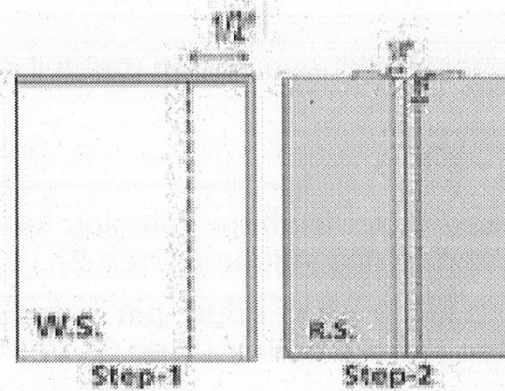
5.3 Top Stitching Seams

Seams are top-stitched from the right side with usually one or more seam allowances caught into the stitching. Top-stitching is an excellent way to emphasize a construction detail, to hold seam allowances flat or to add interest to plain fabric.

There are two main considerations when top-stitching. The first is that normal stitching guides will not, as a rule, be visible, so new ones had to be established. A row of hand basting or tape applied just next to the topstitching line can help. The presser foot is also a handy gauge. The other consideration with topstitching is how to keep the under layers flat and secure even basting will hold pressed open seam allowances. Diagonal basting will hold those that are enclosed or pressed to one side. Grading and reducing seam bulk will contribute to smooth topside. A long stitch is best when topstitching used buttonhole twist or single or double strands of regular thread. Adjust needle and tension accordingly.

5.3.1 Double Top-Stitched Seam

A seam which has been pressed open and stitched parallel to and on both sides of the seam line, through garment and seam plies. This is an excellent seam to emphasize a construction detail as decorative stitching to hold seam allowance flat and to add interest to plain fabric and also to strengthen seams.



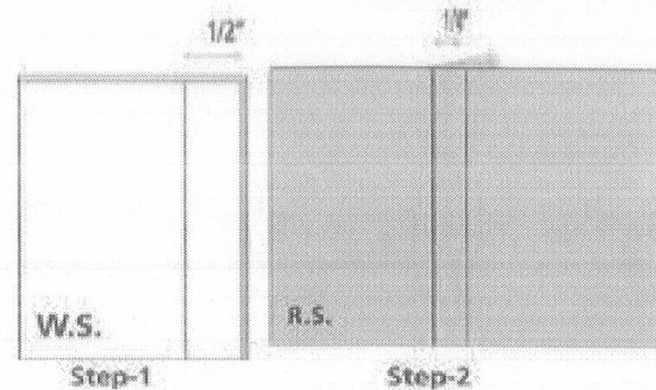
Steps of Construction:

1. Take two layers of fabric, right side facing right side, stitch at a distance of 1" from the edge on wrong side. (Straight plain seam), as shown in Step 1.

2. Press plain seam open. Top stitch at equal distance from each side of seam line, ($\frac{1}{4}$ " away from seam line on both sides) catching seam allowances into stitching, as shown in Step 2.

5.3.2 Mock Flat Seam

This is a seam where seam allowance is about $\frac{1}{2}$ " and the finished seam is $\frac{1}{4}$ ". Stitch right side to right side flatten both allowances to one side and stitch on right side on the edge and one at a distance of $\frac{1}{4}$ " (on the side where your allowance is i.e. at wrong side).



Steps of Construction:

1. Take two layers of fabric size 9" X 5½" (for sample) with right side facing right side. Stitch at an allowance of ½", as shown in Step 1.

2. Turn the seam and stitch from right side one near edge and one at a distance of ¼". There should be backstitch in the beginning and at end. The allowance of both the sides will be turned on one side on which you will apply seam, as shown in Step 2.

5.4 Seam with Fullness

When two seams are to be joined are uneven in length, the longer edge must be drawn in to fit the shorter. This is done, depending on the degree of adjustment, by easing or gathering: easing for slight to moderate fullness; gathering for a larger amount it is important to recognize the difference between the two seams when finished. An eased seam has subtle shaping but is smooth and unpuckered. It may or may not call for control stitching.

This section includes the following seams.

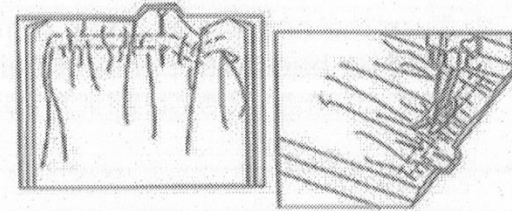
1. Eased seam.
2. Gathering seam.

5.4.1 Eased Seam

An eased seam entails the drawing in or easing of a longer section of a seam line on one ply to fit a corresponding but shorter section of a seam line in the second ply. This seam is used to replace small darts in necklines elbows, buntlines and waistlines, on the back sleeve seam at the elbow, on outward curved seam of the side front panel in princess line garment, on waistlines of skirts and bodice to distribute fullness and control fit and to match back shoulder to front.

5.4.2 Gathered Seam

A Gathered Seam requires control stitching and retains more fullness. Gathering is the process of drawing fullness into a much smaller area by means of two rows of machine basting. This seam is possible when one fabric piece is much bigger than the other one gather start with two stitching lines on a long piece of fabric the stitching lines are then pulled at each end to draw up the fabric. Finally, the gathered piece is sewn to a shorter length of fabric.



The stitch length for gathering is longer than for ordinary sewing. Use a stitch length of 6 to 8 stitches per inch for medium weight fabrics. For soft or sheer fabrics, use 8 to 10 stitches per inch. A long stitch makes it easier to draw up the fabric but a shorter stitch gives more control when adjusting gathers.

Before you stitch loosen the upper thread tension. The bobbin stitching is pulled to draw up the gathers and a looser tension makes this easier. If the fabric is heavy or stiff, use heavy-duty thread in the bobbin. A contrasting colour in the bobbin also helps in distinguish it from upper thread.

Steps of Construction:

Take the bigger fabric piece and from the right side stitch (8 to 10 per inch) one basting line just next the seam.

Stitch another line (on the same single piece of fabric) $\frac{1}{4}$ " away in the seam allowance.

Pin seam edges together at matching points, such as notches. Draw up bobbin threads, distributing fullness evenly and wind drawn threads around a pin to secure gathers. Pin bastes and stitch seam with gathered side up.

Pleats:

Pleats are made by folding the fabric in various ways. Pleating may occur as a single pleat, as a cluster or around an entire garment section. Side pleats are all turned in the same direction. Box pleats have the two folds turned away from each other. Inverted pleats, which have an underlay, have the two folds meeting at the curve.

Tucks:

Tucks are parallel folds of fabric used for a decorative effect in the right side of the fabric. The spacing can vary from the very narrow pin tucks to deeper, spaced tucks.

For perfection in stitching tucks, the markings must be exact. The pin tuck is an edge stitch evenly spaced 1/16" from the fold, for wider or more widely spaced tucks, increase the amount of fabric in each fold or the space between the tucks.

5.5 Stitch: Definition

When a piece of thread is moved in and out of a cloth or pieces of fabric, with the help of a needle, to secure the cloth or fabrics together, a stitch is formed. A stitch is one of the most fundamental elements of sewing.

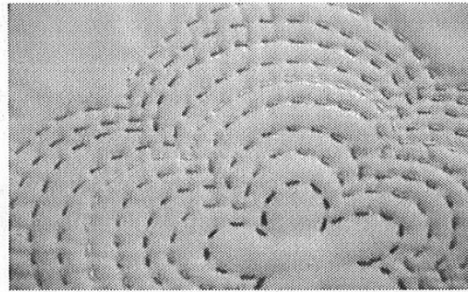
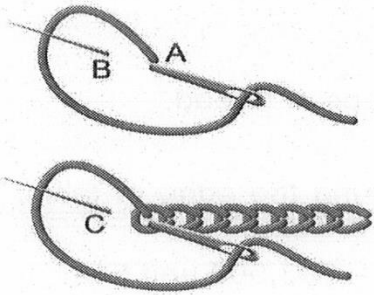
There are many types of stitches. In the next section, we are going to learn about some of the most important and commonly used stitches.

5.5.1 Types of Stitches

There are varieties of stitches, each with a purpose of their own. Some of the most commonly used stitches are:

A. Chain Stitch:

- Also known as Class-100.
- It is created by interloping of threads.
- In chain stitch, one needle thread is passed through the fabric to form a needle loop and is secured by the next loop formed by the same thread.
- Chain is again of 3 types – 101, 103 and 104.
- It is mainly used for hemming, belt loops, padding operations and felling.

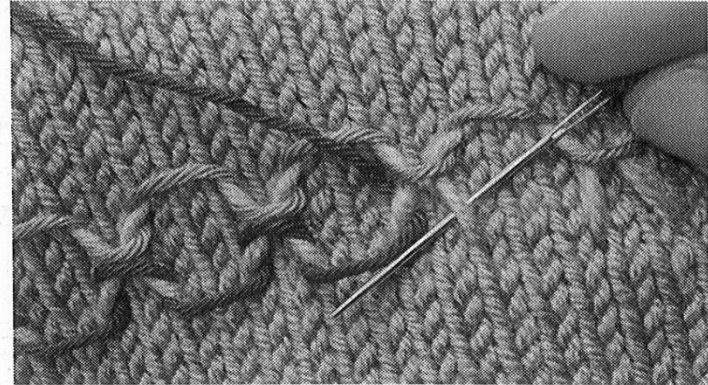


B. Hand Stitch:

- Also known as Class-200.
- This stitch is done by a single thread.
- Hand Stitch is of four types - running basting, back stitch, diagonal basting and buttonhole stitch.
- Hand Stitch is mostly used to sew costly dresses, jackets and sample dresses.

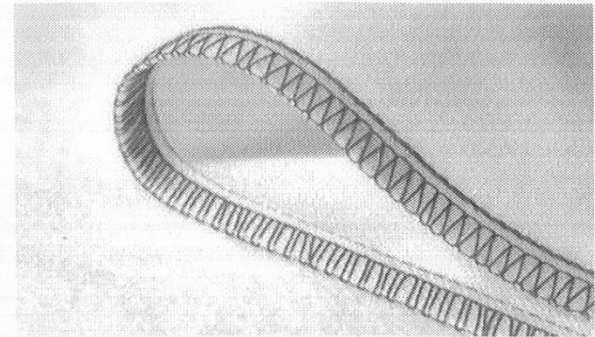
C. Lock Stitch:

- a. Lock Stitch is also called as Class -300.
- b. It is sewn with two or more groups of thread and are joined by interlacing.
- c. Loops of one group of thread are passed through the fabric and are secured by the thread of second group.
- d. One group is referred as needle thread and other as bobbin thread.
- e. Lock Stitch is of four types - 301, 304, 308 and 309.
- f. These types of stitch are used for stitching underwear, most types and apparels and decorative purposes.

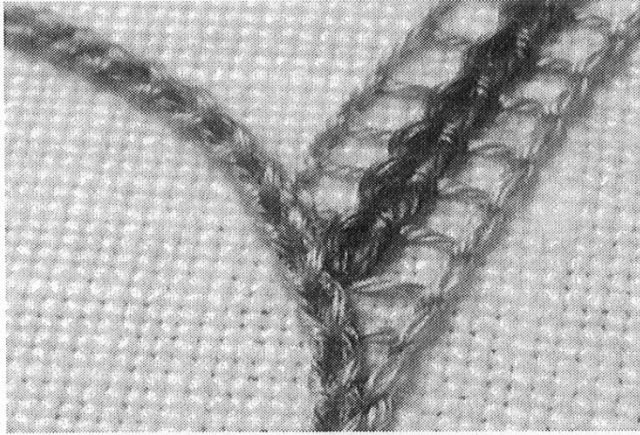


D. Multi – Thread Stitch:

- a. Class – 400, also known as the multi thread stitch, is formed with two or more groups of threads.
- b. Loops of one group of thread are secured by interlacing and interloping with loops of another group.
- c. One group is called needle thread and another group is called looper thread.
- d. Multi Thread Stitch has an appearance of lock stitch on the top and a chain stitch on the under-side.
- e. Multi Thread Stitch is of three types – 401, 404 and 406.
- f. This stitch is used for setting elastic waist bands and decorative stitching on belts.



E. Over Edge Stitch:



- a. It is formed with one or more groups of thread.
- b. Also known as Class 500.
- c. One group of thread passes around the edge of fabric so that no thread from the fabric can come out.
- d. Class 500 is again of three types – 503,504 and 512.
- e. This type of stitch is used for edge neatening of knitted fabric, sportswear and dance wear garments.

F. Covering Chain Stitch:



- a. This stitch is formed with three groups of threads.
- b. It is also known as Class 600 stitch.
- c. The first group of thread is called needle thread, second group is called top cover thread and the third group is called bottom cover thread.
- d. It is a very complex stitch and can use up to 9 threads to produce a stitch.
- e. Covering Chain Stitch is again of three types – 602,605 and 607.
- f. These types of stitch are used for knits, lingerie, binding elastics and decoration.