



Faculty of Engineering
Department of Textile Engineering

“Study on Reports of GSM, Inspection, Shade and Shrinkage % for Three Buyers”

Course code: TE-421 Course title: Project (Thesis)

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A thesis submitted in partial fulfillment of the requirements for the degree of
Bachelor of Science in Textile Engineering

Advance in Apparel Manufacturing Technology

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LETTER OF APPROVAL

To
The Head
Department of Textile Engineering
Daffodil International University
Ashulia-1341, Dhaka, Bangladesh.

Subject: Approval of project report of B.Sc. in TE Program

Dear Sir,

We are just writing to inform you that the thesis report titled " Study on Reports of GSM, Inspection, Shade and Shrinkage % for Three Buyers " has been finished for final review by the student with IDs 181-23-441 and 181-23-460. The whole study is built on thorough inquiry and interruption, as well as rigorous examination of empirical facts and needed items. We are actively engaged in the thesis efforts, and the report has become critical in providing readers with a wealth of useful information.

Therefore it would be really helpful if you could accept this thesis report and consider it for final review.

Yours Sincerely

.....



Mr. Md. Mominur Rahman
Assistant professor
Department of Textile Engineering
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DECLARATION

We hereby declare that the work presented in this thesis, titled “ Study on Reports of GSM, Inspection, Shade and Shrinkage % for Three Buyers” is our own original work, that it has not been submitted for a degree from any other university, and that all sources of materials used in this thesis have been properly acknowledged.

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This is to certify that the above declaration made by the candidate is correct to the best of our knowledge.

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ABSTRACT

In the garments industry, the fabric inspection procedure is one of the most crucial processes. Fabric flaws are a key criterion for fabric rejection. This project has provided us with a wealth of experience. We have gained a better understanding of how inspections are carried out, the issues that arise during inspections, and how to address those issues. The knit fabric inspection procedure in the garment sector was researched for the causes of rising flaws, and priorities for improvement studies in terms of rejection % were established. Fabric inspection problems were discovered throughout the data gathering process. As a consequence, the statistical analysis of the knit fabric manufacturing process was completed. Furthermore, there was a statistically significant link between the number of problems and the rejection rate. Finally, various suggestions for improving fabric inspection quality by minimizing fabric inspection mistakes are presented.

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CHAPTER 1

INTRODUCTION

1.1 Background:

Fabric inspection is one of the most important sections in the garment business, in my opinion. Fabric flaws are a key issue in the fabrication of clothes. As a result, the fabric inspection section is critical in the production of high-quality fabric. Quality is also checked in another segment, but only the fabric inspection section checks for all sorts of flaws. Because the examination will begin once the knitting, dyeing, and finishing have been completed. So we may look for flaws in yarn, knitting, dyeing, and finishing here. That is why we have chosen this subject.

1.1.1 What We have done thus far:

1. Examine several fabrics
2. Complete a fabric inspection report.
3. After knitting, make an inspection report.
4. Examine the knit and finished fabric inspection reports.
5. Statistical analysis of each report separately.
6. A statistical summary of all reports.
7. Describe the inspection procedure
8. Percentage of weight lost after reducing

1.2 Objectives:

1. To assess the fabric inspection section's contributions.
2. To understand the many sorts of fabric flaws and how to fix them.
3. To understand the impact of fabric flaws on manufacturing.
4. To raise awareness of the many forms of flaws.
5. To understand the causes of various sorts of defects and rejection, as well as their consequences.

1.3 Importance:

One of the most significant and largest divisions in the garment business is fabric inspection. Fabric inspection is the visual examination of fabric in accordance with a set of standards, specifications, or requirements. It is a distinct subset of the clothing industry. Fabric checking is a common practice in the garment industry. Many fabric problems occur during fabric examination on the inspection floor, resulting in many textiles being rejected. There is no industry that does not create rejected textiles. Fabrics that are rejected add to the cost of manufacture for a specific order.

This paper will need to explain rejected textiles, as well as their causes and treatments in the garment business. This article is intended for individuals who need a basic understanding of fabric flaws, their causes, and solutions, as well as rejected textiles and their proportion in a particular order. All textile students will benefit from this material, particularly those who will work in the fabric inspection area. Again, this work will assist students who will do study on the same issue in the future. This paper will be more beneficial for many students whose primary topic is Garments Technology since it offers some significant and practical information. It will assist such readers in their day-to-day difficulties of production planning, quality control, and garment industry growth.

1.4 Limitations:

Despite the fact that our study was not influenced by any desired aspect, there were certain constraints in accomplishing this research endeavor. The study had been focused on a single industry. It would be preferable if we could work in several industries. As a consequence, we were unable to get a definite outcome for our experiment. Again, we were only given 14 days to complete our research task in the fabric inspection area, which was insufficient to do it correctly. During our trial, we were not given key critical data and information that were essential for the correctness of our study per industry's internal policy. During our study period, we were unable to get sufficient assistance from industry personnel in order to complete our assignment successfully. We required technical knowledge in certain circumstances but were unable to get it owing to a scarcity of technical personnel in the business. We didn't have enough room to negotiate with responsible persons on several critical topics in order to complete the project on the spur of the moment. However, we made every effort to conduct this study project using accurate data and facts.

CHAPTER 2

SURVEY OF LITERATURE

2.1 Inspection of Fabric:

Fabric inspection is described as the visual examination of fabric in accordance with a set of standards, specifications, or requirements. It is a distinct subset of the clothing industry. Inspection is a crucial step in the garment production process to eliminate rejections due to fabric quality issues and unanticipated manufacturing losses. Fault/defect rate, fabric structure, fabric weight, shrinkage, end to end or edge to edge shading, color, hand feel, length/width, print defect, and appearance are all examined throughout the fabric inspection process. Fabric inspection helps to reduce the number of cut panels or outfits that are rejected owing to fabric flaws. Cutting fabric that has been examined and authorized assures not only the quality of the completed garment, but also reduces rejections, increases efficiency, and ensures timely delivery.

2.2 Reasons for Conducting Inspection:

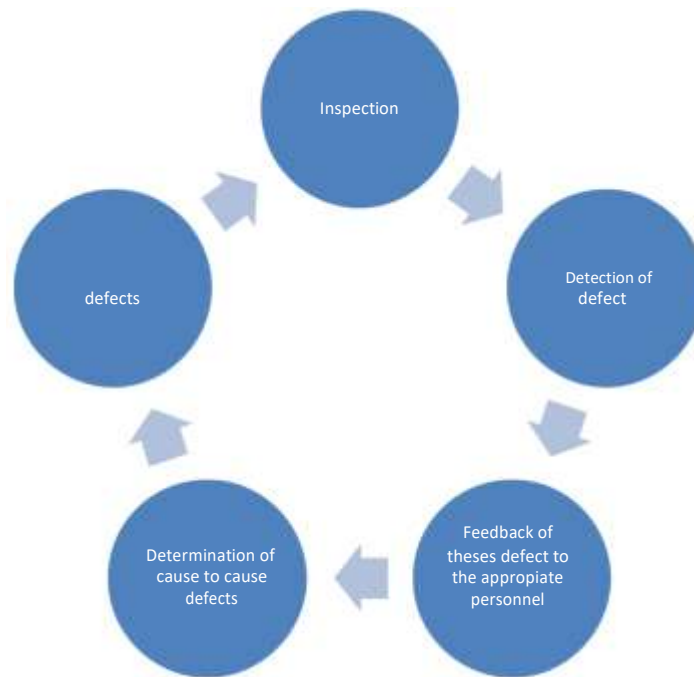
- To eliminate flaws.
- To reduce the likelihood of the fault recurring in the future.
- To identify the fabric's quality and, as a result, its price.
- To advise appropriate levels of management on the quality of the products being produced.

2.3 Objectives:

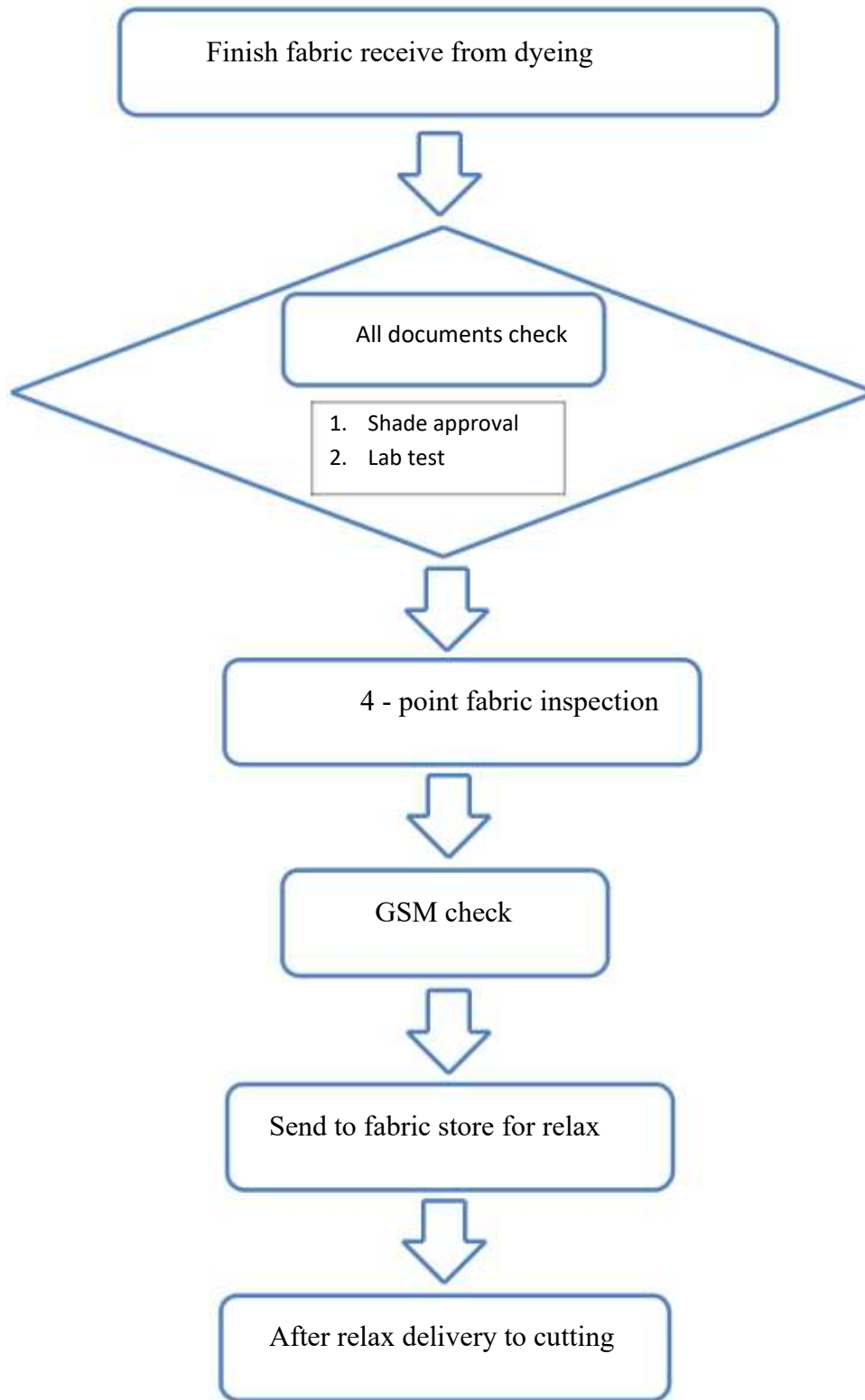
Fabric inspection is used to determine whether or not the fabric obtained meets the required quality level. The major goal is to find fabric flaws and nonconformance as soon as feasible. In order to avoid wasting time and money throughout the production process. In the apparel sector, the ultimate purpose of any quality control action is to please consumers.

The inspection's key goals include the following:

- 1) Detection of flaws is the first step.
- 2) Correction of flaws



2.4 Fabric Inspection Flowchart:



2.5 Fabric Inspection Method:

- i. 4 point system
- ii. 6 point system
- iii. 10 point system
- iv. Graniteville system
- v. Dallas point system

2.6 Four-Point System: A four-point system is one in which the highest penalty point for a fault is four.

In the garment business, a four-point technique for fabric examination is frequently utilized. The majority of buyers demand that all manufacturing fabrics be inspected using the 4-point approach. As a result, the majority of the garment industry chooses a four-point grading system.

- It's the most often used point system.
- The National Association of Shirt Pajama Sportswear Manufacturers issued it in 1959.
- The American Apparel Manufacturers Association (AAMA) point grading system, sometimes known as the 4-point system, is used to determine fabric quality.

In a four-point system, the following factors should be considered:

- According on the size and seriousness of the fault, penalty points of 1, 2, 3, and 4 are assigned. A single flaw may only get a maximum of four penalty points.
- Regardless of the amount of flaws inside that yard or meter, no linear yard or meter may include more than four points.
- Each full-width flaw should be given four points.

Each yard or meter in which an obvious or serious fault occurs, regardless of magnitude, will get four points.

Benefits of a four-point system include:

- It is simple to comprehend for a worker.
- It does not have a maximum width.

The Scoring System:

Point	Grade
Points up to 0 to 20	A
Points up to 21 to 28	B
Points 28 above	Rejected

Values of Fabric Faults Points:

Up to 3 inch	1
Over 3 - upto 6 inch	2
Over 6 - upto 9 inch	3
Length Of Defects	Point Allocated
Over 9 inch	4
Less than equal 1 (Holes)	2
Over 1	4

The four-point system is calculated as follows:

$$\text{Points / 100 sq.yds.} = \frac{\text{totalS defected pointc} * 100 * 36''}{\text{totalS fabric Sength (yardc) 1 Inspected fabric width}}$$

2.7 Fabric Inspection Method:

This procedure outlines the actions that must be followed to guarantee that a fabric inspection quality control program is effective:

1. Determine the amount of fabric that will be examined.
2. Choose the fabric rolls that will be inspected.
3. Place the fabric roll / bale on the table / examination frame.
4. From the beginning of the roll, cut a 6-inch piece across the width of the cloth. Mark this piece so that the inspector knows which side of the cloth is correct and which side is left. By testing the strip against the center of the
5. roll and once at the conclusion of the roll, you may examine the shading side-to-side and end-to-end.

6. Examine for visual abnormalities at a slow enough pace to detect them.
7. Double-check that the roll has the meters that the Fabric Supplier specified.
8. Examine the cloth for bending and skewing.
9. The Fabric Supplier is responsible for identifying major fabric flaws. If any flaws are not previously noted, they must be marked with a sticker or masking tape during inspection so that they may be traced and corrected during the cutting stage.
10. Fill out the Fabric Quality Report with the fabric's flaws.

2.8 Fabric inspection tools:

The person in charge of fabric inspection must have the following facilities and equipment in working order.

1. A frame with a counter for inspection.
2. At the inspection frame, D - 65 light source (sunlight) / TL - 84 light source, as required by the client.
3. Measuring tape & pair of scissors.
4. Labeling the flaws using stickers or masking tape.
5. Choose a glass.
6. Use a digital camera to take reference photos.
7. Customer's reference sample or master fabric sample

2.9 Qualifications for the Quality Inspector:

1. The individual must have at least a Bachelor's degree.
2. He or she must have at least two years of textile industry experience.
3. He or she should be familiar with the four-point fabric inspection method.
4. He or she must be physically healthy and active.
5. He or she must not be colorblind in any way.

2.10 Inspection Procedures in General:

Fabric inspections are carried out in an appropriate and safe setting with enough ventilation and lighting.

Fabric flowing through the frame must be at 45-60 degrees to the inspector, and it must be done in a cool white light environment with 2 F96 fluorescent lamps above the viewing area. Backlighting may be turned on and off as required.

The inspection machine's fabric speed must not exceed 15 yards per minute. When 80 percent of the item or lot is received, all fabric inspections must be completed.

Prior to inspection, standard authorized bulk dye lot standards for all permitted lots must be accessible. Before analyzing color, hand, weight, structure, finish, and visual appeal, an approved bulk dye lot standard must be supplied.

Shade continuity within a roll must be reviewed and recorded by analyzing shade variance between the center and selvage, as well as the beginning, middle, and end of each roll.

Knitted textiles, for example, must be weighed against a standard recognized weight. The breadth of the fabric must be measured from selvage to selvage and compared to the standard. During the inspection, any problems must be noted.

To prevent a shortfall, the length of each inspected roll must be compared to the length specified on the supplier ticketed tag, and any difference must be recorded and reported to the mill for extra replacement.

When inspecting yard colored or printed textiles, the repeat measurement must be taken from the beginning, middle, and end of chosen rolls.

2.11 Textile Inspection System with Four Points:

The Four Point System is based on the penalty points assigned to a flaw discovered during fabric inspection. The following is the rule:

- A single flaw may not get more than four penalty points.
- One linear yard/meter may get no more than four penalty points, regardless of the number of flaws discovered within one yard/meter.
- No penalty points are issued for continuous flaws such as shading between sides, centre side, side

to side shading, or end to end shading, but the roll is classed as second quality and must be reported to the mill for replacement.

2.12 Fabric Inspection's Importance:

Fabric is the most important and expensive raw material in a garment, as we all know. As a result, it's critical to make good use of cloth and minimize waste. Fabric flaws, on the other hand, are the most common garment faults, with many unanticipated problems occurring in the textile sector. Short shipping, discount, cheap pricing, and so forth.

Fabric inspection is critical for the garment business to avoid all of the difficulties mentioned above and to take preventative actions. It's also crucial for the following reasons:

- 1) Increase product quality
- 2) Reduce waste
- 3) Lower costs
- 4) Avoid late deliveries/order cancellations.
- 5) Boost productivity
- 6)) Make use of a grading system

2.13 Fabric Inspection Limitations:

The proportion of limits for fabric inspection is really rather low. However, if the inspection is not performed properly, a problem may arise. When the cloth is examined by the inspectors.

If they don't check the cloth properly at that time, don't note the flaws. Then a slew of issues will arise. This division has a significant amount of responsibility for delivering fabric to cutting that has been thoroughly inspected. Otherwise, the cutting process will be hampered. In addition, you'll be able to cut down on manufacturing time. As a result, productivity will suffer. It is critical to make effective use of time in order to improve output and ensure timely delivery. In addition, an appropriate grading system must be used. The grading has to be done correctly. Grade the cloth based on flaws. If the

grading is incorrect, the excellent fault-free cloth may be replaced with the problematic fabric. Also, always attempt to report any flaws to the other department. As a result, they will be aware of any flaws in the cloth. As a result, it is critical to provide a report to the other part. If reports are not sent to others, the proportion of faults may not decrease. One of the most important aspects of the fabric inspection section is shade variation. Shade variation comes in a variety of forms. For example, flowing shade, roll-to-roll shade variance, and batch-to-batch shade variation. The fabric inspection division must examine for shade variance. If the check isn't right, there's a good possibility it'll be rejected. Any factory that experiences rejection suffers a significant loss. The inappropriate shade cloth will be rejected by the buyer. It's also about a factory's reputation.

2.14 Types of Fabric Inspection Faults, Their Causes, and Solutions: Fabric flaws come in a variety of forms, with causes and solutions listed below.

Slub:

Causes:

- Usually due to a thick or heavy spot in the yarn or ling becoming caught in the yarn feeders.
- Using high-quality yarn as a remedy.

Lycra is being phased out for the following reasons:

- You can't catch the lycra yarn with your needle.
- Lycra yarn has a low tension.
- Breakage of lycra yarn
- Auto spot motion is faulty.

Remedies:

- Ensure that lycra yarn is fed to each needle, and that the tension of the lycra is consistent.
- The auto-stop motion should be functional.

Lines of stains or oils:

Causes:

- Grease or oil streaks on the moving machine portion that hasn't been gauged.
- Fabric contacting the flooring and other solid locations during trolley transit.

Remedies:

- After each dyeing lot, thoroughly clean and wash the dyeing machine.
- Safety guards should be used to protect any lubricated moving machine components.

Causes of the sinker mark:

- A dirty sinker
- a defective or damaged sinker
- When dirt is deposited in the sinker, it rises and forms these flaws.

Remedies:

- The sinker must be clean.
- Sinkers that are defective are replaced.

Causes of a Pin Hole:

- Incorrect tension • Knit and tuck stitch have the same drive.
- Needle latch with a curved shape.

Remedies:

- Different drives need different needle changes.
- There is no change in the needle.

Hole:

Causes:

- The presence of a yarn knot.
- Weak spots in the yarn
- Yarn tension is very high.
- The yarn is very dry.

- Yarn guide isn't correctly positioned.

Remedies:

- Flat knots are used.
- Controlling the regularity of the yarn.
- Use of a filter creel for protection.

Stitches with a Drop:

Definition:

Drop Stitches are little or large holes of the same or different size that develop as flaws in knitted materials at random.

The following are the primary causes:

- Yarn Tension Is Extremely High
- High Fabric Take Down Tension • Yarn Overfeed or Underfeed
- Slubs, Neps, Knots, and other defects. • Incorrect distance between the dial and cylinder rings.

Remedies:

- Use a Tension Meter to ensure consistent yarn tension on all feeds.
- The rate of yarn feed should be tightly adjusted according to the stitch length needed.
- The fabric tube should be as taut as a fully inflated balloon and not too slack.
- The distance between the Cylinder and the Dial should be carefully adjusted according to the knitted loop size, as there should be no slubs, neps, or huge knots in the yarn.

Barriness:

Definition:

Barriness manifests itself in the shape of horizontal stripes of uniform or variable width in knitted fabrics.

Causes:

- Yarn Tension Is Extremely High
- Variation in count • Mixing of yarn kinds • Variation in package hardness

Remedies:

- Make sure all of the feeders have the same yarn tension.
- The lot's average Count variation should be less than +0.3.
- Make sure the yarn you're knitting with is from the same lot as the yarn you're knitting with.
- Using a hardness tester, ensure that the hardness of all the yarn packets is consistent.

Streakiness:**Definition:**

Knitted fabrics have streaks that are irregularly spaced and sized, thin horizontal lines.

Causes:

- Yarn pouring out of the belt on the Pulley due to faulty winding of the yarn bundles

Remedies:

- The yarn packet should be wound properly.
- The yarn should be wrapped around the pulley and between the belt and the pulley.

Imperfections:**Definition:**

Unevenly positioned or randomly occurring Knots, Slubs & Neps, Thick & Thin spots in the yarn are examples of imperfections on the fabric surface.

Causes:

- Yarn with big knots, slubs, and nips, as well as thick and thin yarn.

Remedies:

- Inform the yarn provider of the quality criteria for the yarns to be used in manufacturing.

Snarls:

Definition: Snarls show on the fabric surface as large loops of yarn that are twisted owing to the yarn's high twist.

Causes:

- The yarn has a high twist.

Remedies:

- The yarn's twist should be within the acceptable TPM.

Contaminations:**Definition:**

Contaminations emerge in the staple spun yarn or entrenched in the knitted fabric structure as foreign materials such as colored fibers, husk, dead fibers, and so on.

Causes:

- Dead fibers and other foreign elements, such as colored fibers, husk, and synthetic fibers, are present.
- Dyed and other sorts of fibers flying from nearby Knitting machines latch to the yarn being knitted and get entrenched in the Grey Fabric.

Remedies:

- For knitting yarns, utilize rich fiber blending to reduce the number of dead fibers in the finished cloth.
- Strict control methods in the Blow Room to prevent extraneous matter from being mixed in with the Cotton.
- Use Plastic Curtains or Mosquito Nets to separate the Spinning and Knitting Machines so that fibers from surrounding machines do not become stuck in the yarn or fabric.

Spirality is defined as a twisted garment that occurs after it has been washed.

Both sides of the garment's seams shift from their original location and appear on the front and back of the garment.

Causes:

- The Hosiery Yarn has a high T.P.I.
- Fabric tension on the knitting machine is uneven.
- Fabric feed rate on the Stenter, Calender, and Compactor machines is uneven.

Remedies:

- Knit using hosiery yarns with the required TPM level.
- When feeding colored fabric to the Calender, Compactor, or Stenter equipment, make sure the feed rate is consistent on both sides.

Lines of Needle:**Definition:**

Needle lines are apparent in both the grey and completed fabric as conspicuous vertical lines along the length of the cloth.

Causes:

- Needle hooks, bent latches, and needle stems
- Incorrect needle selection (Wrong sequence of needles, put in the Cylinder or Dial)

Remedies:

- Check for needle lines on the grey cloth on the knitting machine.
- In the Cylinder / Dial grooves, check the Needle Filling Sequence (tricks).

Causes of horizontal lines:

- Irregular tension on cams due to bobbin fault

Remedies:

- Change the bobbin.
- Double-check the location of the cameras

Laddering/Broken Needles:

Definition:

Broken needle defects are readily seen as vertical lines parallel to the Wales. In the Wale with a broken needle, no loops have formed.

Causes:

- High Yarn Tension
- Bad Yarn Feeder Setting
- Old & Worn Needle Set
- Cylinder Grooves are too narrow preventing needle movement
- Hook or Butt in Needle Breakage

Remedies:

- Make sure all of the feeders have the same Yarn tension.
- Maintain the proper distance between the Yarn Feeders and the Needles.
- Replace the whole needle set on a regular basis.
- Remove any flies or obstructions from the groove.
- Replace any needles that are damaged.

Lines to Sinker:

Sinker lines are noticeable or weak vertical lines that run parallel to the Wales along the length of a knitted fabric tube.

Causes:

- Sinkers that are bent or worn out • Sinkers that are too tight in the Sinker Ring grooves.

Remedies:

- Replace any worn or bent sinkers that are generating Sinker lines in the fabric. Sinker lines are extremely fine and weak vertical lines that form in the fabric.
- Unclog the Sinker tricks by removing the fibers that are clogging them (Groove)

Definitions of Oil Lines:

Oil lines are noticeable vertical lines that run the length of a knitted cloth tube. If the needle oil used is not washable and is baked owing to the heat during the cloth finishing, the lines become permanent.

Causes:

- Excessive oiling of the needle beds; fibers and fluff collected in the needle tricks that remained immersed in oil.

Remedies:

- Oil seeps into the fabric because to fibers gathered in the needle tricks.
- Some lubricating fluids aren't washable and can't be removed during the scouring process.
- Clean the machine's Needles and Sinkers on a regular basis.
- Use fuel to completely clean the machine's cylinder and dial grooves.
- After cleaning, blow dry air into the grooves of the Cylinder Dial and Sinker ring.

Ends in Pieces:

When a yarn breaks or is depleted, it appears as equidistant conspicuous horizontal lines throughout the width of the cloth tube.

Causes:

- Yarn Tension Is Extremely High
- Yarn is worn out on the Cones.

Remedies:

- Check all of the feeders for proper yarn tension.
- Check that all of the feeders' yarn detectors are operational.
- On the knitting machine, place a trained and vigilant machine operator.

Fabric press off is defined as a large or little hole in the fabric produced by yarn breakage or closed needle hooks interrupting the loop forming process.

When the yarn feeding to both the short butt and long butt needles abruptly ceases owing to yarn breakage, press off occurs.

If the needle detectors aren't working or aren't positioned correctly, an entire cloth tube may slip off the needles.

Causes:

- End breakage on feeders with all needles knitting; yarn feeder remains in elevated up position, preventing yarn from feeding into needle hooks.

Remedies:

- Needle detectors should be precisely adjusted to detect closed needles and prevent the fabric tube from pushing off entirely.
- On all feeders, proper yarn tension should be maintained.

Hairiness and Piling on the Surface:

Surface hairiness arises on the surface of knitted textiles that have been reprocessed or tumble dried, in the form of extra superfluous fibers.

Pilling is defined as the formation of tiny fiber balls on the fabric surface as a result of the tangling of loose surface fibers.

Pilling is caused by factors such as fiber staple length, low T.P.M., and fabric structure (with long yarn floats), among others.

Causes:

- Abrasion from rubbing across rough surfaces
- Fabric friction in the tumble dryer
- Rough dyeing process & abrasive machine surfaces
- Excessive surface hairiness produced by abrasive tumbling action (Soft Flow Machine tubes, Tumble Dryer drum etc.)
- Fabric reprocessing is another main source of piling.

Remedies:

- Do not use the tumble dryer.
- Minimize shrinkage by allowing the fabric to relax as much as possible and overfeeding the fabric throughout the processing.
- Inspect the fabric contact points on all machines for any rough or sharp surfaces on a regular basis.
- Limit the number of times the textiles are reprocessed.
- For textiles that are prone to pilling, use anti-pilling chemical treatments.

Snagging:**Definition:**

Snagging shows on the knitted fabric surface as a big loop formed by a pulled up yarn float.

Causes:

Sharp things pull or yank yarn from the cloth surface, causing this condition.

Remedies:

- Inspect and correct the fabric contact points on any machines where snagging occurs (Soft Flow Dyeing, Tumble Dryer, Centrifuge, etc.).

Bowing:**Definition:**

Bowing looks as a bow shape formed by rows of courses or yarn colored stripes along the length of the cloth.

Causes:

- When dyeing or finishing the cloth, there is an uneven distribution of tensions over the fabric breadth.

Remedies:

- Bowing in knitted textiles may be remedied by reprocessing the fabric and feeding it from the other end; a specific machine (MAHLO) is also available for this purpose.

Patches for Dying:

Definition:

Dyeing patches occur on the surface of coloured materials as random uneven patches.

Causes:

- One of the most common reasons of coloring patches is insufficient scouring of the grey cloth.
- Dyeing patches may also be caused by using the wrong leveling agent.
- The correct pH level is not being maintained.
- Dyeing machine failure due to power outages or fabric entanglement in the dyeing machine are two of the most common causes of dyeing patches.

Remedies:

- Before dying, properly scour the grey fabric to eliminate any contaminants.
- To avoid uneven coloring, use the right leveling agents.
- Maintain the right pH level during the dying process.
- Use an inverter as a power backup so that the dyeing process may be finished without interruption.

Marks Left by Softeners:

Definition:

Following the use of softener, softness markings show as distinct uneven patches in the dried cloth.

Causes:

- The softener is not evenly dissolved in the water.

Remedies:

- Before dying, properly scour the grey fabric to eliminate any contaminants.
- Check that the softener is equally dissolved in the water and that no lumps or suspension remain.
- Select the appropriate softener and apply it according to the manufacturer's instructions.
- Before using the softener, make sure the pH level is right.

Stains:

Definition:

In a smooth and clean finished fabric surface, stains show as spots or patches of grease oil or dyes of various colors.

Causes:

- After dying a lot, the dyeing machine was not fully cleaned.
- Grease and oil stains from moving machine components that aren't protected, such as gears, shafts, driving pulleys, and trolley wheels.
- Fabric contacting the flooring and other filthy areas in the trolleys during transit.
- Using filthy hands to handle the fabric and walking onto the stored cloth with dirty feet or shoes.

Remedies:

- After each dye lot, properly wash and sanitize the dyeing machine.
- While dying the cloth, follow the dyeing cycle of Light- Medium- Dark hues and then reverse the cycle.
- Safety shields should be installed on all lubricated moving machine components.
- When shipping or storing the fabric, make sure it is carefully packed or covered with Polythene sheets.
- Handle the fabric with clean hands and don't allow anybody tread on it while it's being kept.

Color Fading (Failure to Hold Color):

Definition:

After a few usage, the color of the garment or fabric becomes lighter and paler in contrast to the original color of the goods.

Causes:

- A significant reason of color fading is the dyeing formula, namely the inadequate fixing of the dyes.
- Using the incorrect color combination in a secondary or tertiary shade.
- Color fading is also caused by the use of harsh detergents and poor water quality.

- Colors will fade if exposed to bright light for an extended period of time.
- Individuals' sweat has a high amount of acidity or alkalinity, which causes color fading.

Remedies:

- Use the right dying mix, which includes the proper leveling, fixing agents, and color combination.
- Be sure to follow the washing directions to the letter.
- When washing the clothing, use moderate detergents and gentle water.
- Do not soak the garments in the detergent for more than 10 to 15 minutes before washing.
- When drying damp clothing, turn them inside out.
- Allow to dry in the shade rather than in the sunshine.
- Prevent the clothing from being exposed to bright lighting for lengthy periods of time (show rooms or exhibitions etc.).

Variation in Shade:

(Roll to roll & within the same roll)

Definition:

There seems to be a variance in shade depth from roll to roll and from place to place within the same roll at times. The flaw will be easily visible in clothing made from such fabric.

Causes:

- Shade variation might occur when textiles from two separate batches are mixed together.
- Shade variation may also be induced by differences in process factors like as time, temperature, and speed from one cloth roll to the next.
- Shade difference in textiles with varying GSM might seem to be caused by uneven stretching, unequal fabric overfeed percent, and other factors.

Remedies:

- Make sure the grey fabric for one shade is crocheted from the same batch of yarn as the other.
- Make sure that each dye lot's roll has the same process parameters (width, overfeed, temperature, and machine speed, for example).

Variation in Tone:

Definition:

Tonal variation in the shade is defined as a variance in color perception from one roll to the next or within the same roll, such as Greenish, Bluish, Reddish, or Yellowish.

Causes:

- Incorrect dyeing recipe
- Using the incorrect leveling agent or combining the wrong colours.
- Inadequate fabric scouring
- Impurities like as oil and wax are not entirely removed during scouring. • Level dyeing is not done owing to the use of ineffective leveling chemicals.
- Changes in process parameters, such as temperature, time, and speed.

Remedies:

- To guarantee consistent and level dyeing, use suitable leveling agents.
- Thoroughly scour the grey fabric to ensure that all pollutants are removed.
- Make sure that all of the colored cloth is treated using the same process parameters.

Marks left by a wet squeezer:

Definition:

Due to the severe pressing by the squeezer rollers, the fabric on the borders of the fabric tube develops permanent pressure imprints. These stains appear as distinct lines along the length of the cloth and are irreversible.

Causes:

- These stains are generated by the Padding Mangle's squeezer rollers exerting too much pressure on the wet cloth when washing.

Remedies:

- The Padding mangle should only be used to apply the softener.
- To prevent squeezer roll marks, use a hydro extractor (Centrifuge) for the extraction.
- Open the fabric manually soon after extraction to avoid crease lines in the moist cloth.

Marks for Folding:**Definition:**

Fold marks emerge on the cloth as separate pressure marks along the length of it.

Causes:

- The fabric is under a lot of strain. One of the primary reasons is the removal of the knitting machine's rollers from the grey cloth.
- The principal cause of the folding marks in the knitted fabric is too much pressure applied by the Calander & Compactor's feeding rollers.

Remedies:

- Depending on the thickness of the fabric sheet, adjust the space between the two rolls.
- The gap between the two Calander rolls should be just big enough for the rolls to eliminate the creases in the fabric without putting too much pressure on the fabric sheet, particularly if the fabric is Pique or structured.

Marks of Crease:**Definition:**

Crease markings appear as dark irregular fragmented or continuous lines in knitted cloth.

Causes:

- Damp cloth in twisted shape travelling at high speed in the Hydro extractor (Centrifuge)

Remedies:

- During the scouring and dyeing processes, use anti-crease.

- Using anti Crease causes the cellulose to inflate, preventing the creation of a Crease mark.
- In the Hydro Extractor, spread the cloth loosely and openly, rather than in a rope shape.

Shrinkage is quite high:

Definition:

During storage or after the first wash, the Garment's original intended dimensions go crazy.

Causes:

- High stresses and strains applied to the fabric during knitting, dyeing, and processing, as well as a failure to let the cloth to rest correctly thereafter.
- The cloth is subjected to great stress throughout the Knitting, Dyeing, and Finishing operations, which causes significant shrinking.

Remedies:

- As soon as the roll is cut, keep the Grey Fabric in loose plated condition.
- Keep the completed fabric in a plating shape rather than a roll form.
- Allow enough time for the cloth to soften before cutting it.
- On the Stenter, Compactor, and Calandring machines, give the fabric the most overfeed possible during processing.

Variation in GSM:

Definition:

The fabric will seem to have a discernible density difference from roll to roll or within the same dye lot's same roll.

Causes:

- Variation in fabric process characteristics from roll to roll, such as overfeed and width-wise stretching of colored fabric on the Stenter, Calender, and Compactor machines.
- Fabric stitch length varies from roll to roll.

Remedies:

- Ensure that all of the fabric rolls in a batch are treated with the same settings.
- Knitting Machine parameters, such as the diameter of the Quality Pulley, should never be changed.

Variation in Fabric Width:

Definition:

Different rolls of the same fabric lot with varying finishing widths.

Causes:

- Grey fabric from the same batch, produced on several brands of knitting machines with differing needle counts in the cylinder.
- When feeding the fabric on the Stenter, Calander, and Compactor, there is a roll to roll variance in the stretched width of the dyed fabric.

Remedies:

- The grey fabric should all be knitted on the same kind of knitting machine.
- For knitting machines with the same gauge and diameter, there might be a variance of up to 40 needles from one manufacturer to the next.
- The change in the number of needles creates a difference in the end breadth of the cloth of up to 2"-3".
- When completing on the stenter, the stretched breadth of the grey cloth should stay consistent.

Problems with Measurement:

Definition:

After a few hours of rest and the first wash, the clothing' dimensions completely alter. Because the pieces are mixed up, the arm lengths or front and back lengths of the clothes may differ.

Causes:

- Shrinkage induced by insufficient relaxing of knitted textiles prior to cutting.
- Combining sections of the garment cut from various layers or rolls of knitted fabric.

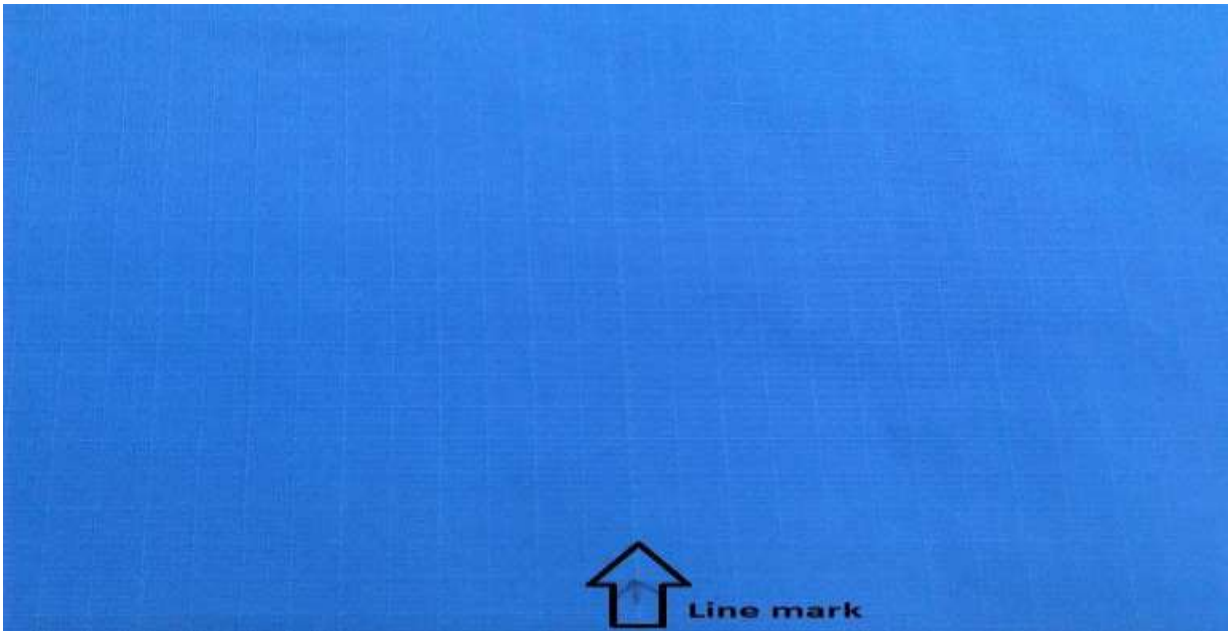
Remedies:

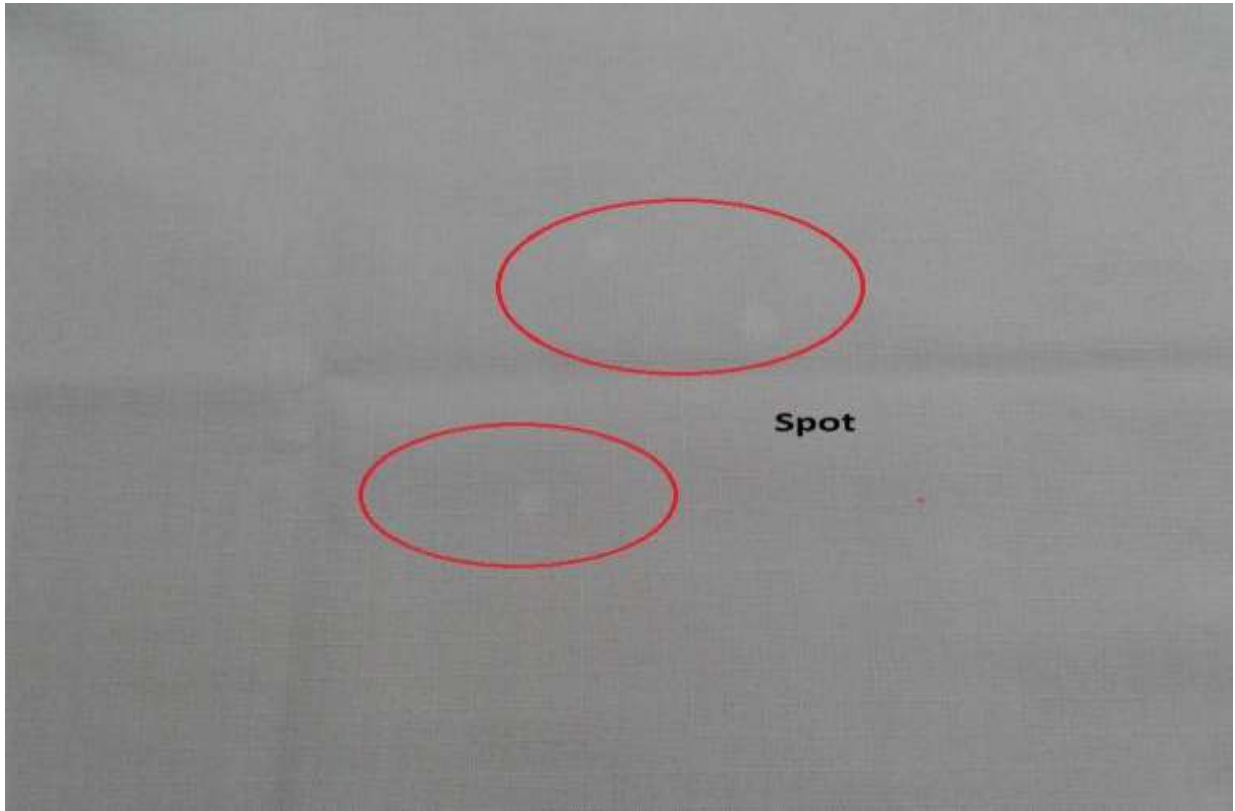
- To help a tension-free laying, use a trolley to place the fabric on the table.
- Let the fabric, particularly Lycra materials, rest for a few hours before cutting.
- Number the various layers of the fabric to avoid the components from being mixed together.

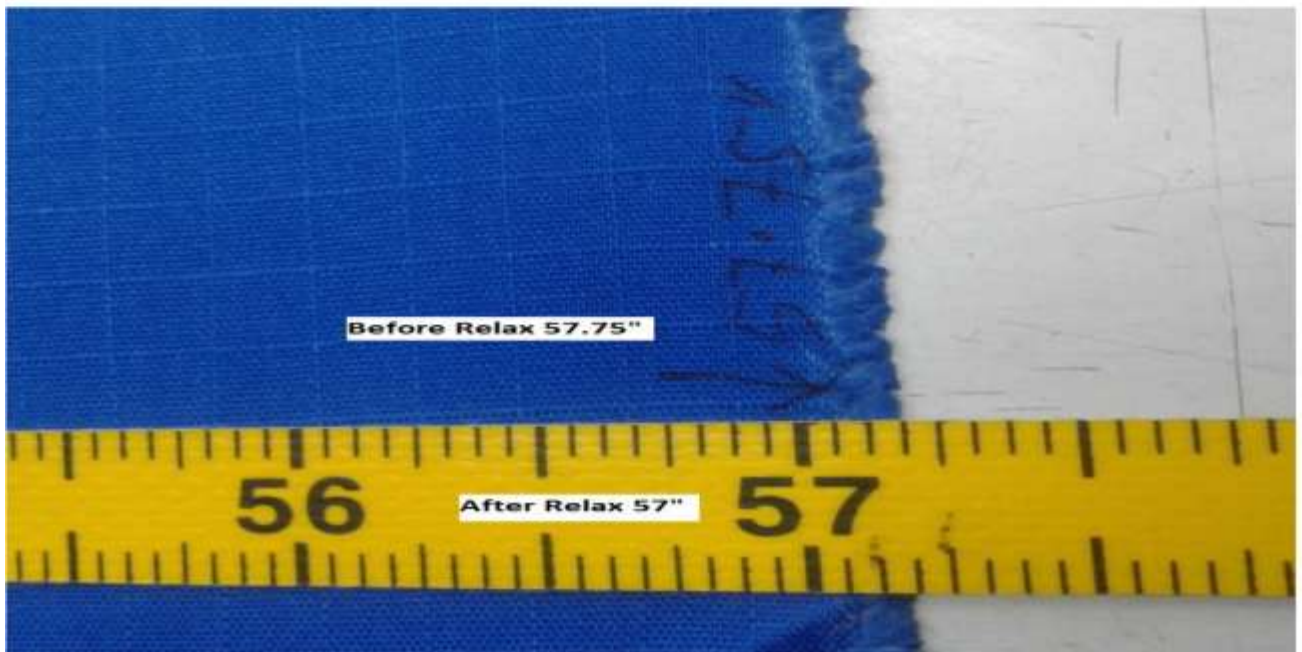
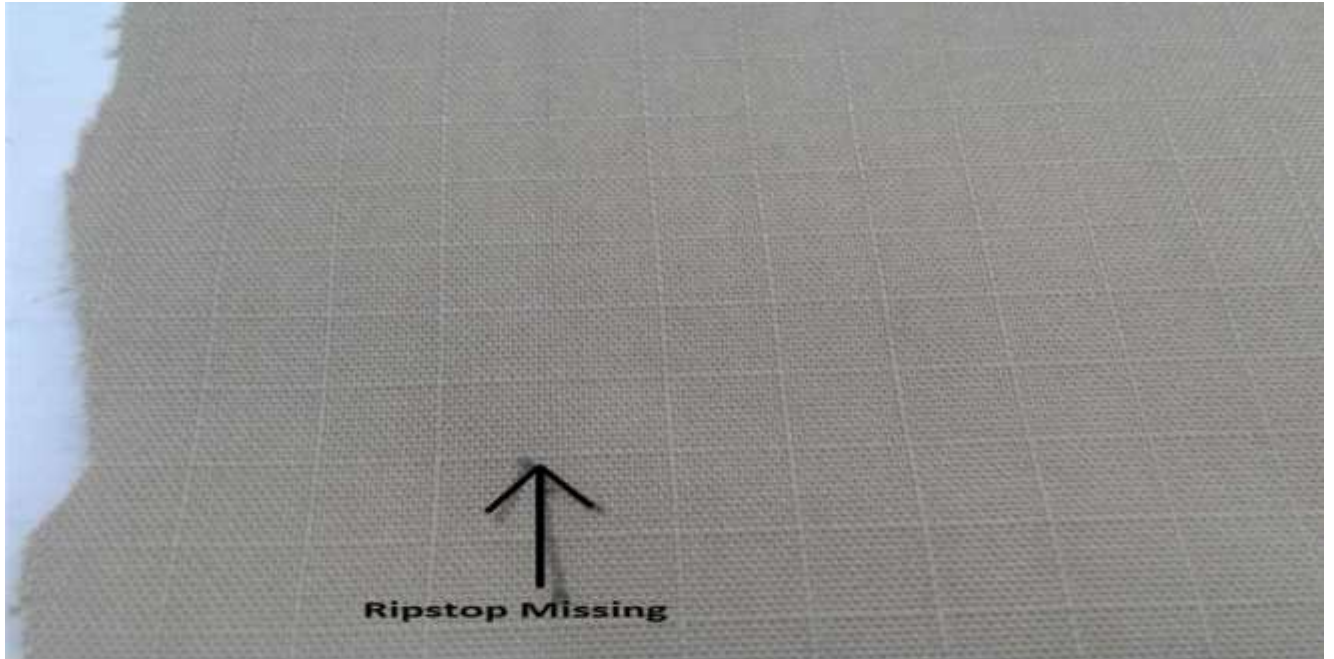
2.15 Photo gallery:



Stenter Pin Hole











CHAPTER 3

EXPERIMENTAL DETAILS

The data from the experiment will be presented in this chapter. We used three customers' fabric information to create a fabric inspection report, as well as a four-point approach to analyze fabric flaws once they were finished.

3.1 Buyer Name: Toyoshima

3.1.1 GSM Report

4A YARN DYEING LTD.
Kaccha Bari, Bagail, Savar, Dhaka-1340

GSM TEST REPORT

BUYER: Toyoshima
STYLE: 1740, 42-45
COLOR: deep blue #19

DATE: 90-11-21
FABRIC: 68% polyester 32% cotton
ORDERING: cotton

267-roll

SL	ROLL NO.	QUANTITY	BOOKING G.S.M	ACTUAL G.S.M	VARIATION	RESULT
01	54	100.2		219		
02						
03	47	99.4		219		
04						
05	71	83.7		219		
06						
07	44	111.9		212		
08						
09	76	105.8		215		
10						
11	20	99.4		216		
12						
13	2	99.7		210		
14						
15	32	49		212		
16						
17	59	77		214		
18						
19	70	100.2		210		
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						

AVERAGE G.S.M: 212.9

Prepared by: [Signature] QC Officer: [Signature] Merchandiser: [Signature] Quality Manager: [Signature]

4A YARN DYEING LTD.
Kaccha Bari, Bagail, Savar, Dhaka-1340

GSM TEST REPORT

BUYER: Toyoshima
STYLE: 1740, 42-45
COLOR: silver grey #22

DATE: 90-11-21
FABRIC: 68% polyester 32% cotton
ORDERING: cotton

267-roll

SL	ROLL NO.	QUANTITY	BOOKING G.S.M	ACTUAL G.S.M	VARIATION	RESULT
01	86	81.3		212		
02						
03	14	100.3		214		
04						
05	37	101.5		213		
06						
07	50	113		212		
08						
09	31	96.2		212		
10						
11	47	101		211		
12						
13	28	100.5		214		
14						
15	10	98		210		
16						
17	18	98		214		
18						
19	3	99.5		212		
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						

AVERAGE G.S.M: 212.4

Prepared by: [Signature] QC Officer: [Signature] Merchandiser: [Signature] Quality Manager: [Signature]

We can see a GSM report, which includes a fabric inspection report, in the data table above. The report includes information such as gsm, color, stitch length, gauge, and fabric type. After calculating the average gsm, the fabric will be graded according to the grading system. It will assist in determining the cloth density and weight. Toyoshima is the name of the buyer in this report. 1740,42-45 is the style number. We found 19 different roll fabrics for each hue, including Deep Blue and Silver Grey. The fabric is made up of 68% polyester and 32% cotton. These textiles roll have an average gsm of 212.9 for Deep Blue and 212.4 for Silver Grey.

[illegible]

We discovered fault points per 100 square meter of 9.9 meter after visually evaluating 773.2 meter fabric from 7438.8 meter owing to slub, miss yarn, knot, dirty spot, thick and foreign yarn, narrow, and other issues.

4A YARN DYEING LTD.
Kancha Bari, Balipat, Savar, Dhaka-1340

VISUAL FABRIC INSPECTION SUMMARY

INS. DATE: 23-11-2024
RCV DATE: 26-11-2024
REPORT NO.:
INVOICE NO.:
CONSIGNMENT ROLL: 257 R011
CONSIGNMENT NO.: 01

BUYER: TAYOSHIMA
STYLE: 1740, 1741, 1745, 1742-1743
COLOR: SILVER GREY #22
SUPPLIER: TIANW NEW TEXTILES
FAB. DESCRIPTION: 68% POLYESTER 32% COTTON
FAB. CONSTRUCTION:
AVG. CUTABLE WIDTH: 57"
RCV QTY: 7588.2 MTR 75 R011
INSPECTED QTY & %: 842.9 MTR 9 R011
PASS QTY: ✓
FAIL QTY: X
SHORT QTY:
STANDARD POINT:
ACTUAL POINT:
SHRINKAGE:

INDIVIDUAL: 24
AVERAGE: 20
35 POINTS PER 100 sq. MTR
LENGTH: -1%
WIDTH: -0.5%

COMMENTS: WE HAVE RCV 7588.2 MTR IS ROLL 9, CHECK 842.9 MTR 9 R011. FOUND DEFECT 3.5 POINTS PER 100 MTR. DUE TO THICK YARN, KNOT, DYE SPOT, DIRTY SPOT.

TEAR STRENGTH
LENGTH ✓ WIDTH ✓
C/F TO RUBBING (DRY)
HAND FEEL ✓

INSPECTOR: **STORE:** **QA CHECKER:** **MANAGER (QA):**

4A YARN DYEING LTD.
Kancha Bari, Balipat, Savar, Dhaka-1340

FABRIC VISUAL INSPECTION REPORT

FORMULA: ROLL POINT = 100 × 36 / INSPECTED YDS × CUTABLE WIDTH (Inch) = % YDS

SUPPLIER: TAYOSHIMA
FABRIC ITEM: 68% P 32% C
BUYER: TAYOSHIMA
COLOR: SILVER GREY
STYLE:
RECEIVED DATE: 26-11-2024
REPORT NO.:
INVOICE NO.:
INSPECTION DATE: 23-11-2024
TTL RECEIVED QTY: 7588.2 MTR 75 R011
TTL CHECKED QTY: 842.9 MTR 9 R011
TTL PASSED:
TTL FAILED: X

SL	ROLL NO.	E-F	YARN FAULTS				CONSTRUCTION FAULTS				DYING				FINISHING				CLEANLINESS				TOTAL	POINTS PER 100 YDS	TOTAL LENGTH	ACTUAL QTY	REMARKS
			FEEL	NOY YARN	FEEDER YARN	MIXING YARN	HOLE YARN	LOW YARN	SHADE YARN	WEFT	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN	WEFT YARN						
13	52.5"																				12	8.43	842.9	842.9			
14	52.5"																				13	8.43	842.9	842.9			
45	52.5"																				13	8.43	842.9	842.9			
26	52.5"																				12	8.43	842.9	842.9			
63	52.5"																				15	10.29	842.9	842.9			
22	52.5"																				15	11.43	842.9	842.9			
SUB TOTAL																					38	8.43	842.9	842.9			
TOTAL																					116	8.43	842.9	842.9			

4 POINT SYSTEM
Up to 8 inch: 1 Point
Over 8" - Up to 16": 2 Points
Over 16" - Up to 32": 3 Points
Over 32" & more: 4 Points

Length of Defects:

Prepared by: **STORE:** **QA CHECKER:** **MANAGER/GM (QA):**

We identified flaw points per 100 square 9.5 meter owing to foreign yarn, knot, dye spot, crease mark, and unclean spot, among other things, when examining 842.9 meter fabric from 7588.2 meter.

3.1.3 Shade Report:

4A YARN DYEING LTD.
Kachra Bari, Bagpat, Sector, Ghaziabad-1340

SHADE SEGREGATE REPORT

BUYER: *Toyoshima* CONSIGNMENT: *267 Roll* DATE: *29.11.2021*
 STYLE: *1740, 12-15* ROLL QTY: *78 Roll* SUPPLIER: *TIANJIN NEW TEXTILE*
 COLOUR: *DEEP BLUE #13* ITEM: *68% polyester 32% cotton fabric*
 ORDER NO.:

SL	SHADE: A			SHADE: A			SHADE: A			SHADE: A		
	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR
01	24	101	90									
02	24	99.5	88									
03	06/81	56	97									
04	51	100.2	94									
05	27	99.2	92.1									
06	13	99.4	91									
07	51	100.5	90.8									
08	25	100.2	89.9									
09	30	99.2	89.5									
10	21	100	89.5									
11	01	99.6	88.4									
12	66	99.8	88.3									
13	80	99.5	88.5									
14	11	100.6	88.8									
15	58	99.8	88.3									
16	09	100	88.3									
17	8	100.2	88									
18	28	97	87									
19	1	100	87.7									
20	52	98	87.9									
21	60	99	87.2									
22	25	99.1	87.9									
23	62	99.8	87.7									
24	78	100	87.4									
25	10	99.5	87.2									
26	35	98.5	86.6									
27	2	98	86.4									
28	50	99.8	86									
29	63	100	86.1									
30	31	99.5	86									
31	4	100.2	85.6									
32	5	99.4	85.8									
33	60	99.6	85									
34	20	100	85									
35	17	100.5	84.7									
36	10	99.2	84.2									
37	14	100.8	84.3									
38	34	100.4	84									
39	9	100.4	84									
40	40	100	84									

SHADE ROLL QUANTITY

PREPARED BY: *Pavani* STORE: *GC OFFICE* MGR (QA)

4A YARN DYEING LTD.
Kachra Bari, Bagpat, Sector, Ghaziabad-1340

SHADE SEGREGATE REPORT

BUYER: *Toyoshima* CONSIGNMENT: *267 Roll* DATE: *29.11.2021*
 STYLE: *1740, 1742-1745* ROLL QTY: *75 Roll* SUPPLIER: *TIANJIN NEW TEXTILE*
 COLOUR: *Silver Grey #22* ITEM: *68% polyester 32% cotton*
 ORDER NO.:


SL	SHADE: A			SHADE: A			SHADE: A			SHADE: A		
	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR
01	15	99	81									
02	24	101.2	81									
03	5	101	81.5									
04	32	97.9	81.4									
05	60	100.7	81.4									
06	2	102	80									
07	15	101	80.8									
08	1	101	81.4									
09	60	102.4	80									
10	20	100.5	80.2									
11	54	100.4	80.3									
12	21	100.4	80.3									
13	16	100.3	80.2									
14	61	99.2	80									
15	63	100.1	80.1									
16	17	100	80.2									
17	60	101.4	80.3									
18	50	102	80.2									
19	61	101.3	80.4									
20	24	101	80.4									
21	20	101.4	80.3									
22	14	100.3	80									
23	157	100.5	80									
24	60	100	80.4									
25	31	97.2	80.3									
26	37	101	80.4									
27	102	96.2	80.2									
28	22	100.5	80.2									
29	13	99.5	80.5									
30	18	98	80.3									
31	10	98	80									
32	31	101.4	80.3									
33	2	100	80									
34	60	100.2	80.2									
35	55	100	80.2									
36	40	100.2	80.2									
37	64	100.2	80									
38	60	100	80									
39	45	100.4	80									
40	25	98	80									

SHADE ROLL QUANTITY

PREPARED BY: *Pavani* STORE: *GC OFFICE* MGR (QA)

From deep blue to silver grey, we only discovered one variety of shade for each hue. As a result, we were able to identify these fabrics since there was no shading problem.

3.1.4 Shrinkage Report :




4A YARN DYEING LTD.
SHRINKAGE TEST REPORT


ANCA/030


Buyer : TOSHIMA Roll : Date: 01-12-2021
 Style : 1740, 42-45 Supplier : TIANJIAN NEW TEXTILE
 Color : DEEP BLUE #19 Fabric Item : 68% POLYESTER 32% Cotton
 Order No :


Sl	Roll	Qty	Before Wash		After Wash		Shrinkage %	
			Length (CM)	Width (CM)	Length (CM)	Width (CM)	Length	Width
01	30	86.7	90	90	49.5	49.6	-1%	-0.8%
02			90	90				
03	13	90.3	90	90	49.5	49.6	-1%	-0.8%
04			90	90				
05	32	109.4	90	90	49.8	49.6	-0.4%	-0.8%
06			90	90				
07	12	100.5	90	90	49.5	49.8	-1%	-0.4%
08			90	90				
09	23	133.8	90	90	49.6	49.6	-0.8%	-0.8%
10			90	90				
11	27	117.7	90	90	49.3	49.6	-1.4%	-0.8%
12			90	90				
13			90	90				
14			90	90				
15			90	90				
16			90	90				
17			90	90				
18			90	90				
19			90	90				
20			90	90				
21			90	90				
22			90	90				
23			90	90				
24			90	90				
25			90	90				
26			90	90				
27			90	90				
28			90	90				
29			90	90				
30			90	90				

AVERAGE SHRINKAGE LENGTH	-0.93%
AVERAGE SHRINKAGE WIDTH	-0.73%


 PREPARED BY



 QC OFFICER


 CUT INCLIN


 PATTERNER

GPO

MANAGER (QA)




4A YARN DYEING LTD.
SHRINKAGE TEST REPORT


ANCA/030


Buyer : TOSHIMA Roll : Date: 01-12-2021
 Style : 1740, 42-45 Supplier : TIANJIAN NEW TEXTILE
 Color : SILVER GREY #22 Fabric Item : 68% P 32% C
 Order No :


Sl	Roll	Qty	Before Wash		After Wash		Shrinkage %	
			Length (CM)	Width (CM)	Length (CM)	Width (CM)	Length	Width
01	5	99.9	90	90	49.7	49.8	-0.6%	-0.4%
02			90	90				
03	43	116.5	90	90	49.4	49.8	-1.2%	-0.4%
04			90	90				
05	53	111.4	90	90	49.6	49.6	-0.8%	-0.8%
06			90	90				
07	16	100.9	90	90	49.5	49.5	-1%	-1%
08			90	90				
09	18	98	90	90	49.5	49.7	-1%	-0.4%
10			90	90				
11	48	102	90	90	49.9	49.9	-1.4%	-0.6%
12			90	90				
13			90	90				
14			90	90				
15			90	90				
16			90	90				
17			90	90				
18			90	90				
19			90	90				
20			90	90				
21			90	90				
22			90	90				
23			90	90				
24			90	90				
25			90	90				
26			90	90				
27			90	90				
28			90	90				
29			90	90				
30			90	90				

AVERAGE SHRINKAGE LENGTH	-1%
AVERAGE SHRINKAGE WIDTH	-0.57%


 PREPARED BY


 QC OFFICER


 CUT INCLIN


 PATTERNER

GPO

MANAGER (QA)

Fabric Shrinkage Percentage = (Length Before Washing - length After Washing)*100/Length Before Washing is a formula we are familiar with.

Because all of the shrinkage values are negative, we can claim that the cloth has shrunk or increased in size.

3.2. Buyer Name: PVH (LOTO)

3.2.1 GSM Report

816 PKG

4A YARN DYEING LTD.
Kaicha Bar, Rajpur, Dohra-1340

GSM TEST REPORT

BUYER: PVH (LOTO) DATE: 06.01.22
STYLE: KSK00261/262 FABRIC: 100% POLY FLEECE
COLOR: DESERT SKY ORDER NO: 002243

SL	ROLL NO	QUANTITY	BOOKING G.S.M	ACTUAL G.S.M	VARIATION	RESULT
01	17	87	180	141/167/169	168	-12
02	13	87		140/146/162	162	-18
03	6	87		140/141/158	159	-21
04	1	87		153/146/171	160	-12
05	8	87		173/149/160	167	-13
06	16	87		142/145/146	164	-16
07	5	87		171/173/171	171	-9
08	9	87		146/159/146	160	-10
09	10	87		146/171/163	167	-13
10	16	87		140/159/163	161	-19
11	6	87		173/140/162	168	-12
12	15	87		163/172/172	169	-11
13	19	87		146/140/167	164	-16
14	11	87		146/144/170	165	-15
15	3	87		144/142/171	167	-13
16	7	87		146/156/154	159	-21
17	12	87		142/140/140	161	-19
18	20	60		140/165/164	163	-17
19	18	87		173/142/147	164	-16
20	2	87		158/163/147	163	-17
21	4	87		172/140/167	161	-19
22						
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32						
33						
34						

AVERAGE G.S.M: 164.3

Prepared by: [Signature] Cutting Incharge: [Signature] QC Officer: [Signature] Merchandiser: [Signature] Quality Manager: [Signature]

816 PKG

4A YARN DYEING LTD.
Kaicha Bar, Rajpur, Dohra-1340

GSM TEST REPORT

BUYER: PVH (LOTO) DATE: 06.01.22
STYLE: KSK00262 FABRIC: 100% POLY FLEECE
COLOR: ~~DESERT SKY~~ DEEP CRIMSON ORDER NO: 002243

SL	ROLL NO	QUANTITY	BOOKING G.S.M	ACTUAL G.S.M	VARIATION	RESULT
01	15	67	180	145/143/166	165	-15
02						
03	14	69		140/163/158	163	-17
04						
05	13	82		144/142/146	164	-16
06						
07	12	77		140/141/171	168	-12
08						
09						
10						
11						
12						
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34						

AVERAGE G.S.M: 658 164.5

Prepared by: [Signature] Cutting Incharge: [Signature] QC Officer: [Signature] Merchandiser: [Signature] Quality Manager: [Signature]

We can see a GSM report, which includes a fabric inspection report, in the data table above. The report includes information such as gsm, color, stitch length, gauge, and fabric type. After calculating the average gsm, the fabric will be graded according to the grading system. It will assist in determining the cloth density and weight. PVH (LOTO) is the buyer's name in this report. ksksoo261/262 is the style number. We've seen some roll fabric for each hue, Desert Sky and Deep Crimson, in this photo. Fleece fabric with a 100 percent poly content. The average gsm of these fabrics is 164.3 for the Desert Sky color and 164.5 for the Deep Crimson color.

3.2.2 Visual fabric inspection:

FABRIC WATCH		4A YARN DYEING LTD. <small>Kutcha Bari, Bolpur, Saver, (Phaka-1342)</small>		BAG/LOT/DIR								
<div style="background-color: black; width: 100px; height: 100px; margin-bottom: 10px;"></div> <p>BUYER: <u>PVA (LOTO)</u> STYLE: <u>K80K300R62/G1</u> COLOUR: <u>DOSERT SKY</u> SUPPLIER: <u>WUHU LOTO TEXTILE</u> FAB. DESCRIPTION: <u>JFAN 20772 WO-R</u> FAB. CONSTRUCTION: AVG. CUTABLE WIDTH: <u>55.5"</u> RCY QTY: <u>6375 MTR (27 ROW)</u> INSPECTED QTY & %: <u>830 MTR (3 ROW) 13%</u> PASS QTY: <u>830 MTR</u> FAIL QTY: <u>X</u> SHORT QTY: <u>-2 MTR</u> STANDARD POINT: ACTUAL POINT: SHRINKAGE:</p>		VISUAL FABRIC INSPECTION SUMMARY <table border="1" style="margin: 10px auto; width: 150px;"> <thead> <tr> <th colspan="3">RESULT</th> </tr> </thead> <tbody> <tr> <td style="width: 33%; text-align: center;">13 %</td> <td style="width: 33%; text-align: center;">PASS ✓</td> <td style="width: 33%; text-align: center;">FAIL</td> </tr> </tbody> </table>		RESULT			13 %	PASS ✓	FAIL	RIS. DATE: <u>10-01-2022</u> RCY DATE: <u>25/12/21</u> REPORT NO.: INVOICE NO.: CONSIGNMENT ROLL: <u>816 Pkg</u> CONSIGNMENT NO.: <u>01</u>		
RESULT												
13 %	PASS ✓	FAIL										
INDIVIDUAL: <u>24</u> <u>3.5</u> POINTS PER 100 sq. MTR LENGTH: <u>N/A</u>		AVERAGE: <u>20</u> WIDTH: <u>N/A</u>		<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2">TEAR STRENGTH</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;">LENGTH ✓</td> <td style="width: 50%;">WIDTH ✓</td> </tr> </tbody> </table> <table border="1" style="width: 100%;"> <thead> <tr> <th>C/P TO RUBBING (DIRY)</th> </tr> </thead> <tbody> <tr> <td style="height: 50px;"></td> </tr> </tbody> </table> <table border="1" style="width: 100%;"> <thead> <tr> <th>HAND FEEL</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; height: 50px;">✓</td> </tr> </tbody> </table>	TEAR STRENGTH		LENGTH ✓	WIDTH ✓	C/P TO RUBBING (DIRY)		HAND FEEL	✓
TEAR STRENGTH												
LENGTH ✓	WIDTH ✓											
C/P TO RUBBING (DIRY)												
HAND FEEL												
✓												
COMMENTS: <u>WE HAVE RCY 6375 MTR (27 ROW) & CHECK 830 MTR (3 ROW). DEFECT ARE FOUND 3.5 PER 100 MTR. DUE TO SHADE BAR, DYE SPOT, JOIN, DIRTY SPOT & END TO END CENTER TO SAVAGE SHADING.</u>												
 INSPECTOR	 Q.C.	 STORE	 Q.C. OFFICER	MERCH. MANAGER (SLA)								

[illegible]

We discovered fault area 3.5 per 100 square meter after visual inspection 830 meter fabric from 6375 meter owing to shade bar (20), join (4), and end to end center to severe shading (6), among other things.

3.2.3 Shade Report:

4A YARN DYEING LTD.
Kanchi Bari, Bagmati, Sower, Dhaka-1340

SHADE SEGREGATE REPORT

BUYER: LOTO (PVH) CONSIGNMENT: 816 PKG DATE: 09.01.22
STYLE: KSOKSOO261/262 ROLL QTY: 27 SUPPLIER: WUHU LOTO
COLOUR: DESERT SKY ITEM: SFAN 20777WC-R
ORDER NO.:

SL	SHADE: A			SHADE: B			SHADE: C			SHADE: D		
	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR
01	00-1	227		01-2	231		00-4	210		00-9	283	D
02	00-2	210		01-6	217		1-5	130		00-2	324	E
03	00-4	105		01-4	135		1-8	183				
04	00-3	225		1-3	175		1-7	165				
05	00-5	129		1-8	282							
06	00-6	149		1-1	215							
07	00-8	415		1-9	247							
08	00-9	290		1-5	207							
09	00-2	151		1-3	170							
10	00-1	136										
11	00-6	226										
12	00-3	302										
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Handwritten calculations:
 $A = 12 \text{ Roll} = 2715 \text{ MTR}$
 $B = 009 \text{ u} = 2223 \text{ u}$
 $C = 004 \text{ u} = 307 \text{ u}$
 $D+E = 002 \text{ u} = 617 \text{ u}$
 $27 \text{ Roll} = 6362 \text{ MTR}$

SHADE	ROLL	QUANTITY

PREPARED BY: *[Signature]* STORE: *[Signature]* QC OFFICER: *[Signature]* MGR (QA): *[Signature]*

4A YARN DYEING LTD.
Kanchi Bari, Bagmati, Sower, Dhaka-1340

SHADE SEGREGATE REPORT

BUYER: LOTO (PVH) CONSIGNMENT: 816 PKG DATE: 09.01.2022
STYLE: KSOKSOO262/261 ROLL QTY: 16 SUPPLIER: WUHU LOTO
COLOUR: DESERT SKY ITEM: SFAN 1830WC-R
ORDER NO.:

SL	SHADE: A			SHADE: B			SHADE: C			SHADE: D		
	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR	LOT	ROLL	YDS/MTR
01	43-2	426										
02	45-6	977										
03	43-6	438										
04	45-5	421										
05	43-4	214										
06	44-1	282										
07	45-2	74										
08	45-1	421										
09	45-4	226										
10	43-3	969										
11	45-3	427										
12	44-5	505										
13	44-2	553										
14	44-3	405										
15	43-1	577										
16	44-4	288										
17												
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SHADE	ROLL	QUANTITY

PREPARED BY: *[Signature]* STORE: *[Signature]* QC OFFICER: *[Signature]* MGR (QA): *[Signature]*

We got four color shades for KSOKSOO262 but only one shade for KSOKSOO261 style after inspecting DESERT SKY color for both styles. So, according to the data style number, KSOKSOO261 is a better cloth than KSOKSOO262.

3.2.4 Shrinkage Report :

4A YARN DYEING LTD.
SHRINKAGE TEST REPORT

Buyer: PVH Roll: 27 Fall Date: 11-01-2022
Style: K50K500261/262 Supplier: Wuhu Lato
Color: DESERT SKY Fabric Item: SFAN 20777WC-R
Order No.: 6FAN 20777WC-R

BEFORE WASH - AFTER WASH * 100 / BEFORE WASH = %

Sl	Roll	Qty	Before Wash		After Wash		Shrinkage %	
			Length (CM)	Width (CM)	Length (CM)	Width (CM)	Length	Width
01	99-9	290	50	50	49.6	50.1	-0.8%	+0.2%
02			50	50				
03	99-2	151	50	50	49.6	50.2	-0.8%	+0.4%
04			50	50				
05			50	50				
06			50	50				
07			50	50				
08			50	50				
09			50	50				
10			50	50				
11			50	50				
12			50	50				
13			50	50				
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23			50	50				
24			50	50				
25			50	50				
26			50	50				
27			50	50				
28			50	50				
29			50	50				
30			50	50				

AVERAGE SHRINKAGE LENGTH: -0.8%
AVERAGE SHRINKAGE WIDTH: +0.3%

PREPARED BY: [Signature] QC OFFICER: [Signature] CUT INCH: [Signature] PATTERN: [Signature] GPO: [Signature] MANAGER (QA): [Signature]

4A YARN DYEING LTD.
GSM TEST REPORT

BUYER: PVH (LATO) Roll: 816 PK9 DATE: 05-01-22
STYLE: K50K500261/62 FABRIC: 100% POLY PEEFEE
COLOR: SAVANNAH SAND ORDER NO.: 002243

Sl.	ROLL NO.	QUANTITY	BOOKING G.S.M	ACTUAL G.S.M	VARIATION	RESULT
01	21	87	180	180/164/165	165	-19
02						
03	23	40		166/163/165	164	-16
04						
05	22	87		166/163/161	161	-19
06						
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AVERAGE G.S.M: 49/1696

Prepared by: [Signature] Cutting-Inch: [Signature] QC Officer: [Signature] Merchandiser: [Signature] Quality Manager: [Signature]

Because the lengthwise shrinkage value is negative, this fabric grows in length but shrinks in breadth because the shrinkage value is positive.

3.3 Buyer Name: Spyder

3.3.1 GSM Test Report

4A YARN DYEING LTD.
Kachra Bari, Begpet, Sonar, Dhaka-1345

GSM TEST REPORT

BUYER: SPYDER
STYLE: SPFEM 14M/15M
COLOR: BLACK

DATE: 13-01-2022
FABRIC: 100% POLYESTER 380T
ORDER NO: WIDTH W/ CRAMING

SL	ROLL NO.	QUANTITY	BOOKING GSM	ACTUAL GSM	VARIATION	RESULT
01	8332-2	330	36	42	+6	
02						
03	7210-1	351		41	+5	
04						
05	7210-6	241		44	+8	
06						
07	7210-6	178		30	+8	
08						
09	7211-7	235		43	+7	
10						
11	7210-8	124		41	+5	
12						
13						
14						
15						
16						
17						
18						
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27						
28						
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30						
31						
32						
33						
34						

AVERAGE GSM: 41.6

Measured by: _____ Cutting Incharge: _____ QC Officer: _____ Merchandiser: _____ Quality Manager: _____

4A YARN DYEING LTD.
Kachra Bari, Begpet, Sonar, Dhaka-1345

GSM TEST REPORT

BUYER: SPYDER
STYLE: SPFFMO5W
COLOR: MINERAL

DATE: 13-01-2022
FABRIC: 100% POLY PLAIN WITH
ORDER NO: 10/R COATING



SL	ROLL NO.	QUANTITY	BOOKING GSM	ACTUAL GSM	VARIATION	RESULT
01	1118-4	137	190	170	-20	
02						
03	1118-8	134		174	-16	
04						
05	1114-7	135		178	-12	
06						
07	1119-2	123		175	-15	
08						
09	1117-4	68		175	-15	
10						
11	1114-1	66		178	-12	
12						
13	1114-6	132		185	-5	
14						
15	1119-4	137		174	-16	
16						
17						
18						
19						
20						
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23						
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31						
32						
33						
34						

AVERAGE GSM: 176.1

Measured by: _____ Cutting Incharge: _____ QC Officer: _____ Merchandiser: _____ Quality Manager: _____

We can see a GSM report, which includes a fabric inspection report, in the data table above. The report discusses the gsm, color, stitch length, gauge, and fabric type, among other things. After calculating the average gsm, the fabric will be graded according to the grading system. It will assist in determining the cloth density and weight. Spyder is the name of the buyer in this report. SPFEM 14m/15m & SPFFMO5W are the style names. We saw 6 roll fabric for Black color and 8 roll fabric for Mineral color, Black and Mineral, here. The fabric is made of 100% polyester 380T and 100% poly plan Wah. These textiles roll have an average gsm of 41.6 for Black and 176.1 for Mineral color.

We identified problem points per 100 square meter after visual inspection 854 meter fabric from 5505 meter owing to miss joint, filthy area (9), missing yarn (12), line mark (7) Yarn, narrow, etc.

FABRIC SWATCH		 4A YARN DYEING LTD. <small>Kanchi Bari, Rajpath, Sawai, Ofakou-1340</small>		<div style="border: 1px solid black; padding: 2px;"> <small>ALAGAKUTUR</small> </div>							
		VISUAL FABRIC INSPECTION SUMMARY									
		<div style="border: 1px solid black; padding: 2px;"> <small>RESULT</small> </div>									
		<div style="border: 1px solid black; padding: 2px;"> <small>15.5% N</small> </div>	<div style="border: 1px solid black; padding: 2px;"> <small>PASS</small> </div>	<div style="border: 1px solid black; padding: 2px;"> <small>FAIL</small> </div>							
<p><small>ITEM NO.:</small> SPYDER</p> <p><small>STYLE:</small> SPFFM15M</p> <p><small>COLOUR:</small> BLACK</p> <p><small>SUPPLIER:</small> JIANGSU BROTHER</p> <p><small>FAB. DESCRIPTION:</small> 100% PolyESTER 380T AOP</p> <p><small>FAB. CONSTRUCTION:</small></p> <p><small>AVG. CUTABLE WIDTH:</small> 57.25"</p> <p><small>RCV QTY:</small> 5555 MTR (20 Roll)</p> <p><small>INSPECTED QTY & %:</small> 354 MTR (02 Roll)</p> <p><small>PASS QTY:</small> ✓</p> <p><small>FAIL QTY:</small> ✗</p> <p><small>SHORT QTY:</small> -3 MTR</p> <p><small>STANDARD POINT:</small></p> <p><small>ACTUAL POINT:</small></p> <p><small>SHRINKAGE:</small></p>		<p><small>INDIVIDUAL:</small> 24</p> <p><small>4.2 POINTS PER 100 sq. MTR</small></p> <p><small>LENGTH:</small></p>		<p><small>AVERAGE:</small> 20</p> <p><small>WIDTH:</small></p>							
<p><small>INCL. DATE:</small> 08-01-2022</p> <p><small>RCV DATE:</small> 09-01-2022</p> <p><small>REPORT NO.:</small></p> <p><small>INVOICE NO.:</small></p> <p><small>CONSIGNMENT ROLL:</small> 885 PKB</p> <p><small>CONSIGNMENT NO.:</small> 01</p>											
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p style="text-align: center;"><small>TEAR STRENGTH</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><small>LENGTH</small></td> <td style="width: 50%;"><small>WIDTH</small></td> </tr> <tr> <td> </td> <td> </td> </tr> </table> <p style="text-align: center;"><small>C/F TO RUBBING (DRT)</small></p> <div style="border: 1px solid black; height: 80px; margin: 10px auto; width: 100%;"></div> <p style="text-align: center;"><small>HAND FEEL</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td> </td> </tr> <tr> <td> </td> </tr> </table> </div>						<small>LENGTH</small>	<small>WIDTH</small>				
<small>LENGTH</small>	<small>WIDTH</small>										
<p><small>COMMENTS:</small> WE HAVE RCV 5555 MTR 20 ROLL & CHECK 354 MTR 02 ROLL. FOUND ARE DEFECT 4.2 POINTS PER 100 MTR DUE TO PRINT PROBLEM, T.O.D, DIRTY SPOT,</p>											
<p>Sawlot</p> <p><small>INSPECTOR</small></p>		<p>G.E</p> <p><small>Q.C</small></p>		<p>MANAGER</p> <p><small>MANAGER (Q.A)</small></p>							

3.3.3 Shade Report:

4A YARN DYEING LTD.
Kachra Bari, Bapal, Savar, Dhaka-1340

SHADE SEGREGATE REPORT

BUYER: SPYDER
STYLE: SPFFM14M
COLOUR: BLACK
ORDER NO:

CONSIGNMENT: 885
ROLL QTY: 213

DATE: 12-01-2022
SUPPLIER: JIANGSU BROTHER
ITEM: 300T POLYESTER 300T

(2nd Page)

SL	SHADE: A			SHADE: B			SHADE: C			SHADE: D		
	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR
01	1-5	172		4-52	367		6-50	188		6-45	235	
02	2-12	198		5-20	176		1-3	260		5-14	212	
03	8-60	209		5-45	205		2-14	223		2-82	264	
04	3-19	267		2-01	147		4-30	165		4-33	242	
05	2-14	155		9-70	282		4-36	262		6-41	246	
06	1-5	246		2-30	208		4-25	207		6-35	212	
07				4-52	183		1-53	231		8-55	240	
08				1-1	220		3-20	252				
09				2-14	189		2-55	264				
10				3-08	208		2-19	209				
11				1-7	200		2-24	204				
12				2-12	203							
13				1-4	188							
14				4-33	220							
15				2-11	201							
16				8-31	170					3-23	181	
17				3-02	204					2-10	230	
18				4-37	202							
19				2-1	197							
20				2-10	183							
21				2-16	260							
22				4-31	218							
23				1-1	184							
24				1-3	192							
25				3-28	204							
26				8-56	308							
27				1-1	254							

Handwritten notes on page 1:
3422 MTR
2305 MTR
455 MTR
45 MTR
A=144 Roll = 24626 MTR
B=27 " = 6012 " u
C=11 " = 2085 " u
D=02 " = 1645 " u
E=01 " = 441 " u
Total Roll = 45044 MTR

SHADE	ROLL	QUANTITY

PREPARED BY: [Signature]
STORE: [Signature]
QC OFFICER: [Signature]
MGR (QA): [Signature]

4A YARN DYEING LTD.
Kachra Bari, Bapal, Savar, Dhaka-1340

SHADE SEGREGATE REPORT

BUYER: SPYDER
STYLE: SPFFM14M
COLOUR: MARLIN
ORDER NO:

CONSIGNMENT: 885 PKG
ROLL QTY: 24

DATE: 11-01-2022
SUPPLIER: JIANGSU BROTHER
ITEM: 300 T POLYESTER

SL	SHADE: A			SHADE: B			SHADE: C			SHADE: D		
	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR	LOT	ROLL	YOSMTR
01	1	20	2188	05	79	4	74	220	2	69	165	
02	2	60	209	08	58							
03	3	67	227	1	60	192						
04	4	21	205	02	207							
05	5	76	212	06	21							
06	6	66	188	07	20	195						
07	7	64	207	08	59	195						
08	8	59	195	09	65	200						
09	9	65	200	10	61	197						
10	10	61	197	11	77	208						
11	11	77	208	12	71	199						
12	12	71	199	13	75	208						
13	13	75	208	14	69	190						
14	14	69	190	15	66	177						
15	15	66	177									
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Handwritten notes on page 2:
Shade - 2 roll 1315 MTR
Shade - 15 roll 3142 MTR
Shade A 15 Roll 3142 MTR
B 2 " 1315 " u
C 1 " 200 " u
D 1 " 165 " u
Total 24 Roll 45044 MTR

SHADE	ROLL	QUANTITY

PREPARED BY: [Signature]
STORE: [Signature]
QC OFFICER: [Signature]
MGR (QA): [Signature]

From deep Black to Marun grey, we get four different shades for each hue. Fabric rejection was higher here due to the multiple color variations.

3.3.4 Shrinkage Report :

4A YARN DYEING LTD.
SHRINKAGE TEST REPORT

Buyer: SPYDER Roll: _____ Date: 13-01-2022
 Style: SPFFM15M Supplier: JIANGSU BROTHER
 Color: BLACK Fabric Item: 100% POLYESTER
 Order No.: _____ 320T

BEFORE WASH - AFTER WASH * 100 / BEFORE WASH = %

Sl	Roll	Qty	Before Wash		After Wash		Shrinkage %	
			Length (CM)	Width (CM)	Length (CM)	Width (CM)	Length	Width
01	7210-3	450	50	50	48.8	50.1	-0.4%	+0.2%
02			50	50				
03	7210-6	271	50	50	49.9	50	+0.2%	X
04			50	50				
05	7210-1	321	50	50	49.8	50.1	-0.4%	+0.2%
06			50	50				
07	7210-3	266	50	50	49.7	50.1	-0.6%	+0.2%
08			50	50				
09			50	50				
10			50	50				
11			50	50				
12			50	50				
13			50	50				
14			50	50				
15			50	50				
16			50	50				
17			50	50				
18			50	50				
19			50	50				
20			50	50				
21			50	50				
22			50	50				
23			50	50				
24			50	50				
25			50	50				
26			50	50				
27			50	50				
28			50	50				
29			50	50				
30			50	50				

AVERAGE SHRINKAGE LENGTH: -0.4%

AVERAGE SHRINKAGE WIDTH: -0.15%

PREPARED BY: [Signature]

QC OFFICER: [Signature]

CUT INCL: _____

PATTERN: _____

GPO: _____

MANAGER (QA): _____

4A YARN DYEING LTD.
SHRINKAGE TEST REPORT

Buyer: SPYDER Roll: _____ Date: 13-01-2022
 Style: SPFFM05W Supplier: JIANGSU BROTHER
 Color: MINERAL Fabric Item: 100% POLY PLAIN
 Order No.: _____ WITH W/R COATING

BEFORE WASH - AFTER WASH * 100 / BEFORE WASH = %

Sl	Roll	Qty	Before Wash		After Wash		Shrinkage %	
			Length (CM)	Width (CM)	Length (CM)	Width (CM)	Length	Width
01	1116-7	118	50	50	49.2	50	-1.6%	X
02			50	50				
03	1116-6	123	50	50	49.2	50	-1.6%	X
04			50	50				
05	1116-3	135	50	50	49.3	50	-1.4%	X
06			50	50				
07	1116-1	134	50	50	49.3	50	-1.4%	X
08			50	50				
09			50	50				
10			50	50				
11			50	50				
12			50	50				
13			50	50				
14			50	50				
15			50	50				
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22			50	50				
23			50	50				
24			50	50				
25			50	50				
26			50	50				
27			50	50				
28			50	50				
29			50	50				
30			50	50				

AVERAGE SHRINKAGE LENGTH: -1.5%

AVERAGE SHRINKAGE WIDTH: X

PREPARED BY: [Signature]

QC OFFICER: [Signature]

CUT INCL: _____

PATTERN: _____

GPO: _____

MANAGER (QA): _____

Because the lengthwise shrinkage value is negative, this fabric grows in length, but shrinks in breadth because the shrinkage value is positive. On the other side, there was no decrease in the value that is neutral.

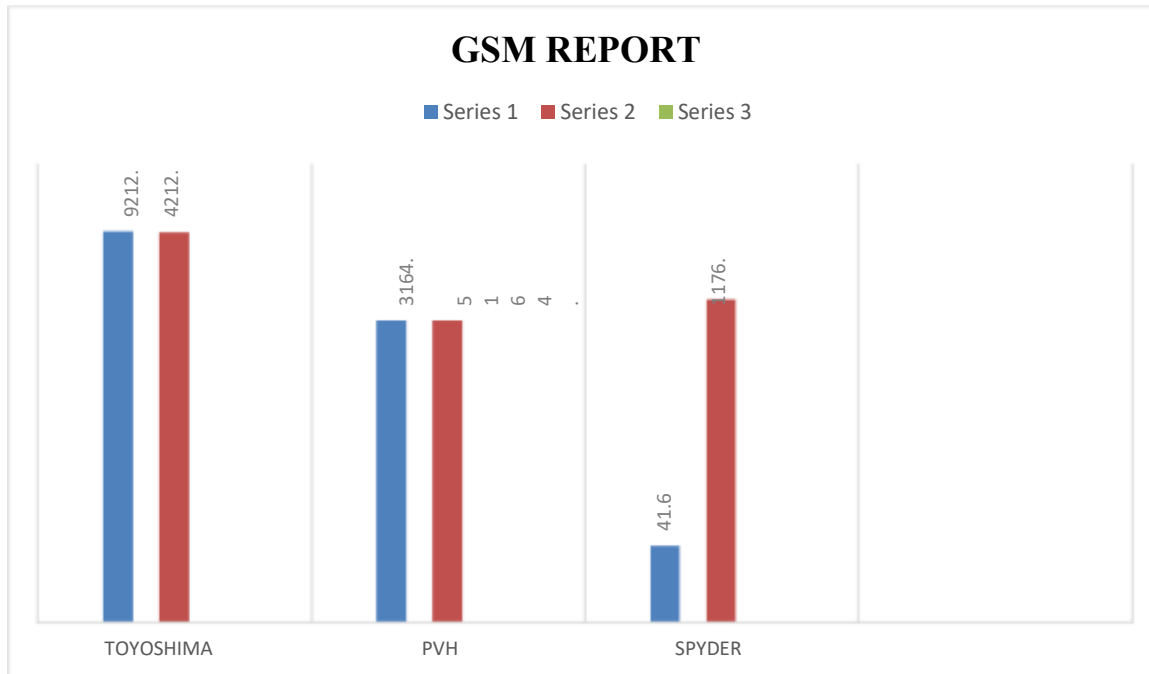
CHAPTER 4

RESULT AND DISCUSSION

This study was conducted at 4A Yarn Dying LTD, and some required values were obtained just for the sake of research. We utilized three buyers' information to describe the fabric inspection procedure in the data analysis part, and we identified a range of differences in fabric inspection loss percentages in cutting.

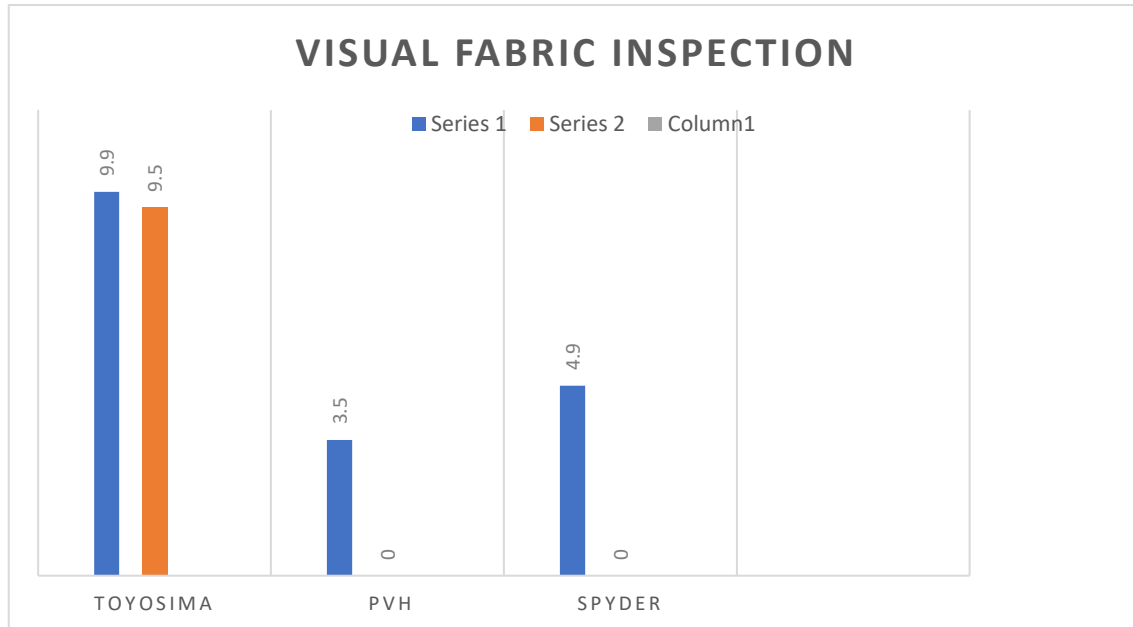
Here given 3 buyer summery chart according to 4 point inspection system:

4.1 GSM REPORT



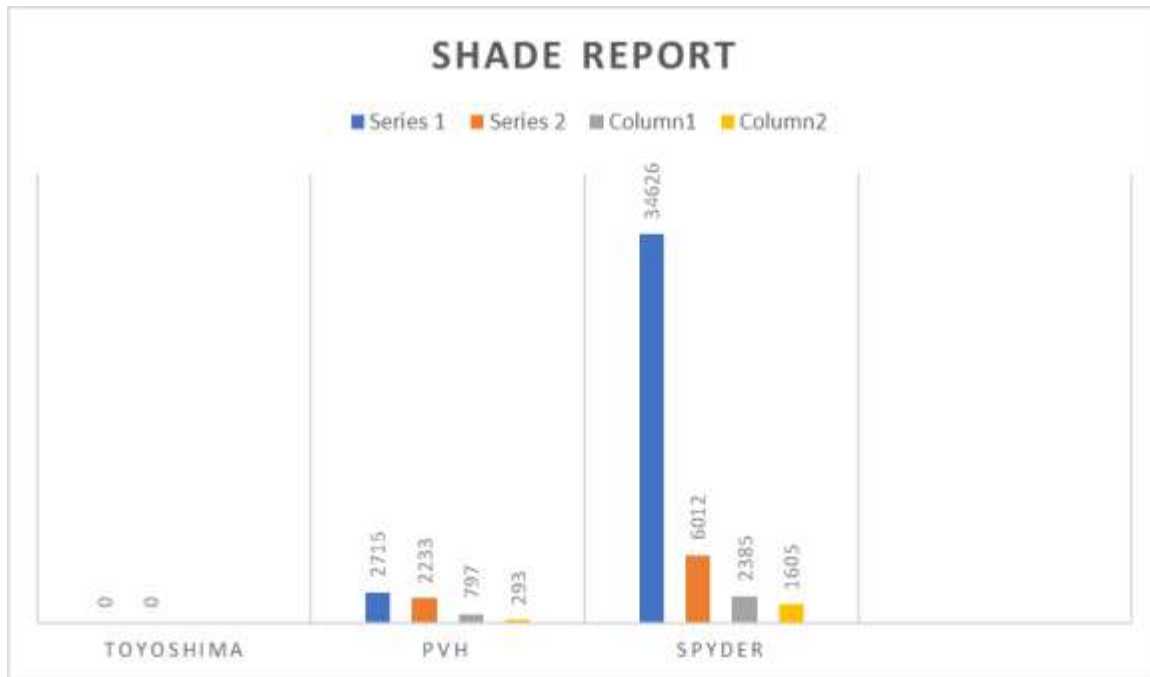
Here the buyer of TOYOSHIMA'S GSM value is more than the two other buyer. So we can say that this buyer choose more density fabric but other two buyer chose light fabric.

4.2 Visual Fabric Inspection:



After analysis the three buyer, we saw that we found more faults in TOYOSHIMA's fabric less than the PVH in visual inspection .According the graph the rating of PVH fabric is more standard for production.

4.3 Shade Report:



Because of more shading ,the buyer of SPYDER fabric was more rejected but TOYOSHIMA has no color shading .So in this case , TOYOSHIMA's fabric is more acceptable for production.

4.4 Shrinkage report

Buyer Name	Average Shrinkage Length	Average Shrinkage Width
Toyoshima	-0.93%	-0.73%
PVH	-0.8%	0.3%
Spyder	-0.4%	-0.15%

According the chart, here we found both positive and negative shrinkage % for three buyer but negative value is more than the positive value. It means this value is acceptable for garments production because this value is under 2 to 3 %.

CHAPTER 5

CONCLUSION

We studied about numerous forms of woven fabric flaws and their causes in this thesis, as well as the method of 4 point inspection system which is used to evaluate the fabric in order to determine whether it should be accepted or rejected for further cutting processing. This thesis paper is concluded as:

- After analysis those reports, we found TOYOSHIMAO'S buyer has more GSM value that's means other two buyer used light weight fabric for their production.
- The fabric of TOYOSHIMA'S buyer has more defect points in visual inspection which impact our production badly than the other two buyer.
- TOYOSHIMA's buyer has no shading effect but the buyer C SPYDER has 4 type of shade.so more shading purpose, this buyer fabric rejection % was more than the other buyer.
- According to shrinkage method, all above the three buyer shrinkage % was acceptable.

So, Further study about fabric inspection faults and remedies can facilitate the factory a lot.

CHAPTER 6

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