



METHODS OF OBTAINING LONGITUDINAL STRIPES LAYOUTS

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Abstract. From the technological point of view it is necessary that the phase of warping to be done two or three multiple warp, which results in two or three rolls of the warp final will meet only the warping. To achieve longitudinal striped fabric spinning machines is necessary to have all tensioning mechanism dispensing rolls which requires their special construction.

The homogeneity of the fabric from the point of view of the warp yarns tension must be ensured by synchronizing operation of the tensioning two cutting mechanisms of the two reels on which the wires are wound with a degree of waving and thus the fuel consumption at the different weaving.

It is recommended that the design be adopted average float bonds, such that the wires can be wrapped around more than two final reels.

In terms of manufacturing technology with longitudinal stripes fabrics have a more complicated and expensive technology to cross-striped fabrics for the manufacture of which technology is simplified.

Cross-striped fabrics containing groups of warp threads those linked to floating average is materially different. Due to this degree of crimping of wires in the stripes with different bonds makes their contract to be different, having a direct influence on the wires consumption. The different contraction of wire weaving makes warp yarn length, contained in a linked reports are so different that it requires winding wires with different bonds also differing on the final rolls.

Key words: floating, longitudinal stripes, plain weave, satin, floating, yarns, fabrics

1. INTRODUCTION

Mapping method of thread groups with ties to obtain different average floating fabric with longitudinal stripes, was one of the most important issues for the designers and creators of fabrics. Although the concerns of project area, the result was the adoption of empirical solutions have not taken into account the real state of the internal structure of the fabric with such links. In their vast majority were limited to solving some particular cases structure without universal solutions [1].

The most obvious effect of stripes is obtained by associating connections with significantly different average flotation which alter the internal structure of the fabric itself. This aspect of the depth of the stripe is contained structure which makes it to be well defined and provide a high stability.

Average float bonds differ across striped fabric determines the inhomogeneous nature that can not be eliminated entirely, but it can be improved. One means by which to bring an improvement in the homogeneity of the fabric in terms of the degree of filling is apparently taking densities which increase average flotation.[2]

Fabrics obtained by combining floating links with different backgrounds, structure, consists of two parts: an area with yarn in which is used an average floating about as small, usually weave with floating average $F = 1$ and an area containing yarn bonds whose average flotation $F > 1$.

2. THE CONNECTION OF FABRIC DESIGN CONSTRUCTION WITH LONGITUDINAL STRIPES.

The appearance of longitudinal stripes contoured and highlighted the simple fabric consisting of a warp and a weft can be obtained only by means of combination of groups with links floating yarn mean differs significantly.

Striped effect achieved by this method produces change of the internal structure of the fabric, which makes the establishment striped to provide a permanent, that can not be diminished by humido-thermal processes finish or routine maintenance.

3. CRITERIA FOR ASSIGNING TIES TO EFFECT OF STRIPES

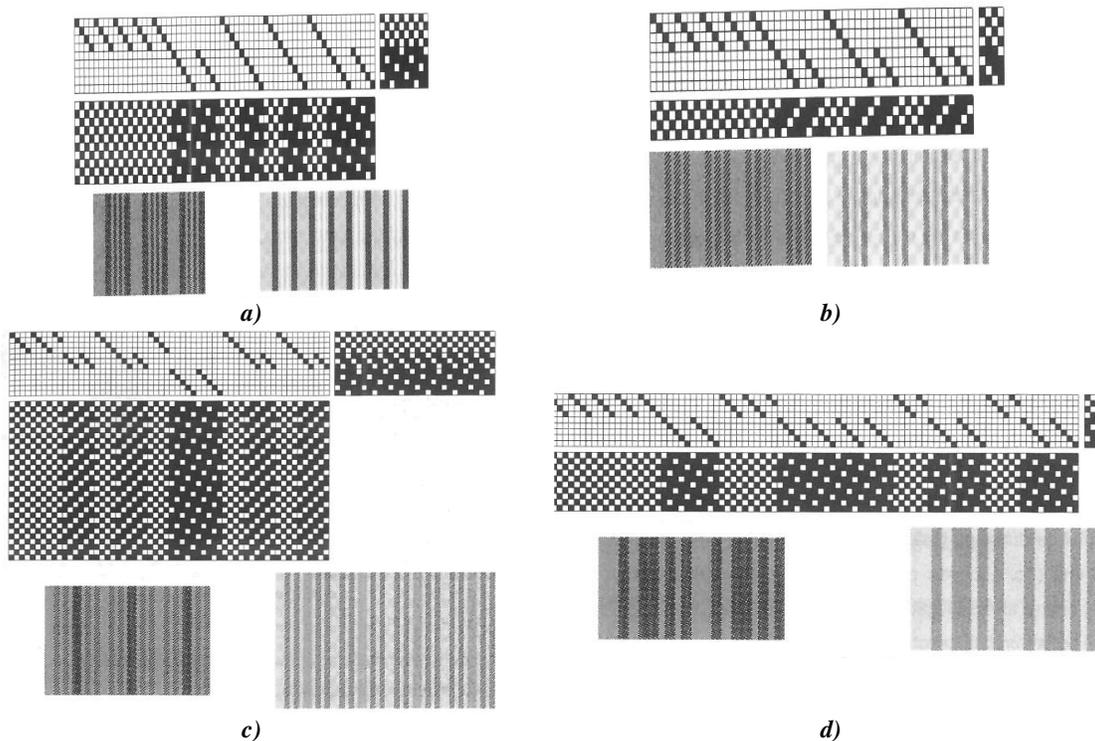
When setting drawings related to longitudinal stripes textile fabrics obtained by associating groups of threads with ties to pushups different environments must meet certain criteria which ensure positional stability of the wires and the appearance of longitudinal stripes [3]:

1. Ties that associates to provide a clear contrast characterized by the degree of occurrence of the woven yarn systems.
2. The number of yarn of a given connection must be at least equal to the number of warp yarns in a cell of the shoulder or the number of yarns in a ratio of about.
3. Yarns in a stripe with a certain connection will be woven into a whole number of shoulder cells.
4. Wires in stripes with different ties will be necessarily separated by tooth comb.

4. CONSTRUCTION OF THE RELATED DESIGNS

The combination of warp threads with different links and widths can result in a variety of fabrics with longitudinal stripes layout. [4]

Joining effect regarding the color effect is another meaning by which to obtain a better highlight of the longitudinal stripes appearance and an almost unlimited variety of aspect. In the fig. 1 are some examples of woven fabrics obtained by associating groups of wire ties, different thickness and width combined with color.



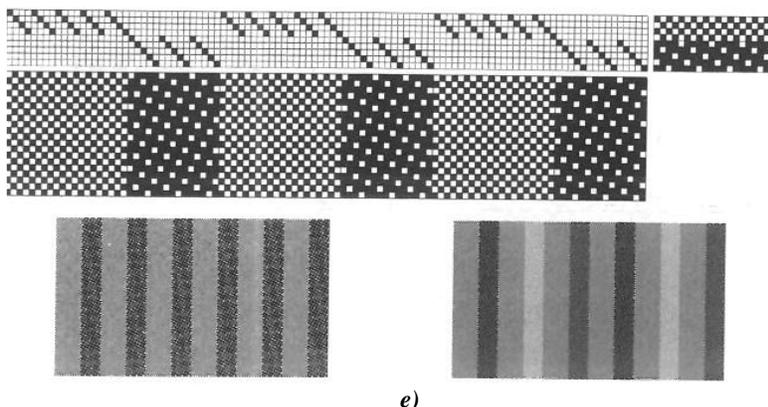


Fig. 1: Examples of woven fabrics obtained by associating groups of wire ties, different thickness and width combined with color

To highlight the appearance of striped ties were associated with significantly different average flotation.

In all presented cases were adopted the background of woven fabrics which has the lowest average float $F = 1$. Striped configuration is evidenced by the adoption of the other groups of yarn, connections with higher average float and the warp. [3]

For the connection of Figure 1 was obtained by associating bond cloth of the ATLAS 5/2 Warp effect, the width of the stripes is different due to the number of threads adopted. It can combine stripes with widths equal to one for both links and unequal stripes on both ties that associate fig. 1 (b, c, d).

5. CALCULATE THE RATIO OF THE BOND

The report of bond fabrics with longitudinal stripes obtained by assigning different medium float ties is calculated as:

- in the woof

$$Ru_{dl} = \sum_{j=1}^n \left(\sum_{i=1}^n ni \right) Rui \quad (1)$$

- in the warp:

$$Rb_{dl} = (c.m.m.c.)Rui \quad (2)$$

To the connection with longitudinal stripes shown in figure 1 c) the ratio of the bond is calculated as:

- in the warp

$$Ru_{dl} = \sum_{j=1}^n \left(\sum_{i=1}^n ni \right) Rui = \sum_1^2 (10 + 2 + 2 + 2) \cdot 2 + (2 + 1 + 1 + 2) \cdot 5 = 32 + 30 = 62$$

- in the warp:

$$Rb_{dl} = (c.m.m.c.)Rui = c.m.m.c.(2,5) = 10 \text{ fire}$$

6. THE ASSESSMENT OF CONTRAST

The degree of systems development on the yarn fabric, is the contrast element that highlights streaking effect.

It is measured by the number of the systemic effects of the fabric per unit area is defined as the minimum number of warp yarns and weft in the report of bond strips. [4]

Figure 2. Has been associated with floating weave twill $F = 1 D3 / 1$ with average flotation $F=2$.



Fig. 2: The association cloth bond with the twill D3/1

In a report $R_u = R_b = 4/4$ from the 16 attachment points 8 are the with warp effect for weave and 12 for twill.

In the case of bond fabric association $A5 / 2$, Figure 7 in a report $R_u = R_b = 10/10$, 100 of the attachment points, the weave is 50 and the connection points 80 atlas the warp effect. If the first case the ratio between the points of bonding the warp effect is 1.5 second is 1.6. [5]

Given that the striped warp yarn density has different values depending on the flotation year average, it is necessary to calculate the degree of occurrence of points on the fabric binding the warp to take account of this. Therefore, the ratio of binding points of the warp effect is associated with the ties have to be related to the ratio of the maximum density of the yarns of the two ties.

7. WEAVING YARNS TO WOVEN FABRICS OBTAINED BY ASSOCIATION LINKS.

7.1 Weaving threads in shedding harnesses

Weaving threads into shedding harnesses shall conform to the following criteria.

- a. criterion of the number of shedding harnesses
- b. loading criterion of the shedding harnesses

Figure 3 is linked to a compound twill $4/2, 1/1$, the average float $F = 2$ with a plain weave with a floating average $F = 1$. Charging the shedding harnesses in a report linking $R_u = 8 + 24 = 32$ wire, 1 wire / SSA twill and 6 threads / wire to weave.

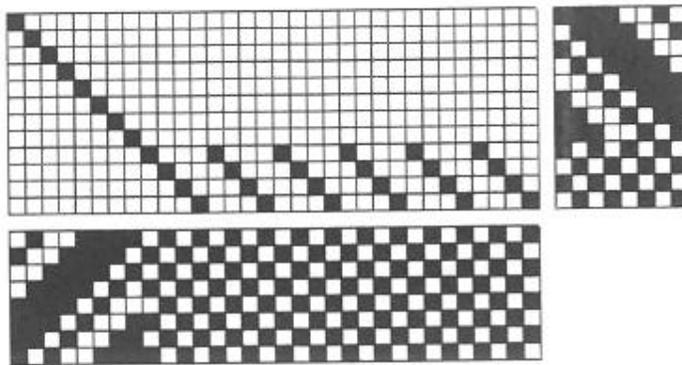


Fig. 3: Assigning a composed twill 4/2, 1/1 with a plain weave

- c. the criterion of frequency bond to a report of the weft shedding harnesses

In Figure 4 the effect of longitudinal strips is obtained by the combination of a connection $A5 / 2$, with a plain weave. Degree of shedding harnesses loading in the report bond is equal to 1 wire / yarn.

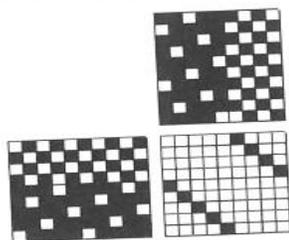


Fig. 4: Associating a link A5 / 2 with a plain weave

7.2. Weaving backward yarns

Weaving backward yarns for fabric links obtained by fundamental association or combination thereof shall conform to the following criteria. [1]

- yarns from a stripe with a certain connection to be woven in a number of shoulder whole cell.
- The number of wires from a stripe with a certain connection should be equal to the number of woven yarns in a cell or an integer from cells
- Adjacent wires between two consecutive bonds will separate binding by tooth shoulder.

A warping wires backward incorrectly can lead to blurring effect stripes. An example of a link with the connection strips obtained from the longitudinal A5 / 2 by negativation, warping shown in Figure 5.

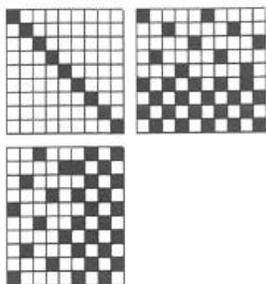


Fig 5: Connections with longitudinal stripes obtained in the connection A5 / 2 by negativation

Weaving the threads in the cell is the cell 2,4,7,9 stripes are woven yarn consecutive different links. Basically the striped fabric is completely blurred.

- Number of wires woven into a cell of the shoulder must be strictly proportional to their density in stripes with different bonds.

In Figure 6 weaving yarn in the back was done with 4-wire the connection at the twill compound and 2-wire / connector to the canvas. In this case the ratio of yarn density is 4/2. Twill yarn density will be two times greater than that of the weave plain.

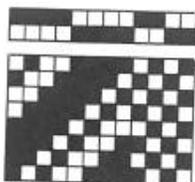


Fig. 6: Weaving backward yarn

In Figure 7 the connection associated A5 / 2 with cloth 3 shall be possible variants of the warping of backward yarns give different ratios between 3 to stripes and density of yarns, namely:

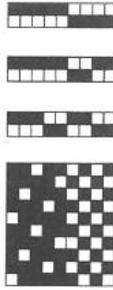


Fig. 7: Assigning a bond A5 / 2 with a weave plain

1. The density of stripped yarn with a density A5 / 2 is 1.25 times greater than the stripe weave of the yarns.
2. The report of backward warp threads is 5/2, and hence connecting yarns A5 / 2 have a density of 2.5 times higher than the weave
3. the ratio backward warp yarn is 5/4.
 - e. It is recommended that the number of yarn from a stripe of a certain connection to an integer number of reports.
 - f. If when for the diversification appearance of stripes can adopt on stripes a certain connection a number of threads which contains a whole number of reports in which stripe with connection A5 / 2 containing 12 wires

8. CONCLUSIONS.

In terms of manufacturing technology with longitudinal stripes fabrics have a more complicated and expensive technology to cross-striped fabrics for the manufacture of which technology is simplified.

Cross-striped fabrics containing groups of warp threads those linked to floating average is materially different. Due to this degree of crimping of wires in the stripes with different bonds makes their contract to be different, having a direct influence on the wires consumption. The different contraction of wire weaving makes warp yarn length, contained in a linked reports are so different that it requires winding wires with different bonds also differing on the final rolls.

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