



## CHAPTER - 3

### Fabric Consumption and Estimation

#### Fabric Requirement

A major question that arises in one's mind at the time of purchasing fabric for any garment is how much to buy. It is an important question and to be able to give an objective reply, it requires the person to be an expert in pattern development and an expert in making an economical layout. For the garment industry, this is of crucial importance, as even minimal saving of 5cms of fabric in a shirt would result in 50 meters being saved in a lot of 1000 shirts. At Rs. 80 per meter it would save Rs. 4000/-, which is a substantial amount of saving for a producer. Generally an expert is able to save as much as 25- 30cms in a garment easily even for a single shirt that is a big saving in the *made to measurement* sector of the apparel industry.

Imagine a stage where one buys minimum of 50cms extra than the required amount, so that one does not run short of fabric while cutting. The amount of money that is being spent on extra fabric, which goes waste and is thrown out or that collects dust is tremendous.

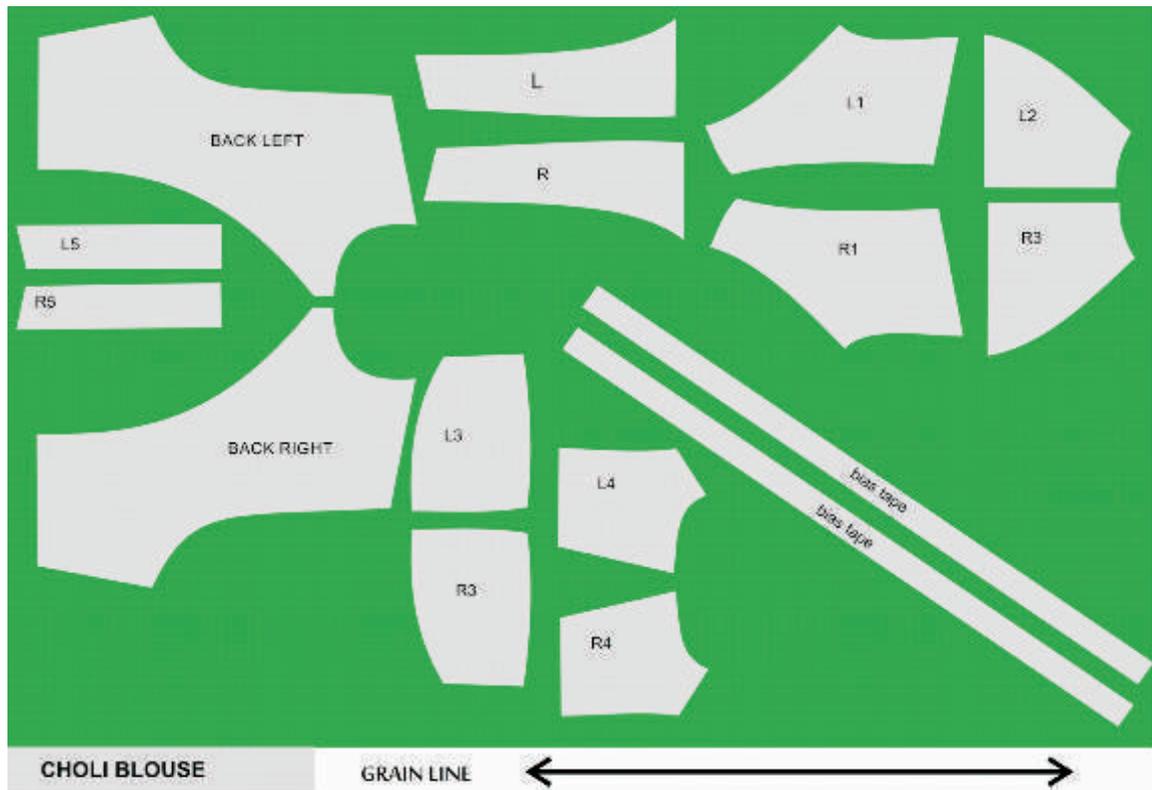
#### 3.1 How to Calculate Fabric Required?

For any garment, that one is going to make one needs to know its two major dimensions i.e. maximum length and the maximum round width. For any garment one needs a minimum of two lengths plus seam allowances. The fabric has two grains lengthwise grain and width wise grain. One should cut the garment lengths along the length wise grain as this is the stronger grain (which you have learnt in earlier chapters) and the fall of the garment would be far better on this grain. One is able to cut the garment in less fabric only if the width of the fabric is wide enough to fit two length of the garment in one length of the fabric.

The patterns representing all the individual pieces of the garment should be laid out together in such a manner that they fit within the confines of the fabric width as closely and efficiently as possible. This minimises the wastage in fabric. This is a **pattern lay**.

#### 3.2 How to Make Pattern Layout?

In the industry, this is the specialised task for which most of the companies that work on developing, pattern making software's for the clothing industry have been working for a long time and have successfully created a number of dedicated software's. On the computer all the pattern pieces of the garment are either digitised or drafted and a lay of the garment is made. A rectangle of the dimensions of the fabric is made and the pattern pieces are placed on it in exactly the same manner as one would on a fabric keeping in mind whether a piece is to be cut on fold, on bias or on a cross grain. One can do this exercise manually by cutting or drawing a similar rectangle on a small scale and placing or drawing the pattern pieces also on small scale in it. This exercise would be more scientific, precise and accurate for fabric calculation. An example of the same is given below:

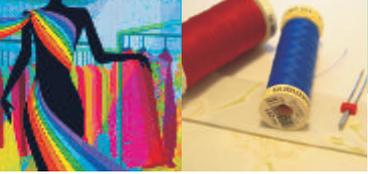


It takes time and effort to fit together all the pieces of pattern. It is like playing a giant puzzle. The game is to place all the pattern pieces on grain in such a manner so as to be able to use the entire width and the length most economically. For such purposes it is advisable to keep on hand several lengths of wrapping paper cut to standard widths of fabric on scale.

Place the fabric on a flat surface. Line up its straightened edges with the straight edges of the cutting surface. Place the pattern in position. Start with one end of the fabric. Support the weight of the cloth at the other end of the cutting area. When the pattern pieces have been temporarily pinned on the material it is required to check if pattern pieces could be adjusted to save more fabric.

Remember to place the pieces on the right grain and close to each other. Spaces between them may result in wastage of as much as five to six inches of fabric. Always place the largest piece first, then the ones that may need to be cut on fold. Fit in the smaller pieces. Fit in the shapes against each other, locking them whenever possible. This saves a lot of fabric. Arrange the pattern pieces in such a manner that if any fabric is left, it is in one usable piece, either at an end or middle.

The pattern pieces have to be laid out in such a way that it takes into account directional properties of fabric, such as fabric design and fabric grain. The quality of a product is affected significantly by the accuracy of fabric matching also called mitring that is very important for fabrics with checks or stripes. 'Mitring' is the perfect matching of check or stripes even other directional prints on the side seam, centre back and centre front seam or



any seam that might be running across in the garment like a yoke or waistline seam. This might require more fabric consumption and great deal of time and effort, for a perfectly mitred garment is a joy and pride of a designer and master tailor.

Given below are **methods of fabric calculations** for some of the popular categories of garments. These have been given on an assumption that one would be using readily available 36" width fabric. These are just indicative and have been done for basic or classical styles in the category and are in no way conclusive as it is expected that this should be combined with practical exercises at every step. This is a practical subject and more learning happens with hands on experience.

### 3.2.1 Shirt

For buying fabric for a man's shirt, one needs to know the shirt length, the round chest, and sleeve length (whether it will be full or half). One needs to buy fabric piece for two lengths of the shirt plus the seam allowances and one length of the sleeve with seam allowance. Care should be taken to place the centre front on selvedge, as not only this saves fabric but also will save one operation, as the placket would have a ready finished edge. In case one is making a shirt in a fabric that has one way print one may need at least two lengths of the shirt and sleeve length.

### 3.2.2 Trouser

A trouser is generally made in the thicker fabric, which most of the times is available in a larger width of 60". Hence, one requires fabric piece for one length of the trouser plus 25cms, since two legs of the trousers have 4 pieces which can be cut two at one time by placing them in opposite directions on a fabric that is, folded half width wise. In case one is making a trouser in a fabric that has one way print one would need at least two lengths of the trouser.

### 3.2.3 Salwar

A Salwar has 6 pieces for the legs and a belt. Four side leg pieces of the Salwar are cut in the most economical manner by placing them in opposite directions with no wastage of fabric whatsoever. The other two pieces of the leg and belt are simple rectangles but basically Salwar is much wider than the trouser. For the Salwar one requires fabric piece for two lengths of the Salwar and one seat length. In case one is making a Salwar in a fabric that has one-way print one would need minimum four lengths of Salwar fabric.

### 3.2.4 Kameez

A woman's Kameez is worn over a Salwar. One needs fabric piece for two lengths of the Kameez and one sleeve length. If trends in fashion were for a big flare at the hem then, more than two lengths would be required. This depends on number of panels of the required width, which would be needed, to cut the pattern according to the design. In case one is making a Kameez in a fabric that has one-way print one may not need extra fabric in basic styles but for larger flare in the hem or a Kameez with princess panel an extra length would be required.



### 3.2.5 Kalidar Kurta

A kalidar kurta has two simple rectangles for back and front, which have the dimension of cross back plus seam allowance by the length of the kurta plus the seam allowance. It has two sleeves, the length of which depend on design and generally has four kalis. The kalis are cut in the same manner as the Salwar side panels. Generally the kali is added after the sleeve in the kurta but in some designs it may start from shoulder. In case the fabric width is sufficient (depending on the width of the kali required) you need fabric piece for one length of the kurta, one length of the kali and one length of the sleeve. Otherwise, you would need two lengths of the kurta and one length of the kali. In case the number of kalis is more than the fabric required would increase proportionately.

### 3.2.6 Pyjama

A pyjama is a trouser like in its pattern but is generally much wider for comfort and easy fit. Generally it requires fabric piece for two lengths of pyjama plus seam allowance.

### 3.2.7 Churidar Pyjama

It is a variation of a simple pyjama that has extra length, which gathers around the ankle of the wearer. This pyjama is cut on bias for a better fit. The fabric required for this is  $2\frac{1}{2}$  times the required length of the wearer (This is the measurement of the person and not the pyjama).

### 3.2.8 Sari Blouse

For sari blouse, you need fabric piece for one length of the blouse and one sleeve length plus the seam allowance. In case of a bigger size, one may need to buy two lengths of the blouse. Since the sari blouses are generally made in 2 x 2 rupee that comes only in 36" width.

### 3.2.9 Skirt

Skirt generally has one back piece, one front piece and a waistband. You need fabric piece for two lengths of the skirt. There are tremendous possibilities of design variation in skirt. So the generalisation may not work for skirts with bigger flares, more panels, different fits and skirts with yokes holding pleats or gathers. The amount of gathers or pleats in the skirt generally determine the fabric required.

### 3.2.10 Nighty

It is like a shirt, you need two lengths of the nighty and one sleeve length.

All the above are indicative measurements and requirements. It is recommended that one learns to make a pattern layout. As explained in the beginning layout is a process similar to the actual cutting of fabric one needs to layout on an imaginary fabric with the required pieces as one would on an actual fabric for the sake of fabric calculation.

For the beginner it is important to do a simple exercise as a learning point and should



progress into more complicated ones later. Conversion chart of fabrics with various widths has been prepared and that is to be used after one has calculated the fabric required for a garment in 36" width (which is a most common width available in the Indian market). A beginner needs to buy at least 25cms extra, as it is only with experience that one is able to make a layout economical and accurate. Another reason is that as a beginner one may make some mistakes in marking or cutting the right grain or dimensions and run short of fabric. After gaining experience, one must do some complicated layouts to gain confidence.

### ACTIVITY

Calculate actual fabric consumption for salwars and kalidar kurta using fabric with two different widths of fabric like 36" and 44".

#### Fill in the blank

1. The pattern lay represents a \_\_\_\_\_ of all the \_\_\_\_\_ of the garment in a manner that they \_\_\_\_\_ within the confines of the fabric width.
2. This \_\_\_\_\_ minimises the wastage in fabric by fitting in as \_\_\_\_\_ and efficiently as possible.
3. The amounts of \_\_\_\_\_ or number of \_\_\_\_\_ in the skirt generally determine the fabric required.
4. Pyjama requires fabric equal to \_\_\_\_\_ of pyjama plus seam allowance.
5. Side leg pieces of the Salwar are cut in the most \_\_\_\_\_ manner by placing them in \_\_\_\_\_ directions with \_\_\_\_\_ wastage of fabric.