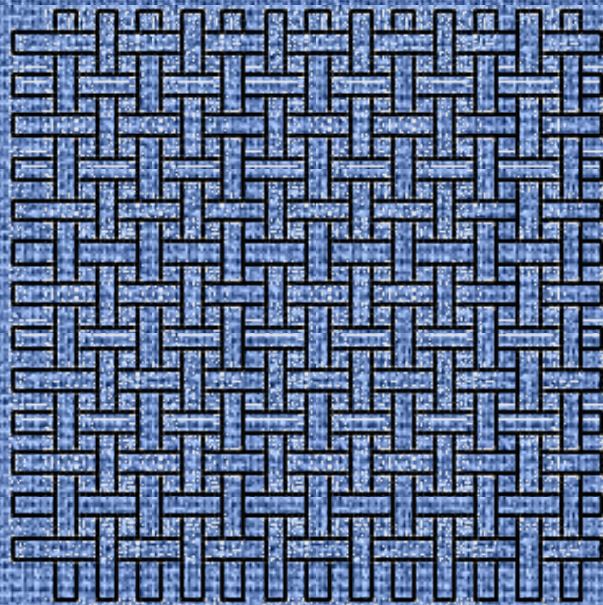


Fabric Faults



By: Muhammad Samiul Alam Mondal

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Introduction:

Weaving and knitting are one of the major functions involved in the process of fabric production. Fabric faults are the defects or faults that occur during either these two functions. These defects vary from minor to major. The minor defects may be barely visible whereas the major are clearly noticeable. However, some fabric defects can be corrected whereas some are permanent. Hence, awareness of fabric faults is important and great care should be taken during weaving or knitting. If a fabric has many faults then companies tend to reject the material resulting in a loss for the production companies. To avoid this rejection, the production of good quality fabrics becomes a necessity. There is a great demand of high quality products as customers have started to become aware of Non-quality problems. In this paper, the various fabric faults occurring during weaving and knitting are mentioned.

Woven Fabric Faults

1) Loom bar/starting mark/stop/thick/thin/open /corrugated mark:

- Possibility of this occurring is during starting the loom after stop edge (Width mix)
- It can also take place due to miss match among let off, take up or yarn tension.
- Thick/stop mark-low tension in dense fabric
- Open /thin mark-high tension in base fabric.
- Corrugated mark-high tension in course concept fabric.

2) Cut yarn:

Warp Cut:

High tension, higher warps crimp, irregular warp causes warp cut.

Weft cut: It is caused by:

- a) High weft crimp, higher beat up force, picking force, thin lace in weft, high weft tension.
- b) Temple cut wrong setting at temple, damaged temple ring, mismatched temple with force.

3) Float:

Warp- Loose warp, warp mixed with successive warp.

Weft- Advanced weft insertion. Jhala - Combination.

4) Hole:

It takes place when friction with take up R/r or wrong mending.



Fig : Thick Yarn



Fig: Thin Yarn

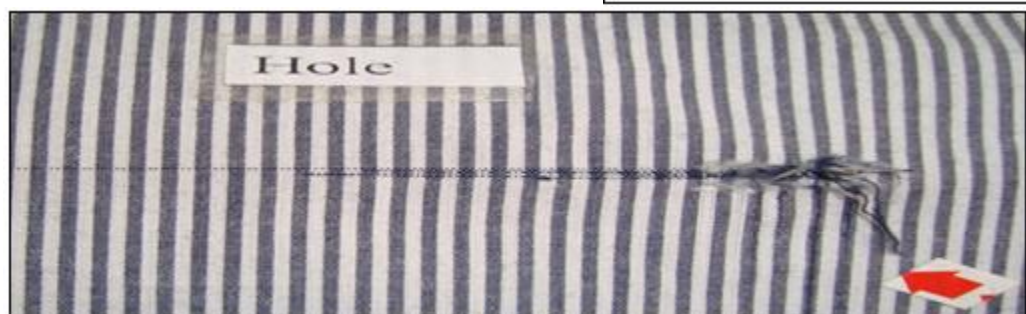


Fig: Hole

5) Construction:

It occurs due to lack of cleanliness.

6) Loop:

Warp - Loose warp.

Weft - More length of pick insertion. Hair slab in warp.

7) Broken yarn (mainly in warp)

It occurs when loom is run without knitting after end breakage.

8) Slough off (mainly in weft):

It is caused by using soft package in high speed.

9) Double yarn:

End-sized double yarn in beam, entangled yarn with successive of dropper does not drop due to deposit dust. Also another color yarn is seen at length wise.

Pick-Double yarn in weft package, wrong picking. Another color yarn is seen at width wise.

10) Miss pick/Running pick -

It takes place due to problem of weft sensor.

11) Stain (oil grease):

The use of compressed air for cleaning carelessly causes stain.

12) Reverse picks:

Loose gripping of weft or loose selvedge causes reverse picks.

13) Loose or tight end:

Loose or tight warp in beam causes this.

14) Hanging warp:

Extra warp ends are not cut after knotting.

15) Uneven lot mixing:

It takes place due to wrong planning, carelessness or wrong package.

16) Stretch mark:

For long storage bacteria attack.

17) Yarn problem:

The yarn is either thick, thin, naps.



Fig: Double end

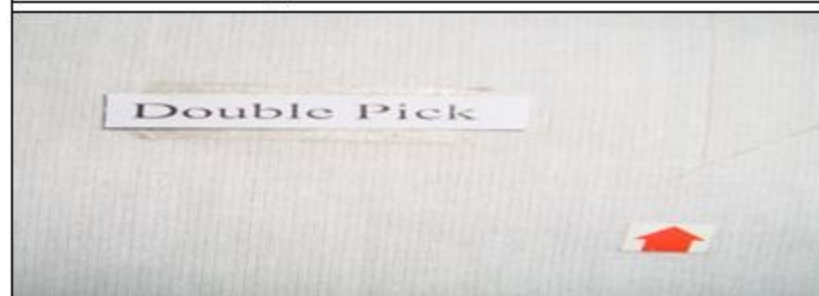


Fig: Double pick



Fig: Double pick



Fig: Miss Pick

18) Temple mark:

There is a wrong temple pressure height on fabric.

19) Slub:

Due to uneven thickness of yarn fabric may not be smooth.

20) Color cut:

It has a bleeding color from a part of the garment to another part.

21) Listing Shade:

Shade is seen in widthwise.

22) Knot:

A knot is joining of two yarns.



Fig: Slub



Fig: Color cut

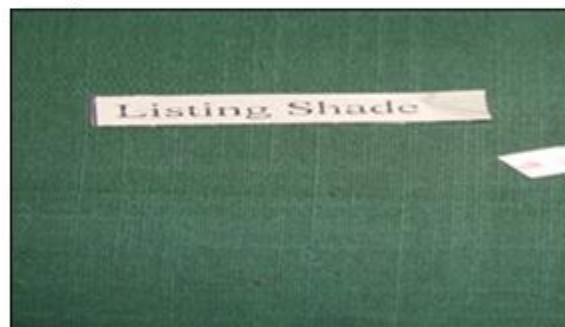


Fig: Listing Shade

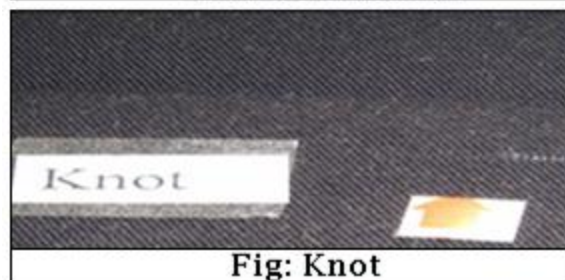


Fig: Knot

Knit Fabric Faults

It is very natural that imperfections occur in the course of knitting fabrics. The imperfections may be the result of imperfect finishing, faulty yarn or knitting machine malfunction. The defects in knitting construction are considered in terms of appearance and nature. Some defects are described as below-

Barrie Effect:

A Barrie effect has the appearance of a stripe with shaded edges. It is vertical in warp knits and horizontal in weft knits. The Barrie effect is caused by various factors like:

- Lack of uniformity in luster, yarn size or color.
- During knitting one section of the fabric, mush tension on the yarns.
- Uneven shrinkage or other finishing defects

Bowing:

A line or a design may curve across the fabric. This bowing is the distortion caused by faulty take-up mechanism on the knitting machine.

Streak or Stop Mark:

A straight horizontal streak or stop mark in the knitted fabric is due to the difference in tension in the yarns caused by the machine being stopped and then restarted.



Fig: Stop Mark



Fig: Barrie effect



Fig: Bowing

Skewing:

Skewing effect is seen as a line or design running at a slight angle across the cloth.

Beardy:

The knitted fabric becomes beardy (a stiff or harsh hand) when the stitches have been knit very tightly.

Needle Lines:

Needle lines or vertical lines are due to a wale that is either tighter or looser than the adjacent ones. This is caused by needle movement due to a tight fit in its slot or a defective sinker.

Run or ladder:

A run or ladder indicates a row of dropped stitches in the wale.

Float:

This is caused by a miss stitch which is the result of failure of one or more needles to have been raised to catch the yarn.

Cotton Contamination:

It is a dark stain, undetectable on cotton grey fabric and appearing after light dyeing. It may be caused by contamination of raw Cotton by insects lying in the cotton flowers.



Fig: Cotton contamination

Holes:

They are the result of cracks of yarn breakage. During loop formation the yarn had already broken in the region of the needle hook. The main causes are-

- Relation between cylinder and dial loop not correct; yarn feeder badly set.
- Weak places in yarn, which break during stitch/loop formation.
- Knots, slabs etc.
- Yarn running in tension is too high.
- Yarn is too dry.



Fig: Holes

Drop Stitch:

Those are result of a defective needle. They also occur when a yarn is not properly fed during stitch formation. Its main causes are-

- Badly set yarn feeder.
- Yarn feeder wrongly thread in.
- Bad take-up.
- Very dry material.
- Insufficient yarn tension.



Cloth Fall Out:

It is an area consisting of drop stitches lying side by side. They can fall out either when a yarn is laid out or when it breaks without any immediate connection.

Snags:

It mostly occurs while processing filament yarns. The tendency towards it can be reduced by using yarn with a coarser single filament count, lesser crimp elasticity and higher twist.

Tuck or Double Stitch:

These occur due to badly knitted or non-knitted loops. They are less intentional tuck loops or floats, also showing up thick places or small leads in the fabric. As an instance they may also appear as a shadow when fabrics are observed against light.

Bunching-up:

Visible knots in the fabric are referred to as bunching-up. They appear as feeds & turn up irregularly in the fabric.

Vertical Stripe:

It can be observed as longitudinal gaps in the fabric. The space between wales is irregular & the closed appearance of the fabric is broken up in an unsightly manner.

Horizontal Stripe:

They are caused by unevenness in the courses; they traverse horizontally & repeat themselves regularly or irregularly.

Conclusion:

The above mentioned faults include all minor and major defects in fabric production. The inspection of finished garments or fabrics is very crucial to maintain high quality products. With advancement in technology, there are fabric inspecting machines that can identify all major to minor defects in fabric. Hence, it has become crucial for the mills to avoid the above mentioned faults as much as possible and to produce fabric of high quality.

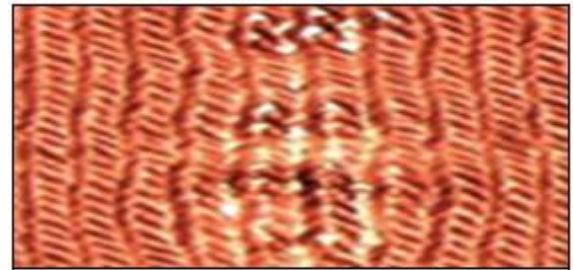


Fig: Vertical Stripe

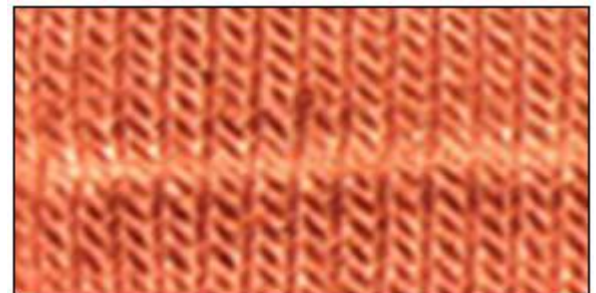


Fig: Horizontal Stripe

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