

# A POLES APART WEAVE STRUCTURE IN SOLITARY GARMENT

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**Abstract:** Woven fabrics are made by using eight set of weave structure with the change of settings in weaving machine more sets of yarn interlaced at right angles to each other. Much variety is produced by weaving. Woven fabrics are generally more durable. They can be easily cut into different shapes and are excellent for producing styles in garments. However the raw edges ravel or fray easily and need to be protected. Fabrics having more fabric count (number of warp and weft yarns present) keep the shape well. Low count fabrics are less durable and may snag or stretch. Woven fabrics are manufactured in different widths depending on the end use. The fabrics used for apparels usually contain 90 cms width. The Sheeting materials are generally made having a width of 160 cm/140cms and 150cms/180 cms. This project is to produce the a new 8 weaved Garment of same warp yarn but the weft yarns are varied in five different combos. The weft yarns are Open End yarns, Ring Frame, Air Spinning, Polyester yarn and the Hosiery yarns. The variations are done to study the trumped-up story of dhoties in five weft combos of yarn in the different feel and surface effects.

**Keywords:** Woven fabrics, Solitary garments, Warp yarns, Weft yarns (Study of the feel and surface effects. Oxford weave, Plain, Oxford rib weave, Plain rib, 2/2drill, 3/1drill, 3/3drill, double cloth with Plain and Analysis of the Fabric.

## 1 Introduction

To produced different type of weave in single fabric a plain, plain rib, oxford, oxford rib, 3/1 drill, 2/1 drill, 3/3 drill, 1/3 drill, double cloth with plain. To make Ladies Gorgeous long length Maxi dress.Fabric make a rapier loom

### 1.1 Weaving:

Weaving process is a method of fabric production in which two distinct sets of yarns or threads are interlaced at right angles to form a fabric or cloth. The other methods are knitting, lace making, felting, and braiding or plaiting. The longitudinal threads are called the warp and the lateral threads are the weft or filling. (Weft or woof is an old English word meaning "that which is woven".) The method in which these threads are interring woven affects the characteristics of the cloth.

### 1.2 Objectives

- To produced different types weave and different colours in single fabric
- To make Solitary Garment
- make Ladies Gorgeous long length Maxi dress

## 2 Review of Literature

Cloth is usually woven on a loom, a device that holds the warp threads in place while filling threads are woven through them. A fabric band which meets this definition of cloth (warp threads with a weft thread winding between) can also be made using other methods, including tablet weaving, back-strap, or other techniques without looms. The way the warp and filling threads interlace with each other is called the weave. The majority of woven products are created with one of three basic weaves: plain weave, satin weave, or twill. Woven cloth can be plain (in one color or a simple pattern), or can be woven in decorative or artistic designs.

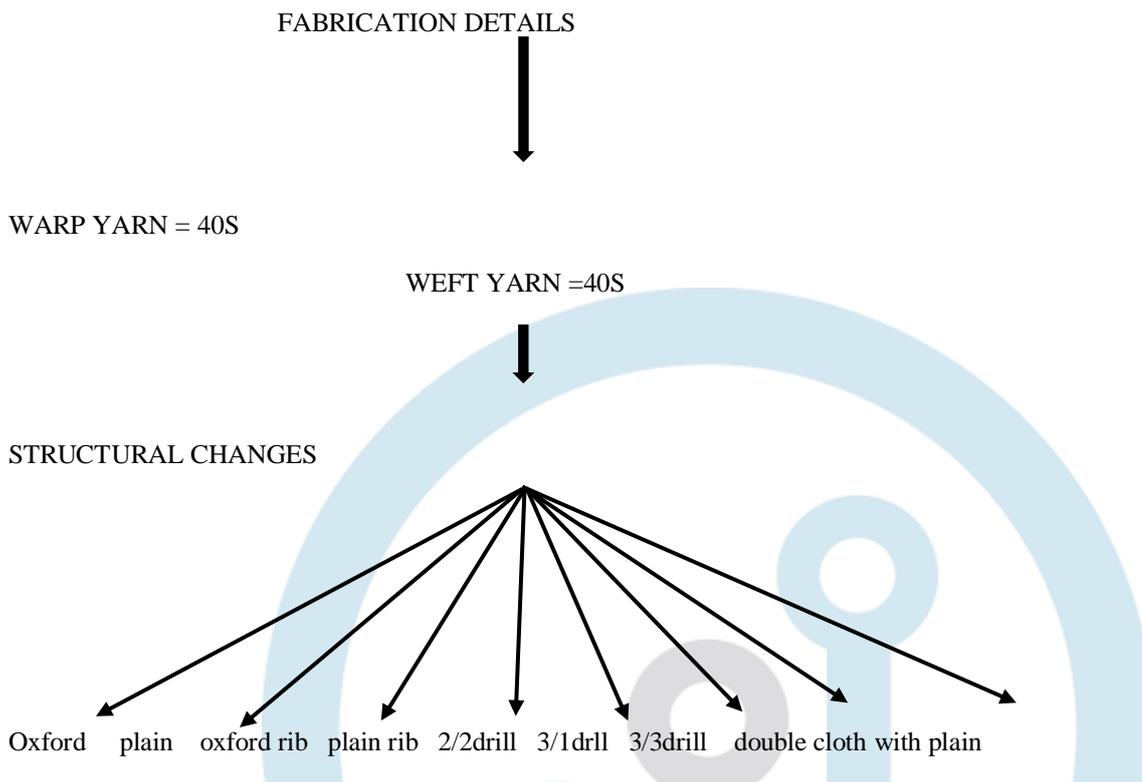
### 2.1 Plain weave

Plain weave also called tabby weave, linen weave or taffeta weave) is the most basic of three fundamental types of textile weaves. It is strong and hard-wearing, used for fashion and furnishing fabrics. In plain weave, the warp and weft are aligned so they form a simple criss-cross pattern. Each weft thread crosses the warp threads by going over one, then under the next, and so on. The next weft thread goes under the warp threads that its neighbor went over, and vice versa.

- Basket weave is a variation of plain weave in which two or more threads are bundled and then woven as one in the warp or weft, or both.
- Balanced plain weaves are fabrics in which the warp and weft are made of threads of the same weight (size) and the same number of ends per inch as picks per inch.

A balanced plain weave can be identified by its checkerboard-like appearance. It is also known as one-up-one-down weave or over and under pattern. Some examples of fabric with plain weave are chiffon, organza, and taffeta.

### 3 Methodologies



In general, weaving involves using a loom to interlace two sets of threads at right angles to each other: the warp which runs longitudinally and the weft (older *woof*) that crosses it. One warp thread is called an end and one weft thread is called a pick. The warp threads are held taut and in parallel to each other, typically in a loom. There are many types of looms.<sup>[3]</sup>

Weaving can be summarized as a repetition of these three actions, also called the primary motion of the loom.

- Shedding: where the ends are separated by raising or lowering heald frames (heddles) to form a clear space where the pick can pass
- Picking: where the weft or pick is propelled across the loom by hand, an air-jet, a rapier or a shuttle.
- Beating-up or battening: where the weft is pushed up against the fell of the cloth by the reed.<sup>[4]</sup>

The warp is divided into two overlapping groups, or lines (most often adjacent threads belonging to the opposite group) that run in two planes, one above another, so the shuttle can be passed between them in a straight motion. Then, the upper group is lowered by the loom mechanism, and the lower group is raised (shedding), allowing to pass the shuttle in the opposite direction, also in a straight motion. Repeating these actions form a fabric mesh but without beating-up, the final distance between the adjacent wefts would be irregular and far too large.

The secondary motion of the loom are the:

- Let off Motion: where the warp is let off the warp beam at a regulated speed to make the filling even and of the required design
- Take up Motion: Takes up the woven fabric in a regulated manner so that the density of filling is maintained

The tertiary motions of the loom are the stop motions: to stop the loom in the event of a thread break. The two main stop motions are the

- warp stop motion
- weft stop motion

The principal parts of a loom are the frame, the warp-beam or weavers beam, the cloth-roll (apron bar), the heddles, and their mounting, the reed. The warp-beam is a wooden or metal cylinder on the back of the loom on which the warp is delivered. The threads of the warp extend in parallel order from the warp-beam to the front of the loom where they are attached to the cloth-roll. Each thread or group of threads of the warp passes through an opening (eye) in a heddle. The warp threads are separated by the heddles into two or more groups, each controlled and automatically drawn up and down by the motion of the heddles. In the case of small patterns the movement of the heddles is controlled by "cams" which move up the heddles by means of a frame called a

harness; in larger patterns the heddles are controlled by a dobby mechanism, where the healds are raised according to pegs inserted into a revolving drum. Where a complex design is required, the healds are raised by harness cords attached to a Jacquard machine. Every time the harness (the heddles) moves up or down, an opening (shed) is made between the threads of warp, through which the pick is inserted. Traditionally the weft thread is inserted by a shuttle.<sup>[4][5]</sup>

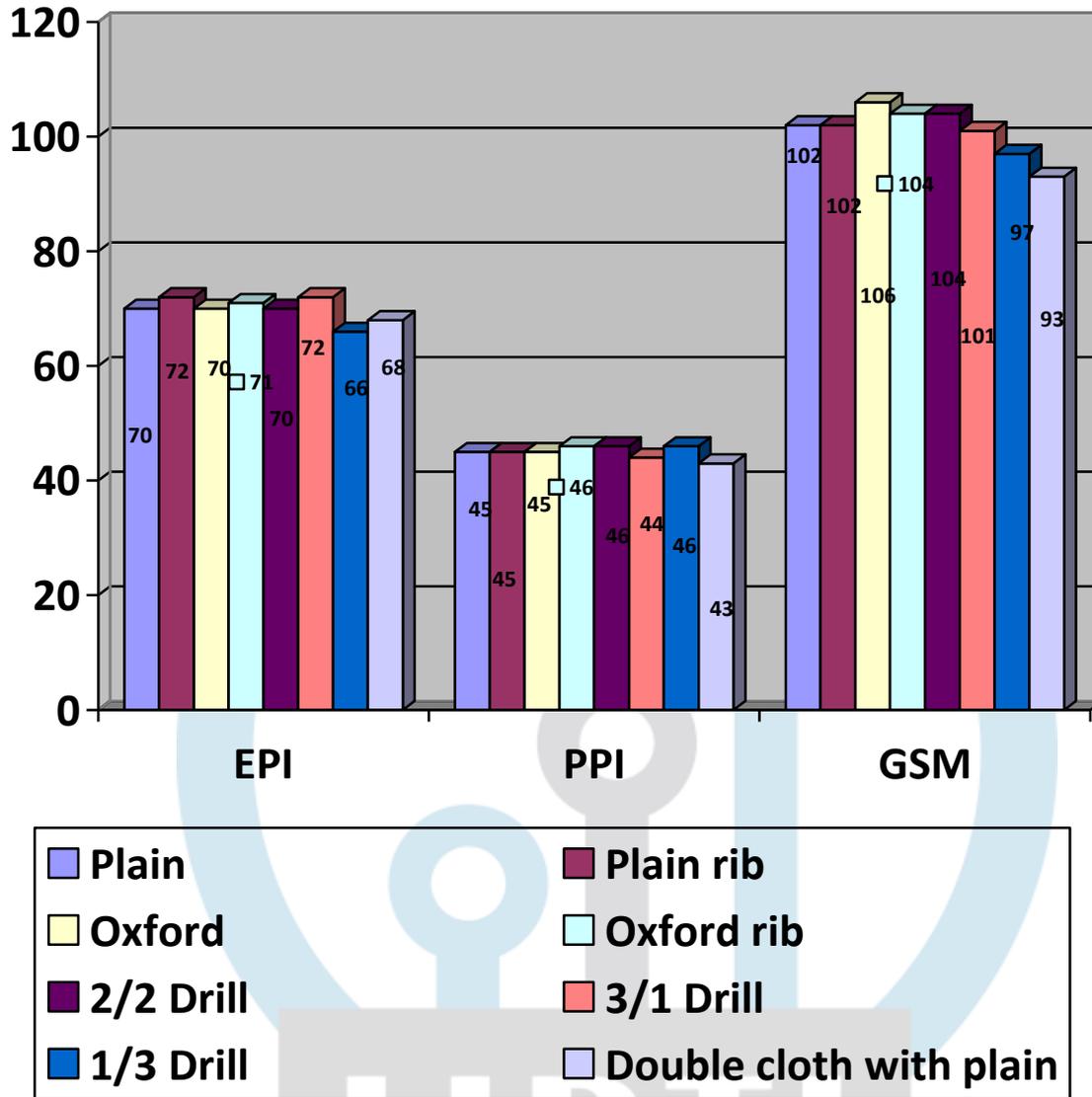
#### 4 Results and Discussion

This chapter introduces the student to the fabric structures of A poles apart weave structure in solitary garment – Ladies Long Gentle wear. The type of weave used in a fabric depends upon the desired factors such texture, luster, strength, pattern, color, look, feel, effects and cost of the production, before any recommendation of the weaves is done. This chapter in brief gave an idea to the students about the various fabric structures that they are going to study in the forthcoming chapters. The three basic structures are Plain, Twill and Sateen Weave. All other weaves are the usually a permutations and combinations many weave structures by varying the settings in the machine.

##### 4.1 Testing report

**Table-1 – Comparison chart of the Eight leave**

S.no	Weave name	Ends(warp) per Inch	Picks(weft) per Inch	GSM
1	Plain	70	45	102
2	Plain rib	72	45	102
3	Oxford	70	45	106
4	Oxford rib	71	46	104
5	2/2 Drill	70	46	104
6	3/1 Drill	72	44	101
7	1/3 Drill	66	46	97
8	Double cloth with plain	68	43	93



Graph-1- Table-1 – Comparison chart of the Eight leave

5 Sample Products

Dresses are outer garments made up of a bodice and a skirt and can be made in one or more pieces.<sup>[3][4]</sup> Dresses are generally suitable for both general and formal wear in the West for women and children.<sup>[4]</sup> Historically, dresses could also include other items of clothing such as corsets, kirtles, partlets, petticoats, smocks and stomachers.

### 5.1 Front view



### 5.2 Back view



### 6 Conclusion

In this fashion industry the above garment is a new approach in the weaving Industry. A new in particular has come a long way and has grown into one of the largest industries in the world. Computer is a technology, which has generated great excitement in many branches of textile industry. Digital fashion illustrations really started during the 90s as more affordable and capable technology made, it possible for illustrators to experiment with this fledging art form writes Tallon (2008). Library has a collection of books, newspapers, videos and music kept for people to read, use or borrow. Design library helps the user to recollect and reuse the designs with or without modifications. This is an age of information technology and as on date design libraries do not exist in the digital format. It is a routine practise for people in different walks of life to view designs. If the designs are presented in the digital format, the following groups of people will be highly benefitted. The faculty members of

fashion design field can visually present the students the nuances of garment styles and the use this as a teaching aid to show the effect of colours and textures on different personalities. The fashion designing students will avail an enriched knowledge on garments at the click of a button. The textile and garment manufacturer can use this as way to promote their business by presenting their fabrics on different garment styles without physically making a garment. Orders can be approved by internet or visual presentation. Retail textile and garment showrooms / tailors can replace catalogs with digital design which reduces the cost of preparing and maintaining catalogs for every season. It will be very useful for the consumer to select and purchase garments in showrooms and also for placing orders for garment designs with the tailor. Thus to conclude the Oxford Rib is in good Texture and high strength.

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