



**Daffodil**  
*International*  
**University**

**Faculty of Engineering**

**Department of Textile Engineering**

**“Comparative Study on Grey and Finished Fabric  
Inspection to Ensure Quality Garments”**

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A thesis submitted in partial fulfillment of the requirement 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

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102, Shukrabad, Mirpur Rode. Dhaka 1207

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

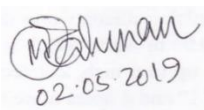
Dear sir,

I am just writing to let you know that this project report titled as “**Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments**” has been prepared by the students Md. Jahidul Islam bearing ID 151-23-4099 and Mahfoza Rahman Preety bearing ID 152-23-4321 is completed for final evaluation. The whole report is prepared based on the proper investigation and interruption through critical analysis empirical data with required belongings. The students were directly involved in their project activities and the report become.

Vital to spark of much valuable information for the readers.

Therefore it will highly appreciate if you kindly accept this project report and consider it for final evaluation.

Yours sincerely



**Md. Mominur Rahman**

Assistant Professor

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## DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Mominur Rahman, Assistant Professor, Department Of Textile Engineering**, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for aware of any degree.

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We would like to thank Assistant Professor Md. Mominur Rahman for his leadership, guidance, valuable suggestions and helping to us. Without his help we would not have been able to learn the complicated Subject.

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We would like to thank our entire course mate in Daffodil international University, who kept us sane & took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and parents.

## **ABSTRACT**

This project is on “Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments” Fabric inspection process is most important in Garments sector. If fabric faults is an important parameter for rejection of fabrics. We have collected a large experience about this project. We have increased our knowledge about how the inspection is done, problems of inspection & how those problems are minimized. This study investigated the knit fabric inspection process in a garment industry for the reasons of increasing faults and the priorities were determined for the improvement studies regarding rejection percentage. During data collection, the fabric inspections faults were determined. As a result, the knit fabric production process was concluded statistically. In addition, there was a statistically significant relation the faults amounts in term of rejection. Finally some suggestions are made for improving the quality of fabric inspection by minimizing the fabric inspection faults.

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# **Chapter – 1**

## **Introduction**

## **1. Introduction:**

### **1.1 Background of study**

In garments industry one of the most important is fabric inspection section. Fabric faults is a major problem for production and quality. In fabric inspection section checking all types of fabric faults. In this section checked will start after knitting, dyeing, finishing. So, in fabric inspection section we can find all types of faults that is yarn knitting, dyeing and finishing faults. For this reason we selected this topic.

### **1.2 Objective of the study**

- i. To know about the way of fabric inspection.
- ii. To know about 4-point inspection system.
- iii. To know about different types of fabric faults and its remedies.
- iv. To know about the reasons of fabric faults and rejection.
- v. To know about different type of fabric rejection and its remedies.

### **1.3 Important of the study**

Fabric inspection section is most important section in garments industry.in fabric inspection section they are find different types of faults and rejected fabric every factory produce reject fabric. Rejected fabric increase the production cost. This paper will give a clear concept about different types of faults rejected fabric and their causes and remedies of a garments industry. This paper has been made from those people who require and introductory knowledge about fabrics faults, their causes and remedies and rejected fabric and there percentage. This paper is especially helpful for textile student, who will work in fabric inspection section, who will want to research this topic. This paper contain many important and practical information.so, it will be helpful for all textile background people.

## **1.4 Limitation of the study**

- i. Time is too short for complete this paper.
- ii. Lack of experiment.
- iii. Lack of guide line.
- iv. Problem about factory policy.

## **Chapter – 2**

### **Literature Survey**

## **2. Literature Survey**

### **2.1 Fabric Inspection:**

Fabric inspection can be characterized as the visual examination of fabric, so standards, specification or requirement. It is a different section of garment industries. Inspection is an imperative angle pursued preceding article of garment manufacturing to maintain a strategic distance from rejects because of fabric quality and looking with startling misfortune in manufacturing. Fabric inspection is accomplished for fault/defect rate, fabric development, fabric weight, shrinkage, start to finish or edge to edge shading, shading, hand feel, length/width, print deformity and appearance. Fabric inspection guarantees to limit the dismissal of cut boards or rejected pieces of garments because of fabric fault. Cutting investigated and approve fabric guarantees completed article of fabric quality as well as diminish rejects, improves proficiency and opportune conveyances.

### **2.2 Reasons of fabric inspection:**

- To remove the fault and defects.
- To limit the future reoccurrences of the deformity.
- To decide quality and subsequently the cost of the texture.
- To supply data to legitimate dimensions of the board with regards to the characteristics being delivered.

### **2.3 Objectives:**

The primary target is discovery of texture surrenders and non-conformance as ahead of schedule as could be expected under the circumstances. With the goal that the time and cash are not squandered in the manufacturing process. A definitive objective of any quality control movement in attire' industry is to fulfill the clients.

Main objective of inspection are the —

- 1) Detection of the defects.
- 2) Correcting of the defects.

## 2.4 Flowchart of Fabric Inspection:

Finish fabric receive from dyeing

|

All documents check

Shade approval and Lab test

|

4 - point fabric inspection

|

GSM check

|

Send to fabric store for relax

|

After relax delivery to cutting

## 2.5 Method of fabric Inspection:

- a) 4 - point system
- b) 6 - point system
- c) 10 - point system
- d) Graniteville system
- e) Dallas point system

**2.6 Four Point System:** The system in which the penalty point of defect is maximum 4 is called 4 point system.

4 point system for fabric inspection is widely used in apparel industry. Most of the buyer necessitate that all production fabric be tainted by the 4-point rating system. So most of the apparel industry prefers 4 point rating system.

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- It is the most popular point system.
- It was distributed in 1959 by the National Association of Shirt Pajama Sportswear Manufacturers.
- The 4-point system also called the American Apparel Manufacturers Association (AAMA) point grading system for deciding fabric quality.

**Focuses to be considered in 4 point system:**

- Faults are scored with punishment purposes of 1, 2, 3 and 4 as indicated by the Size and significant of defect. Close to 4 punishment point can be appointed for any single defect.
- No linear yard or meter can contain multiple point, paying little mind to the quantity of defect inside that yard or meter.
- Each full width defect should assign 4 points.

**Advantages of 4 point system:**

- It has no width confinement.
- Worker can easily understand it.

**The Grading Range:**

<b>Point</b>	<b>Grade</b>
Points up to 0 to 20	A
Points up to 21 to 28	B
Points 28 above	Rejected

**Points Values of fabric faults:**



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

**Calculation of 4 points system:**

$$\text{Points}/100\text{sq.mtr} = \text{Total points} \times 39.37 \times 100 / \text{Roll length (Mtr)} \times \text{Actual width (inch)}$$

**2.7 Fabric Inspection Procedure:**

This procedure shows the steps necessary to ensure an effective fabric inspection quality control program:

1. Determine the fabric quantity to be inspected.
2. Select the fabric rolls for inspection.
3. Place the fabric roll/parcel on inspection outline/table.
4. Cut off a 6-inch piece over the width of the fabric from the earliest starting point of the roll. Imprint this piece with the goal that the inspection will know the right and left side of the fabric. Utilize the strip to check the shading side-to-side and start to finish by checking it in any event against the center of the.
5. Roll and once toward the finish of the roll.
6. Inspect for visual defects at a speed moderate enough to finish the defect.
7. Check that the roll contains the meters as expressed by the Fabric Supplier.
8. Check for bowing and skewing in the fabric.
9. Major fabric defects are to be hailed by the Fabric Supplier. Be that as it may, on the off chance that any blame isn't hailed effectively, at that point it must be set apart with a sticker or veiling tape during inspection for its follow capacity and restorative activity at cutting stage.
10. Record the faults of the fabric on the Fabric Quality Report.

### **2.8 Fabric inspection tools:**

The person who is responsible for fabric inspection must have the following facilities / equipment in good working condition.

1. Inspection edge with counter.
2. D - 65 light source (daylight)/TL - 84 light source at the investigation outline according to the requirement of the client.
3. Measuring tape and pair of scissors.
4. Stickers or covering tape to recognize the faults.
5. Pick glass.
6. Taking reference snaps by digital camera.
7. Client's reference sample or master fabric sample.

### **2.9 The Quality Inspector of eligibility Criteria:**

1. The person must be at any rate graduate.
2. Must have minimum two year experience in the textile industry.
3. Must be know about 4-point fabric inspection system.
4. Must be dynamic and physically fit.
5. Must not be colorblind.

### **2.10 General inspection procedure:**

Fabric inspection is done in suitable and safe condition with enough ventilation and appropriate lighting.

Fabric going through the frame must be between 45-60 degree angles to inspection and must be done on proper Cool White light 2 F96 bright light bulbs above review area. Back light can be utilized as and when required. Fabric speed on inspection machine must not be in excess of 15 yards for each moment. All fabric inspection must be done when 80% of good or part is gotten. Standard approved bulk day parcel principles for every single endorsed part should be accessible before inspection. Approve standard of bulk day part should be available before beginning inspection for evaluating shading, hand, weight, development, complete and visual appearance. Shade continuity inside a move

“Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments” by checking shade variety among focus and selvage and the starting, center and end of each roll must be evaluated and documented. Materials like knits must be assessed for weight against standard approved weight. Fabric width must be checked from selvage to selvage against standard. All defects must be hailed during inspection. The length of each roll inspection must be compared with length as referenced on supplier ticketed tag and any deviation must be archived and reported to process for extra substitution to maintain a strategic distance from lack.

In the event that yard dyed or printed fabric are being inspected the repeat estimation must be done from starting, center and end of chosen rolls.

### **2.11 Four Point System of Textile Inspection:**

Four Point System depends on punishment points given toward a deformity found while inspecting fabric. Guideline is as beneath:

1. Not in excess of four punishment points might be given for any single defect.
2. No in excess of four punishment points might be given to one linear yard/meter paying little heed to the quantity of defects found inside one yard/meter.
3. For consistent defects, for example, shading between side, middle side, side to side shading, start to finish shading no punishment points are allocated but the roll is graded as second quality and must be reported for to process for substitution.

### **2.12 Importance of Fabric Inspection:**

As we realize that fabric are the main and costly raw materials of a piece of clothing. So it is essential to use fabric productively and control wastage of fabric. Then again fabric defects are the most extreme defects of pieces of clothing, for which many-unexpected problem may happen in a garments industry. For example, short shipment, markdown, low cost etc.

To avoid all about problems from every above issue and to take preventive measures fabric inspection is essential for a garments industry. It is additionally vital for the following aspects:

1. Improve product quality
2. Minimize waste
3. Reduce the expense

4. Avoid short shipment/Order wiping out
5. Increase profitability
6. Use grading system

### **2.13 Limitations of Fabric Inspection:**

Actually the percentage of limitations for fabric inspection is very poor. Be that as it may, problem can be happened if the inspection not be down correctly at the point when the controller inspect the fabric.

Around then in the event that they don't inspect the fabric correctly, don't mark the faults. At that point numerous problem will happen. It is major obligation of this section to deliver fabric to cutting which fabric are properly checked. Else it will hamper the work of cutting section. And also west the tine of production. So profitability will decrease. It is important to utilize the time appropriately for better production and for timely shipment. And also used proper grading system. Must be grading done in right way. Grade the fabric according to faults.

### **2.14 Different Types of fault and their Causes and Remedies:**

Many types of fabric faults and their causes and remedies has given below.

#### **Hole:**

#### **Causes:**

- Presence in yarn knot.
- Weak point in yarn.
- Yarn tension excessively high.
- Yarn excessively dry.
- Broken needle head

#### **Remedies:**

- Use of level knot.
- Yarn normality control.
- Use of defensive filter creel.

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- Change the needle

**Missing yarn:**

**Causes:**

- Missing of one end of double yarn

**Remedies:**

- Careful observation and instant machine stop when fault found

**Needle line:**

**Causes:**

- Bent needle latch

**Remedies:**

- Replace the needle.

**Slubs:**

**Causes:**

- Yarn fault

**Remedies:**

- Replace the yarn cone to a more uniform yarn cone

**Drop needle:**

**Causes:**

- Needle failed to receive the yarn while knitting, needle missing

**Remedies:**

- Reset the needle

**Pin hole:**

**Causes:**

- Due to missing stitches or loops

**Remedies:**

- Concentrate on needle and latch

**Oil line:**

**Causes:**

- Improper lubrication

**Remedies:**

- Proper lubrication

**Fly contact:**

**Causes:**

- Fly coming from the adjacent machine

**Remedies:**

- Separate one machine from other

**Oil stain:**

**Causes:**

- Dirty machine and improper handling of fabric

**Remedies:**

- Proper lubrication and clean machine

## **Chapter – 3**

### **Experimental Details**

### 3. Experimental Details

#### 3.1 Faults of Factory 1 (Grey)

Here it is the fabric inspection table. We have shown some faults of grey fabric in this table. Fabric inspect as grey fabric in 4-point system. It is a standard and very popular system in textile industry. All industries are used this process. Here show that report number wise how much fault individually, total faults and percentage are given bellow.

Table 3.1.1: Grey fabric faults of factory 1

Report No	Hole	Oil spot	Fly contamination	Slubs	Set up	Total faults
1	19	27	29	23	14	481
2	7	36	43	24	7	
3	11	33	38	25	6	
4	2	15	19	14	2	
5	10	20	23	21	13	
Total	49	131	152	107	42	
Faults (%)	10.19 %	27.24 %	31.60 %	22.25 %	8.72 %	

Table 3.1.1 shows gray fabric faults of factory 1 where there are hole, Oil spot, fly contamination, slubs, set up and also show the quantity of the individual fault. Total fault of Hole 49 and it's percentage is 10.19%, oil spot is 131 and it's percentage is 27.24%, fly contamination is 152 and it's percentage is 31.60%, slubs is 107 and it's percentage is 22.25% and total set up is 42 and percentage is 8.72% and finally the total number of fault is 481.





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4	0	0	2	0
5	0	3	7	0
Total	6	12	27	4
Faults (%)	12.24%	24.49%	55.11%	8.16%

Table 3.2.1 Shows that many reasons for hole. Here the causes of hole there are machine tension, machine setting, low tension in yarn and others causes. In this table we are come into view total machine tension fault is 6 and it’s percentage is 12.24%, machine setting fault is 12 and it’s percentage is 24.49%, low tension in yarn fault is 27 and its percentage is 55.11% and other causes fault is 4 and percentage is 8.16% and finally the total fault of hole is 49 pcs.



Hole

**b) Causes for Oil spot:**

Here the table of causes of oil spot in grey fabric. We have shown total oil spot and different causes of oil spot. Individually identify how much faults are any causes and there percentage are given bellow.

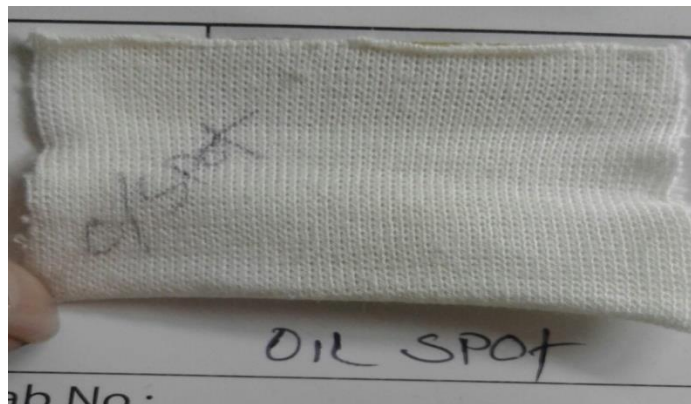
Table 3.2.2: Causes of faults of oil spot

Report No	Problem ( Total Oil spot = 131 )	
	Grease & Oil spot stains from the unguarded moving m/c parts	Fabric touching the floor & other soiled places, during transportation in the trolleys
1	18	9

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2	28	8
3	25	8
4	15	0
5	17	3
Total	103	28
Faults (%)	78.63%	21.37%

Table 3.2.2 shows that many reasons for oil spot. Here the causes of oil spot there are grease and oil spot stains from the unguarded moving machine and fabric touching the floor and other soiled places, during transportation in the trolleys. In this table we are come into view total Grease & Oil spot stains from the unguarded moving m/c parts fault is 103 and it's percentage is 78.63% and Fabric touching the floor & other soiled places, during transportation in the trolleys 28 and it's percentage is 21.37%. and finally the total oil spot fault is 131 pcs.



Oil spot

**c) Causes for Fly contamination:**

Here the table of causes of fly contamination in grey fabric. Here we have shown total faults of fly contamination and its causes report number wise and identify how much faults of any causes and its percentage is given bellow.

Table 3.2.3: Causes of faults of fly contamination

<b>Report No</b>	<b>Problem ( Total Fly Contamination = 152 )</b>
	Mired one yarn to another yarn

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1	29
2	43
3	38
4	29
5	23
Total	152
Faults (%)	100%

Table 3.2.3 Shows that reasons for fly contamination. Here the causes of fly contamination are Mired one yarn to another yarn and the total number of Mired one yarn to another yarn is 152 pcs and it's percentage is 100% .if the total fault is 152 pcs and its percentage is 100% so, that means all fly contamination are comes from Mired one yarn to another yarn.



Fly contamination

**d) Causes for slubs:**

Here the table of causes of slubs in grey fabric. Here we have try to showing total faults of slubs and its causes. Identify the how much faults of any causes and its percentage is given bellow.

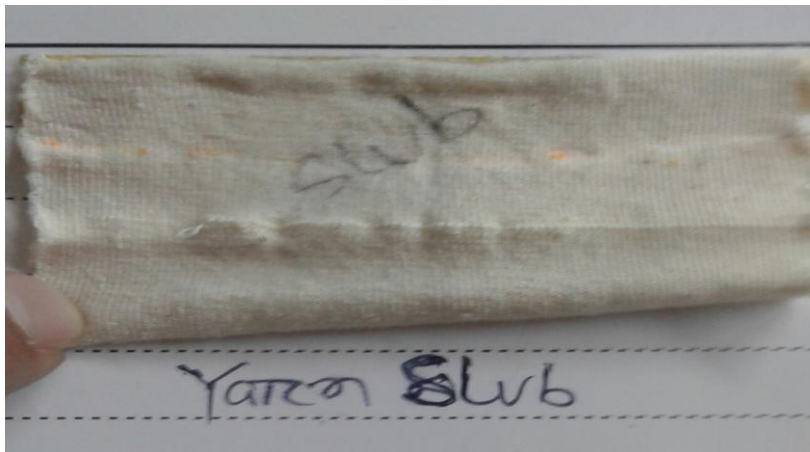
Table 3.2.4: Causes of faults of slubs

<b>Report No</b>	<b>Problem ( Total Slubs = 107 )</b>
	Causes by thick or heavy place in yarn or by line getting onto yarn feeds

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1	23
2	24
3	25
4	14
5	21
Total	107
Faults (%)	100%

Table 3.2.4 Shows that reasons for slubs. Here the causes of slubs are thick or heavy place in yarn or by line getting onto yarn feeds and the total number of thick or heavy place in yarn or by line getting onto yarn feeds is 107 pcs and it’s percentage is 100%. If the total fault is 107 pcs and percentage is 100% so, that means all slubs are comes from thick or heavy place in yarn or by line getting onto yarn feeds.



Yarn slub

**e) Causes for Set up:**

Here the table of causes of set up in grey fabric. Here we have try to showing total faults of set up. And its different causes. Identify the how much faults of any causes and its percentage is given bellow.

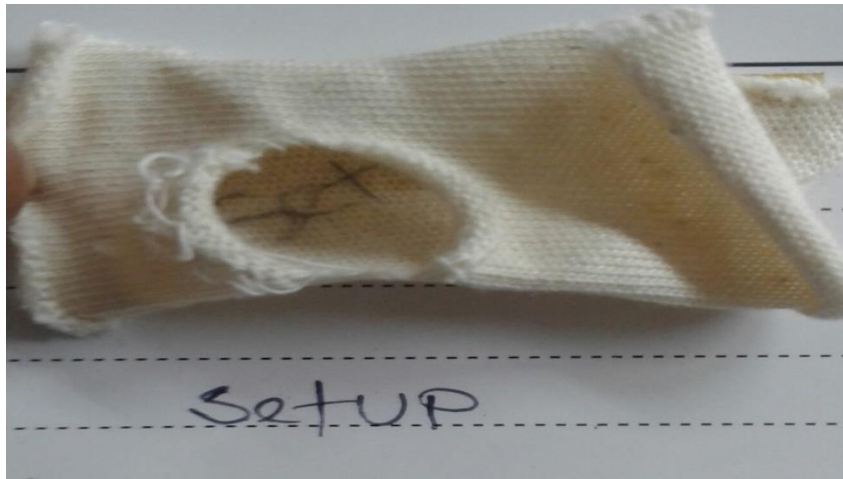
Table 3.2.5: Causes of faults of set up

	<b>Problem ( Total Set up = 42 )</b>
--	--------------------------------------

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<b>Report No</b>	<b>Yarn tension problem</b>	<b>M/C setting problem</b>
1	10	4
2	7	0
3	6	0
4	2	0
5	11	2
<b>Total</b>	<b>36</b>	<b>6</b>
<b>Faults (%)</b>	<b>85.71%</b>	<b>14.29%</b>

Table 3.2.5 Shows that reasons for set up. Here the causes of set up are two reason first one are yarn tension problem and second one is machine setting problem. Then show the total yarn tension problem is 36 pic and it's percentage is 85.71% and machine setting problem is 6 pcs and it's percentage is 14.29% and finally the total fault of set up is 42 pcs.



Set up

**3.3 Faults of Factory 2 (Grey):**

Here it is the fabric inspection table. We have shown some faults of grey fabric in this table. Fabric inspect as grey fabric in 4-point system. It is a standard and very popular system in textile industry. All industries are used this process. Here show that report number wise how much fault individually, total faults and percentage are given bellow.

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Table 3.3.1 Gray fabric faults of factory 2

<b>Report No</b>	<b>Hole</b>	<b>Oil spot</b>	<b>Fly contamination</b>	<b>Slubs</b>	<b>Set up</b>	<b>Total fault</b>
1	9	16	41	7	2	397
2	16	13	57	3	5	
3	14	21	29	3	1	
4	12	19	40	0	2	
5	9	19	50	4	7	
<b>Total</b>	<b>60</b>	<b>86</b>	<b>217</b>	<b>17</b>	<b>17</b>	
<b>Faults (%)</b>	<b>15.12 %</b>	<b>21.66%</b>	<b>54.66 %</b>	<b>4.28 %</b>	<b>4.28 %</b>	

Table 3.3.1 Shows gray fabric fault of factory 2. Here there are different types of fault. There are hole, Oil spot, fly contamination, slubs, set up and also show the quantity of the individual fault. Total fault of Hole 60 pcs and it's percentage is 15.12%, oil spot is 86 pcs and it's percentage is 21.66%, fly contamination is 217 pcs and it's percentage is 54.66%, slubs is 17 pcs and it's percentage is 4.28% and total set up is 17 pcs and percentage is 4.28% and finally the total number of fault is 397 pcs.

**“Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments”**

**Meghna Knit Composite Limited**  
**Quality assurance department (Knitting QAD)**  
 Grey Fabric Quality Inspection Report (4 Point System-1.1)

Buyer	M85 SGR 13	M/C Dia & gauge	34X24	F/G SM & F/Dia	140 / 68 (OP)	Total penalty Points		Points-Defects up to 3" = 1	Any Hole = 4 points
Order no	6695N TOP	UPBL	270	TTL roll received	13	Points/100 sq. Yds	5.33	Points-Defects >3" to 6" = 2	Up to 20 points = A
Fabrication	S/D	Colour	WHITE	TTL Yds received	1395	Accept/Reject shipment	13	Points-Defects >6" to 9" = 3	21 to 28 points = B
Date of Inspection	31-01-19	Yarn brand & Lot	SGR 94W	Grey weight	850	Fabric grade	10	Points-Defects >9" = 4	Above 28 points = Reject

Yarn count & Composition						Spinning Faults			Knitting Faults										Shift		
Roll No	Machine no	Rollin KG	Roll length YDS	Width (inch)	Grey GSM	Thick & thin	Yarn contamination	Slip	Hole/Loop	Setup	Thick & Thin/Pata	Broken needle	Needle/sinker mark	Wheel mark	Lycra/Drop	Oil spot	Fly contamination	Other faults	Total points	Points/100 YDS	Grade
01	18	25	98	98	110	-	-	-	-	-	-	-	-	-	-	11	1mm	-	8	2.62	A
02	4	33	109	u	u	-	-	-	11	-	-	-	-	-	-	-	101	-	12	3.41	A
03	4	28	110	u	u	-	-	-	11	-	-	-	-	-	-	-	144	-	18	6.01	A
04	4	28	90	-	c	-	-	-	1	-	-	-	-	-	-	-	144	-	29	9.79	A
05	4	20	78	v	c	-	-	-	11	-	-	-	-	-	-	-	144	-	10	4.70	A
3 01	18	17	62	98	110	-	-	-	11	-	-	-	-	-	-	-	144	-	13	7.70	A
02		33	120	11	u	-	-	-	1	1	-	-	-	-	-	-	144	-	16	4.29	A
03		30	110	0	u	-	-	-	1	-	-	-	-	-	-	-	144	-	17	5.67	A
04		25	71	4	u	-	-	-	11	-	-	-	-	-	-	-	144	-	18	7.28	A
05	58	34	105	98	110	-	-	-	-	11	-	-	-	-	-	-	11	117	13	3.99	A
06	0	35	137	v	u	-	-	-	1	1	-	-	-	-	-	-	111	-	12	3.21	A
07	18	33	11	11	11	-	-	-	1	-	-	-	-	-	-	-	111	111	11	2.04	B
08		22	90	u	u	-	-	-	1	1	-	-	-	-	-	-	11	11	12	4.89	B

Comments: Total points X 36 X 100 / Roll length X Actual Width = 13 (Acceptable)  
 Fabric Length (Yds) = 1395, Fabric Weight X 1000 X 100 X 1.093 / Dia (Open) X GSM X 2.54 = 10 (Not Acceptable)

Checked by QC/Supervisor: [Signature] Sr. Executive (Knitting QAD)  
 Sr. Manager (QAD): [Signature] Manager (Knitting)  
 AGM/GM (Knitting): [Signature]

**3.4 Causes of Faults of Factory 2 (Grey):**

**a) Causes for hole**

Here the table of causes of hole in grey fabric. Here we have shown total hole and different causes of hole. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.4.1: Causes of faults of hole:

Report No	Problem ( Total Hole = 60 )			
	Machine tension	Machine setting	Low tension in yearn	Others
1	3	4	2	0
2	7	6	3	0
3	5	6	2	1
4	4	6	1	1
5	3	2	2	2
<b>Total</b>	<b>22</b>	<b>24</b>	<b>10</b>	<b>4</b>
<b>Faults (%)</b>	<b>36.67%</b>	<b>40%</b>	<b>16.67%</b>	<b>6.67%</b>



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Table 3.4.1 Shows that many reasons for hole. Here the causes of hole there are machine tension, machine setting, low tension in yarn and others causes. In this table we are come into view total machine tension fault is 22 pcs and it’s percentage is 36.67%, machine setting fault is 24 pcs and it’s percentage is 40%, low tension in yarn fault is 10 pcs and it’s percentage is 16.67% and other causes of fault is 4 pcs and percentage is 6.67% and finally the total fault of hole is 60 pcs.



**Hole**

**b) Causes for oil spot:**

Here the table of causes of oil spot in grey fabric. Here we have shown total oil spot and different causes of oil spot. Individually identify how much faults are any causes and there percentage are given bellow.

Table 3.4.2: Causes of faults of oil spot

Report No	Problem ( Total Oil sport = 86 )	
	Grease & Oil spot stains from the unguarded moving machine parts	Fabric touching the floor & other soiled places, during transportation in the trolleys
1	9	7
2	7	4

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3	20	1
4	17	2
5	19	0
Total	72	14
Faults (%)	83.72%	16.28%

Table 3.4.2 shows that many reasons for oil spot. Here the causes of oil spot there are grease and oil spot stains from the unguarded moving machine and fabric touching the floor and other soiled places, during transportation in the trolleys. In this table we are come into view total Grease & Oil spot stains from the unguarded moving m/c parts fault is 72 pcs and it’s percentage is 83.72% and Fabric touching the floor & other soiled places, during transportation in the trolleys 14 pcs and it’s percentage is 16.28%. And finally the total oil spot fault is 86 pcs.



**Oil spot**

**c) Causes for Fly contamination:**

Here the table of causes of fly contamination in grey fabric. Here we have shown total faults of fly contamination and its causes report number wise and identify how much faults of any causes and its percentage is given bellow.

Table 3.4.3: Causes of faults of fly contamination

<b>Problem ( Total Fly Contamination = 217 )</b>	
--	--

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Report No	Mired one yarn to another yarn
1	41
2	57
3	29
4	40
5	50
Total	217
Faults (%)	100%

Table 3.4.3 Shows that reasons for fly contamination. Here the causes of fly contamination are Mired one yarn to another yarn and the total number of Mired one yarn to another yarn is 217 pcs and it's percentage is 100% .if the total fault is 217 pcs and its percentage is 100% so, that means all fly contamination are comes from Mired one yarn to another yarn.



Fly contamination

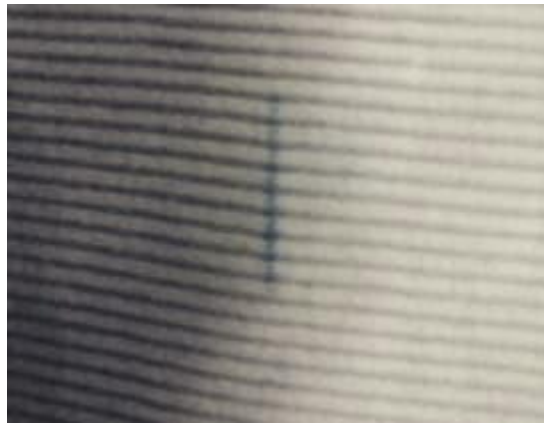
**d) Causes for Slubs:**

Here the table of causes of slubs in grey fabric. Here we have try to shown total faults of slubs and its causes. Identify the how much faults of any causes and its percentage is given bellow.

Table 3.4.4: Causes of faults of slubs

Report No	Problem ( Total Slubs = 17 )
	Causes by thick or heavy place in yarn or by line getting onto yarn feeds
1	7
2	3
3	3
4	0
5	4
Total	17
Faults (%)	100%

Table 3.4.4 Shows that reasons for slubs. Here the causes of slubs are thick or heavy place in yarn or by line getting onto yarn feeds and the total number of thick or heavy place in yarn or by line getting onto yarn feeds is 17 pcs and it’s percentage is 100%. If the total fault is 17 pcs and percentage is 100% so, that means all slubs are comes from thick or heavy place in yarn or by line getting onto yarn feeds.



**Slubs**

**e) Causes for Set up:**

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 Here the table of causes of set up in grey fabric. Here we have try to shown total faults of set up. And its different causes. Identify the how much faults of any causes and its percentage is given bellow.

Table 3.4.5: Causes of faults of set up

Report No	Problem ( Total Set up = 17 )	
	Yarn tension problem	M/C setting problem
1	2	0
2	5	0
3	1	0
4	1	1
5	5	2
Total	14	3
Faults (%)	82.35%	17.65%

Table 3.4.5 Shows that reasons for set up. Here the causes of set up are two reason first one are yarn tension problem and second one is machine setting problem. Then show the total yarn tension problem is 14 pic and it’s percentage is 82.35% and machine setting problem is 3 pcs and it’s percentage is 17.65% and finally the total fault of set up is 17 pcs.



**Set up**

### 3.5 Faults of Factory 1 (Finished)

Here it is the fabric inspection table. We have shown the some faults of finished fabric in this table. Fabric inspect of grey fabric in 4-point system. It is a standard and very popular system in textile industry. All industries are used this process. Here show that report number wise how much fault individually, total faults and percentage are given bellow.

Table 3.5.1.: Finished fabric faults of factory – 1

Report No	Hole	Oil spot	Dyeing spot	Yellow spot	Yarn contamination	Crease mark	Total fault
1	21	5	6	25	79	5	608
2	10	15	9	45	94	16	
3	10	12	10	25	0	16	
4	15	9	4	19	24	5	
5	40	3	8	34	30	14	
Total	96	44	37	148	227	56	
Faults (%)	15.79%	7.24%	6.08%	24.34%	37.33%	9.21%	

Table 3.5.1 Shows finished fabric fault of factory 1. Here there are different types of fault. There are hole, oil spot, dyeing spot, yellow spot, yarn contamination and crease mark. And also show the quantity of the individual fault. Total fault of hole 96 pcs and its percentage is 15.79%, oil spot 44 pcs and its percentage is 7.24%, dyeing spot 37 pcs and its percentage is 6.08%, yellow spot is 148 pcs and its percentage is 24.34%, yarn contamination is 227 pcs and its percentage is 37.33% and crease mark is 56 pcs and its percentage is 9.21%. And finally the total number of fault is 608 pcs.



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Total	57	31	8
Faults (%)	57.37%	32.29%	8.33%

Table 3.6.1 shows that many reasons for finished fabric hole. There are knitting hole, GSM hole, chemical hole. Total knitting hole fault is 57 pcs and its percentage is 57.37%, then GSM hole fault is 31 pcs and its percentage is 32.29% and the total chemical hole fault is 8 pcs and its percentage is 8.33%. And finally the total number of hole is 96 pcs.



**b) Causes for Oil spot:**

Here the table of causes of oil spot in finished fabric. Here we have shown total oil spot and different causes of oil spot. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.6.2: Causes of faults of oil spot

Report No	Problem ( Total Oil spot = 44 )	
	Grease & Oil spot stains from the unguarded moving machine parts	Fabric touching the floor & other soiled places, during transportation in the trolleys
1	3	2
2	12	3
3	8	4
4	9	0



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5	3	0
<b>Total</b>	35	9
<b>Faults (%)</b>	79.55%	20.45%

Table 3.6.2 Shows that many reasons for oil spot. Here the causes of oil spot there are grease and oil spot stains from the unguarded moving machine and fabric touching the floor and other soiled places, during transportation in the trolleys. In this table we are come into view total Grease & Oil spot stains from the unguarded moving m/c parts fault is 35 pcs and it’s percentage is 79.55% and Fabric touching the floor & other soiled places, during transportation in the trolleys 9 pcs and it’s percentage is 20.45%. And finally the total oil spot fault is 44 pcs.



**c) Causes for Dyeing spot:**

Here the table of causes of dyeing spot in finished fabric. Here we have shown total dyeing spot and causes of dyeing spot. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.6.3: Causes of faults of dyeing spot

<b>Report No</b>	<b>Problem (Total dyeing spot = 37)</b>
	Chemical is not reduce properly
1	6
2	9
3	10
4	4

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5	8
Total	37
Faults (%)	100%

Table 3.6.3 Shows that reasons for dyeing spot. Here the causes of dyeing spot are Chemical is not reduce properly and the total number of Chemical is not reduce properly is 37 pcs and it’s percentage is 100% .if the total fault is 37 pcs and its percentage is 100% so, that means all dyeing spot are comes from Chemical is not reduce properly.

**d) Causes for Yellow spot:**

Here the table of causes of yellow spot in finished fabric. Here we have try to shown the total yellow spot and different causes of yellow spot. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.6.4: Causes of faults of yellow spot

<b>Report No</b>	<b>Problem (Total yellow spot = 148)</b>	
	Many packing materials contain BHT and anti - oxidant that causes phenolic yellowing when it reacts with not gasses in the air	Nitrous oxide is causes for phenolic yellowing in fabric
1	17	8
2	35	10
3	10	15
4	12	7
5	23	11
Total	97	51
Faults (%)	65.54%	34.46%

Table 3.6.4 shows that reasons for yellow spot. Here the causes of yellow sports are many packing materials contain BHT and anti - oxidant that causes phenolic yellowing when it reacts with not gasses

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 in the air and Nitrous oxide is causes for phenolic yellowing in fabric. The total number of many packing materials contain BHT and anti - oxidant that causes phenolic yellowing when it reacts with not gasses in the air is 97pcs and its percentage is 65.54% and Nitrous oxide is causes for phenolic yellowing in fabric is 51 pcs and its percentage is 34.46%. And finally the total number of yellow spot is 148 pcs.



**e) Causes for Yarn contamination:**

Here the table of causes of yarn contamination in finished fabric. Here we have shown total yarn contamination and causes of yarn contamination. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.6.5: Causes of faults of yarn contamination

Report No	Problem (Total yarn contamination = 227)
	Mired one yarn to another yarn
1	79
2	94
3	0
4	25
5	30
Total	227
Faults (%)	100%

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Table 3.6.5 shows that reasons for yarn contamination. Here the causes of yarn contamination are Mired one yarn to another yarn is 227 pcs and it’s percentage is 100% .if the total fault is 227 pcs and its percentage is 100% so, that means all yarn contamination are comes from Mired one yarn to another yarn.



**f) Causes for Crease mark:**

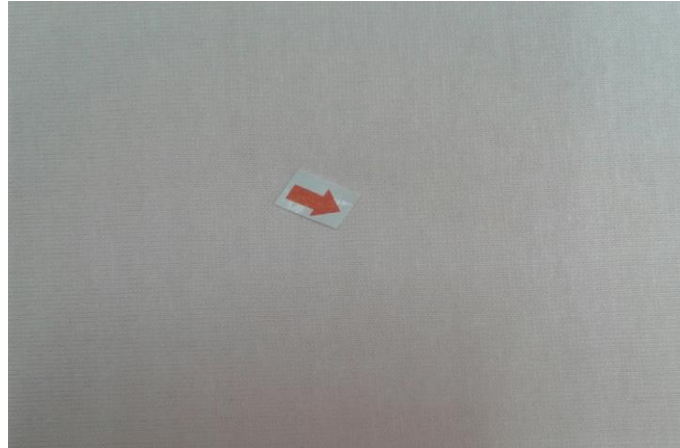
Here the table of causes of crease mark in finished fabric. Here we have shown total crease mark and causes of crease mark. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.6.6: Causes of faults of crease mark

Report No	Problem (Total crease mark = 56)
	When the fabric is pass from the roller some time the fabric is folded and the pressure of roller then create crease mark.
1	5
2	16
3	16
4	5
5	14
Total	56
Faults (%)	100%

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Table 3.6.6 shows that reasons for crease mark. Here the causes of crease mark are when the fabric is pass from the roller some time the fabric is folded and the pressure of roller then create crease mark is 56 pcs and it’s percentage is 100%. if the total fault is 56 pcs and its percentage is 100% so, that means all crease mark are comes from When the fabric is pass from the roller some time the fabric is folded and the pressure of roller then create crease mark.



**3.7 Faults of Factory 2 (Finished):**

Here it is the fabric inspection table. We have shown the some faults of finished fabric in this table. Fabric inspect of grey fabric in 4-point system. It is a standard and very popular system in textile industry. All industries are used this process. Here show that report number wise how much fault individually, total faults and percentage are given bellow.

Table 3.7.1: Finished fabric faults of factory 2

Report No	Hole	Spot /dust	Missing yarn	Set up	Loop	Slubs	Total fault
1	25	27	2	14	3	7	370
2	23	24	0	7	5	3	
3	37	25	3	11	2	5	
4	34	30	5	17	7	0	
5	25	19	0	5	4	1	
Total	144	125	10	54	21	16	
Faults (%)	38.92%	33.78%	2.70%	14.59%	5.67%	4.32%	



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2	16	7	0
3	18	17	2
4	17	16	1
5	11	9	5
Total	71	63	10
Faults (%)	49.31%	43.75%	6.94%

Table 3.8.1 shows that many reasons for finished fabric hole. There are knitting hole, GSM hole, chemical hole. Total knitting hole fault is 71 pcs and its percentage is 49.31%, then GSM hole fault is 63 pcs and its percentage is 43.75% and the total chemical hole fault is 10 pcs and its percentage is 6.94%. And finally the total number of hole is 144 pcs.



**Hole**

**b) Causes for spot/dust:**

Here the table of causes of spot/dust in finished fabric. Here we have shown total spot/dust and different causes of spot/dust. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.8.2: Causes of faults of spot/dust

Report No	Problem ( Total spot/dust = 125 )	
	Chemical spot	Oil spot
1	3	24
2	0	24
3	2	23

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4	0	30
5	5	14
Total	10	115
Faults (%)	8%	92%

Table 3.8.2 shows that reasons for spot/dust. There are chemical spot and oil spot. Total number of comical spot is 10 pcs and its percentage is 8% and other one oil spot is 115 pcs and its percentage is 92%. And finally the total number of spot/dust is 125 pcs.



**Spot**

**c) Causes for Missing yarn:**

Here the table of causes of missing yarn in finished fabric. Here we have shown total missing yarn and causes of missing yarn. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.8.3: Causes of faults of missing yarn

Report No	Problem ( Total Missing yarn = 10)	
	Yarn mistake	
1	2	
2	0	
3	3	
4	5	
5	0	



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Total	10
Faults (%)	100%

Table 3.8.3 shows that reasons for missing yarn. Here the causes of missing yarn are Yarn mistake and the total number of Yarn mistake is 10 pcs and it’s percentage is 100%. If the total fault is 10 pcs and its percentage is 100% so, that means all Missing yarn are comes from Yarn mistake.

**d) Causes for set up:**

Here the table of causes of set up in finished fabric. Here we have shown total set up and different causes of set up. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.8.4: Causes of faults of set up

Report No	Problem ( Total set up = 54)	
	Yarn tension	Machine tension
1	9	5
2	7	0
3	8	3
4	12	5
5	2	3
Total	38	16
Faults (%)	70.37%	29.63%

Table 3.8.4 shows that reasons for set up. Here the causes of set up are two reason first one are yarn tension and second one is machine setting. Then show the total yarn tension problem is 38 pic and it’s percentage is 70.37% and machine setting problem is 16 pcs and it’s percentage is 29.63% and finally the total fault of set up is 54 pcs.



**Set up**

**e) Causes for Loop:**

Here the table of causes of loops in finished fabric. Here we have shown total loop and causes of loop. Individually identify how much faults are any causes and there percentage is given bellow.

Table 3.8.5: Causes of faults of loop

Report No	Problem ( Total Loop = 21)
	Needle broken
1	3
2	5
3	2
4	7
5	4
Total	21
Faults (%)	100%

Table 3.8.5 shows that reasons for loop. Here the causes of loop are needle broken and the total number of needle broken is 21 pcs and its percentage is 100%. if the total fault is 21 pcs and its percentage is 100% so, that means all loop are comes from needle broken.



**Loop**

**f) Causes for Slubs:**

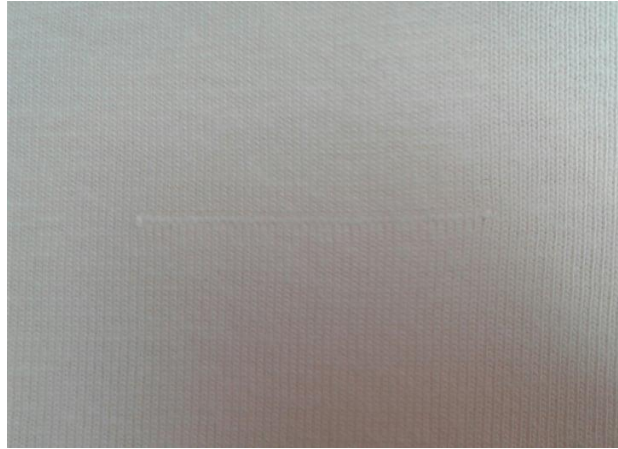
Here the table of causes of slubs in finished fabric. Here we have shown total slub and causes of slub. Individually identify how much faults are any causes and there percentage is given bellow

Table 3.8.6: Causes of faults of slubs

Report No	Problem ( Total Slubs = 16 )
	Causes by thick or heavy place in yarn or by line getting onto yarn feeds
1	7
2	3
3	5
4	0
5	1
Total	16
Faults (%)	100%

Table 3.8.6 shows that reasons for slubs. Here the causes of slubs are thick or heavy place in yarn or by line getting onto yarn feeds and the total number of thick or heavy place in yarn or by line getting onto yarn feeds is 16 pcs and it’s percentage is 100%. If the total fault is 16 pcs and percentage is 100% so, that means all slubs are comes from thick or heavy place in yarn or by line getting onto yarn feeds.

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**Slubs**

## **Chapter – 4**

### **Result and discussion**

## 4.1 Comparison of grey fabric fault

### 4.1.1 Comparison factory 1 and factory 2

This is the faults comparison table of grey fabric in factory-1 and factory-2. We have taking five inspection reports and then identify the faults of grey fabric. Here we have taking both factory inspection report and then make this table. This table we have shows that different types of faults in both factory and doing there comparison is given bellow.

4.1.2: Table of grey fabric faults comparison

Report No	Hole		Oil spot		Fly contamination		Slubs		Set up		Total faults	
	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2
1	19	9	27	16	29	41	23	7	14	2	481	397
2	7	16	36	13	43	57	24	3	7	5		
3	11	14	33	21	38	29	25	3	6	1		
4	2	12	25	19	19	40	14	0	2	2		
5	10	9	20	19	23	50	21	4	13	7		
Total	49	60	131	86	152	217	107	17	42	17		
Faults (%)	10.19%	15.12%	27.24%	21.66%	31.60%	54.66%	22.25%	4.28%	8.72%	4.28%		

Table 4.1.2 shows comparison of factory 1 and factory 2 total number of fault and percentage of faults. Firstly we compare the hole in grey fabric factory 1 collected total 49 hole and the percentage is 10.19% and factory 2 collected total 60 hole and its percentage is 15.12%.

And also, total oil spot in factory 1 is 131 and percentage is 27.24% and factory 2 total oil spot is 86 and percentage is 21.66%.

Factory 1 total fly contamination is 152 and percentage is 31.60% and factory 2 total fly contamination is 217 and percentage is 54.66%.

Factory 1 total slub is 107 and its percentage is 22.25% and factory 2 total slub is 17 and percentage is 4.28%.

Factory 1 total set up is 42 and its percentage is 8.72% and factory 2 total set up is 17 and its percentage is 4.28%.

In the factory 1 total fault is 481 and in factory 2 total fault is 397.

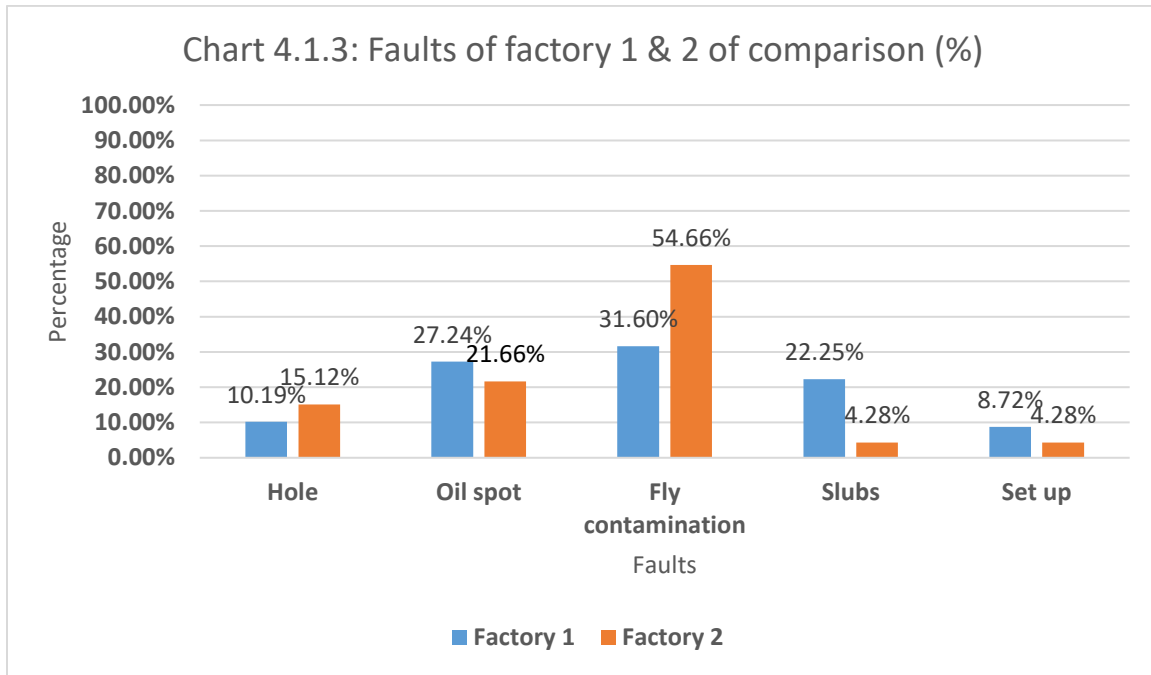


Chart 4.1.3 the graph shows that percentage of gray fabric faults. Here indicate vertical axis is percentage and horizontal axis is faults. Here the blue color represents factory 1 and red color represents the factory 2. And we are also try to show that both factory percentage comparison. At first hole, here we see 10.19% percentage hole in factory 1 and 15.12% percentage hole in factory 2. Oil spot 27.24% factory 1 and 21.66% factory 2, fly contamination is 31.60% in factory 1 and 54.66% in factory 2. Here we see there is big different in fly contamination factory 2 have 23.06% more fault then factory 1, factory 1 have 22.25% faults of slub and factory 2 is 4.28% factory 1 have 17.97% more fault then factory 2. Factory 1 have 8.72% set up factory 2 have 4.28% set up.

## 4.2 Comparison of causes of grey fabric faults

### 4.2.1 Comparison of causes of factory 1 and factory 2

Here the comparison table of causes of hole in factory 1 and factory 2. This table shows the comparison of causes of hole in both factory. How much faults have any causes are both industry individually and also there percentage is given bellow.

4.2.2: Table of causes of hole comparison

Report No	Causes of hole							
	Machine tension		Machine setting		Low tension in yarn		Other	
	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2
1	3	3	4	4	10	2	2	0
2	1	7	1	6	5	3	0	0
3	2	5	4	6	3	2	2	1
4	0	4	0	6	2	1	0	1
5	0	3	3	2	7	2	0	2
Total	6	22	12	24	27	10	4	4
Fault (%)	12.24%	36.67%	24.49%	40%	55.11%	16.67%	8.16%	6.67%

Table 4.2.2 discussed about only hole. There are many reason to create hole. In machine tension problem factory 1 total hole 6 and factory 2 total hole 22. Machine tension problem factory 1 create 12 hole and factory 2 create 24 hole. Low tension problem is very common problem to create hole in factory 1 hole is 27 and factory 2 hole is 4 and other causes is both factory are same.

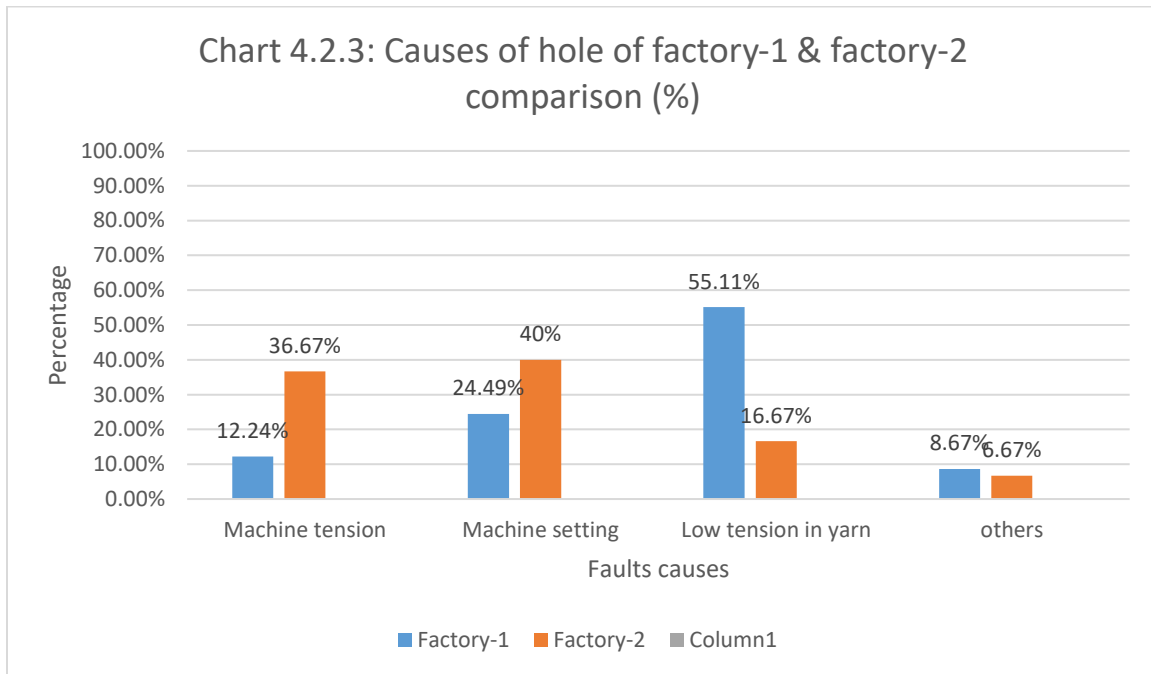


Chart 4.2.3 the graph shows that faults percentage of causes of hole in gray fabric. Here indicate vertical axis is percentage and horizontal axis is faults of hole causes. Here the blue color represents factory 1 and red color represents the factory 2. And we have also try to show that comparison of both



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 factory hole causes percentage. Firstly machine tension we see there is big different in machine tension  
 factory 2 have more fault then factory 1. Factory 1 machine tension faults is 12.24% and factory 2 is  
 36.67%. Then machine setting problem factory 1 is 24.49% and factory 2 have 40%, we are seeing  
 another big different in low tension in yarn factory 1 is 55.11% and factory 2 is 16.67%.

#### 4.2.4: Table of causes of oil spot comparison

Here the comparison table of causes of oil spot in factory-1 and factory-2. This table shows the  
 comparison of causes of oil spot in both factory. How much faults of any causes are both industry  
 individually and also there percentage is given bellow.

Report No	Causes of oil spots			
	Grease & Oil spot stains from the unguarded moving machine parts		Fabric touching the floor & other soiled places, during transportation in the trolleys	
	F-1	F-2	F-1	F-2
1	18	9	9	7
2	28	7	8	4
3	25	20	8	1
4	15	17	0	2
5	17	19	3	0
Total	103	72	28	14
Fault (%)	78.63%	83.72%	21.37%	16.28%

Table 4.2.4 discourse about only oil spot. There are many reasons to create oil spot. In Grease & Oil  
 spot stains from the unguarded moving machine parts factory 1 total oil spot have 103 and factory 2  
 is 72. And Fabric touching the floor & other soiled places, during transportation in the trolleys to create  
 factory 1 oil spot is 28 and factory 2 create 14.

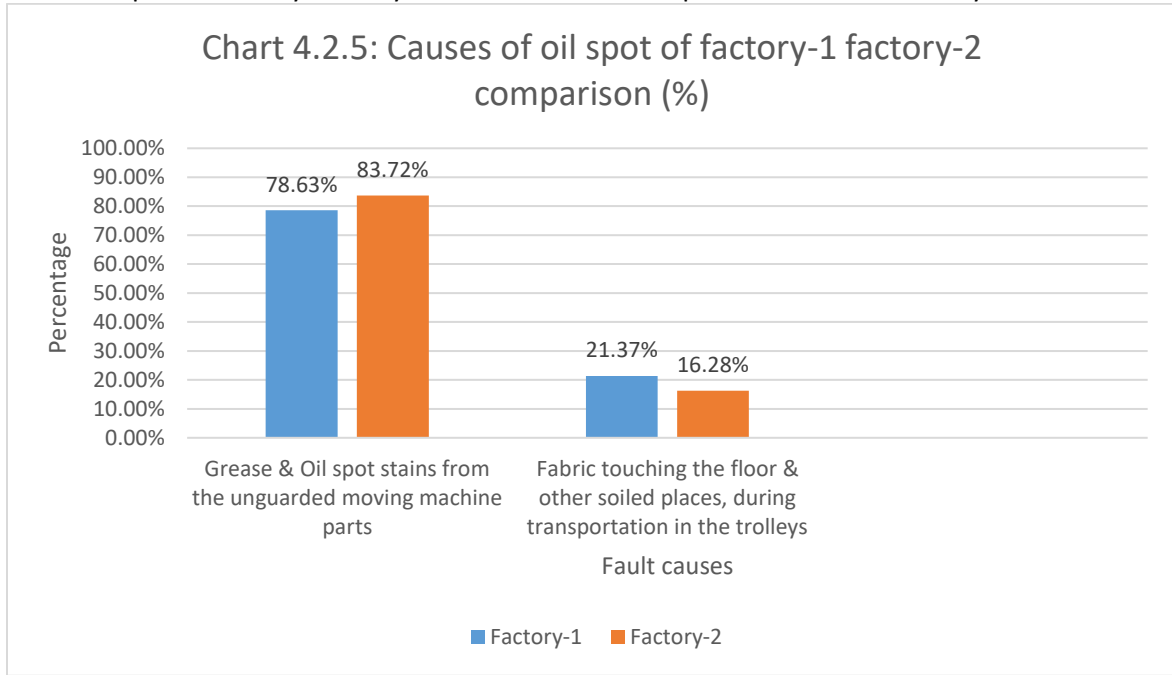


Chart 4.2.5 the graph shows that faults percentage of causes of oil spot in grey fabric. Here indicate vertical axis is percentage and horizontal axis is faults of causes of oil spot. Here the blue color represents factory 1 and red color represents the factory 2. And we have also try to show that comparison of both factory oil spot causes percentage. Here we see in this graph Grease & Oil spot stains from the unguarded moving machine parts factory 1 is 78.63% and factory 2 is 83.72%. And also Fabric touching the floor & other soiled places, during transportation in the trolleys create oil spot factory 1 is 21.37% and factory 2 is 16.28%.

4.2.6: Table of causes of fly contamination comparison

Here the comparison table of causes of fly contamination in factory-1 and factory-2. This table shows the comparison of causes of fly contamination in both factory. How much faults of any causes are both industry individually and also there percentage is given bellow.

Report No	Causes of fly contamination	
	Mired one yarn to another yarn	
	F-1	F-2
1	29	41
2	43	57
3	38	29

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4	29	40
5	23	50
<b>Total</b>	<b>152</b>	<b>217</b>
<b>Fault (%)</b>	<b>100%</b>	<b>100%</b>

Table 4.2.6 discourse about only fly contamination. Here shows there are only one reasons to create fly contamination. In Mired one yarn to another yarn factory 1 total fly contamination have 152 and factory 2 is 217. And both factory percentage have 100%. So, the both factory causes of total percentage is same.

**4.2.7: Table of causes of slubs comparison**

Here the comparison table of causes of slubs in factory-1 and factory-2. This table shows the comparison of causes of slubs in both factory. How much faults of any causes are both industry individually and also there percentage is given bellow.

<b>Report No</b>	<b>Causes of slubs</b>	
	<b>Causes by thick or heavy place in yarn or by line getting onto yarn feeds</b>	
	<b>F-1</b>	<b>F-2</b>
1	23	7
2	24	3
3	25	3
4	14	0
5	21	4
<b>Total</b>	<b>107</b>	<b>17</b>
<b>Fault (%)</b>	<b>100%</b>	<b>100%</b>

Table 4.2.7 discourse about only slub. Here shows there are only one reasons to create slub. In Causes by thick or heavy place in yarn or by line getting onto yarn feeds factory 1 total slub have 107 and factory 2 is 17. And both factory percentage have 100%. So, the both factory causes of total percentage is same.

4.2.8: Table of causes of set up comparison

Here the comparison table of causes of set up in factory-1 and factory-2. This table shows the comparison of causes of set up in both factory. How much faults of any causes are both industry individually and also there percentage is given bellow.

Report No	Causes of set up			
	Yarn tension problem		Machine setting problem	
	F-1	F-2	F-1	F-2
1	10	2	4	0
2	7	5	0	0
3	6	1	0	0
4	2	1	0	1
5	11	5	2	2
<b>Total</b>	<b>36</b>	<b>14</b>	<b>6</b>	<b>3</b>
<b>Faults (%)</b>	<b>85.71%</b>	<b>82.35%</b>	<b>14.29%</b>	<b>17.65%</b>

Table 4.2.8 discourse about only set up. There are two reasons to create set up. Yarn tension problem factory 1 total set up have 36 and factory 2 have 14. And Machine setting problem to create factory 1 set up is 6 and factory 2 create 3. Yarn tension problem and Machine setting problem both are very common problem to create set up.

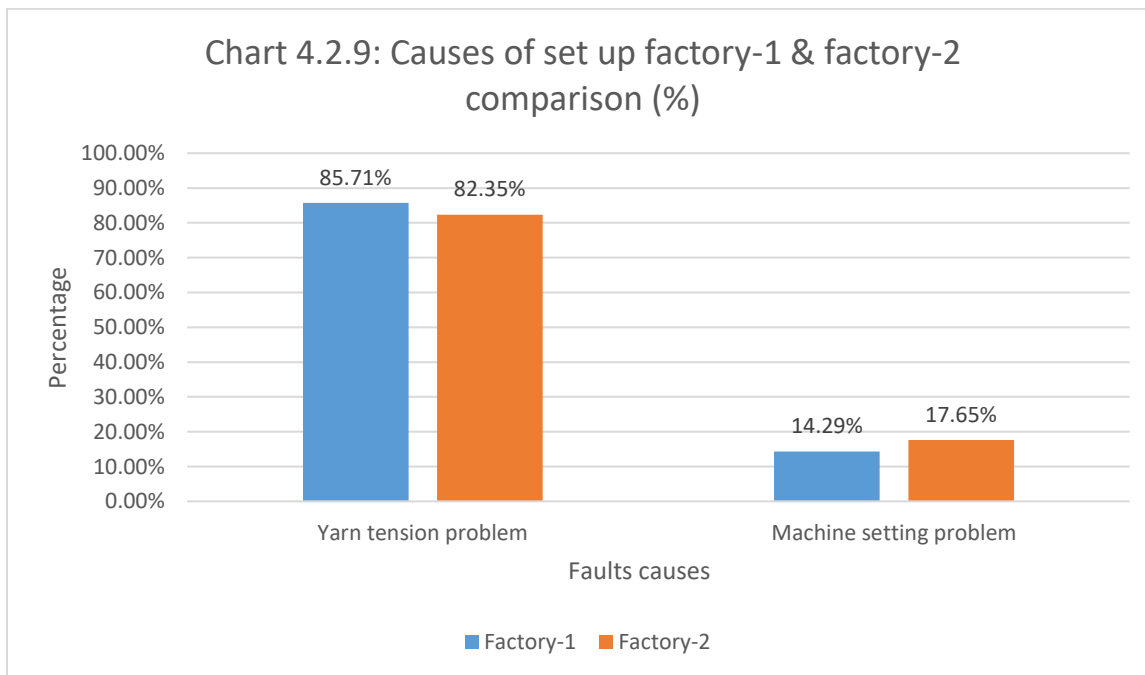


Chart 4.2.9 the graph shows that faults percentage of causes of set up in gray fabric. Here indicate vertical axis is percentage and horizontal axis is faults of causes of set up. Here the blue color

“Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments” represents factory 1 and red color represents the factory 2. And we have also try to show that comparison of both factory set up causes percentage. Here we see in this graph Yarn tension problem factory 1 is 85.71% and factory 2 is 82.35%. And also Machine setting problem for create set up factory 1 is 14.29% and factory 2 is 17.65%.

### 4.3 Comparison of finished fabric fault

#### 4.3.1 Comparison factory 1 and factory 2

Here the faults comparison table of finished fabric in factory-1 and factory-2. Finished fabric inspection is different from grey fabric. We are taking five inspection reports and then identify the faults of finished fabric. Here we are taking both factory inspection report and then make this table. This table we have shows that different types of faults in both factory and doing there comparison is given bellow.

4.3.2: Table of finished fabric fault comparison

Report No	Hole		Oil spot	Spot/dust	Dyeing spot	Missing yarn	Yellow spot	Set up	Yarn contamination	Loop	Crease mark
	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2	F-1	F-2	F-1
1	21	25	5	27	6	2	25	14	70	3	5
2	10	23	15	24	9	0	45	7	94	5	16
3	10	37	12	25	10	3	25	11	0	2	16
4	15	34	9	30	4	5	19	17	24	7	5
5	40	25	3	19	8	0	34	5	30	4	14
Total	96	144	44	125	37	10	148	54	227	21	56
Faults (%)	15.79%	38.92%	7.24%	33.78%	6.08%	2.70%	24.34%	14.59%	37.33%	5.67%	9.21%

Table 4.3.2 shows comparison of factory 1 and factory 2, Total number of fault and percentage of faults. Here the factory 1 and factory 2 inspection report is totally different. Firstly we compare the hole in finished fabric factory 1 collected total 96 hole and the percentage is 15.79% and factory 2 collected total 144 hole and its percentage is 38.92%.

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And also, total oil spot in factory 1 is 44 and percentage is 7.24% and here the factory 2 is different there counted total spot/dust is 125 and percentage is 33.78%.

Factory 1 total dyeing spot is 37 and percentage is 6.08% and here too different factory 2 total missing yarn is 10 and percentage is 2.70%.

Factory 1 total yellow spot is 148 and its percentage is 24.34% and here factory 2 don't count yellow spot there counted set up. Total set up is 54 and percentage is 14.59%.

Factory 1 total yarn contamination is 227 and its percentage is 37.33% and here is different factory 2 total loop is 21 and its percentage is 5.67%.

And last one is factory 1 total crease mark is 56 and its percentage is 9.21% and here to different factory 2 total slub is 16 and its percentage is 4.32%.

In the factory 1 total fault is 608 and in factory 2 total fault is 370.

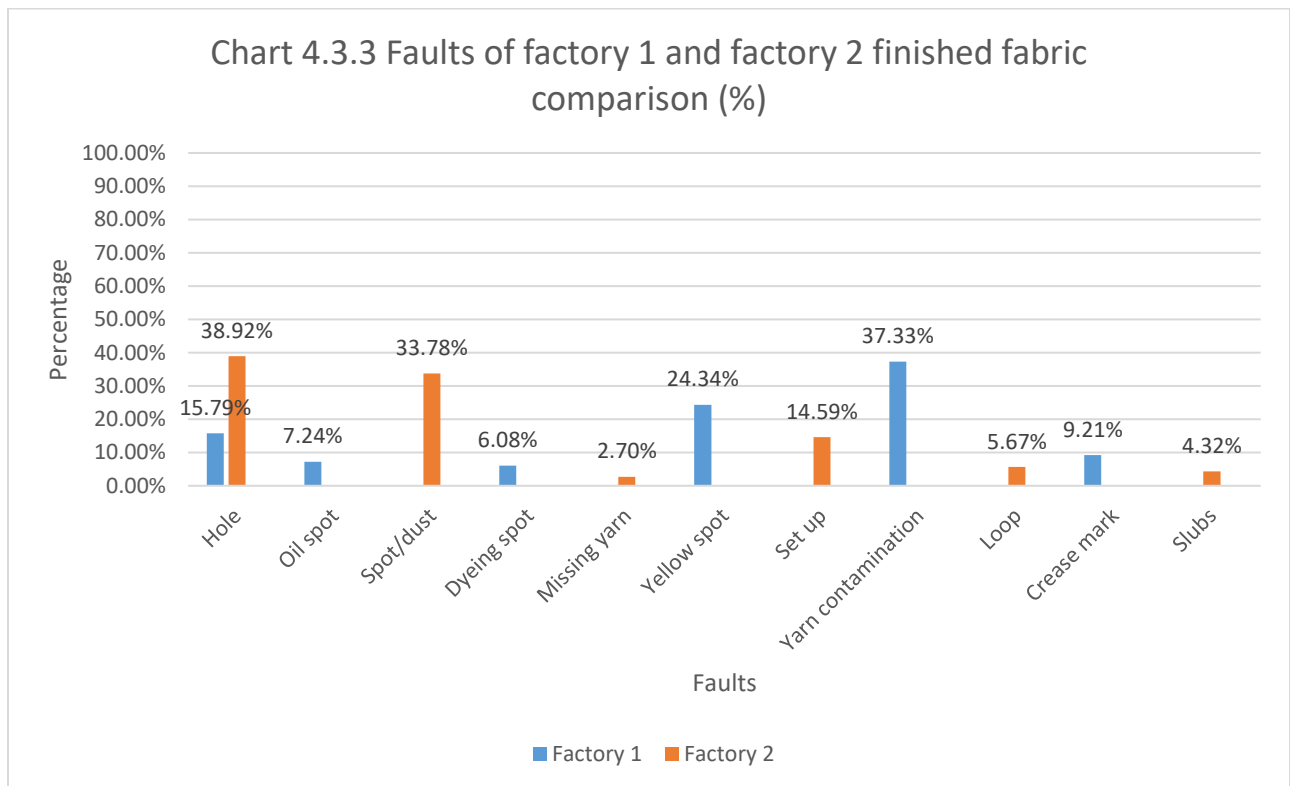


Chart 4.3.3 this graph shows that factory 1 and factory 2 finished fabric comparison percentage. Here we see that faults of hole is big different factory 1 from factory 2. Factory 1 hole percentage is 15.79%

“Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments” and factory 2 38.92%. Then from we see this graph another faults is totally different because both factory differently counts this faults here we see factory 1 oil spot percentage is 7.24% but factory 2 don’t counts this faults. That’s the way, here we see factory 2 count 33.78% spot/dust but factory 2 don’t count this faults. Same as, there other faults taken counts has done. Such as, factory 1 taken dyeing spot is 6.08% but factory 2 not taken this, factory 2 taken missing yarn is 2.70% but factory 2 not taken this. Same as, factory 1 taken yellow spot 24.34%, yarn contamination 37.33%, crease mark 9.21% but factory 2 these are not taken. And in the same way factory 2 taken set up 14.59%, loop 5.67%, slubs 4.32% but factory 1 these are not taken.

#### 4.4 Comparison of causes of finished fabric faults

##### 4.4.1 Comparison of causes of factory 1 and factory 2

This is the comparison table of causes of hole in factory-1 and factory-2. This table shows the comparison of causes of hole in both factory. How much faults of any causes are both industry individually and also there percentage is given bellow.

4.4.2: Table of causes of hole comparison

Report No	Causes of hole					
	Knitting hole		GSM hole		Chemical hole	
	F-1	F-2	F-1	F-2	F-1	F-2
1	10	9	8	14	3	2
2	6	16	4	7	0	0
3	5	18	4	17	1	2
4	9	17	6	16	0	1
5	27	11	9	9	4	5
Total	57	71	31	63	8	10
Faults (%)	57.37%	49.31%	32.29%	43.75%	8.33%	6.94%

Table 4.4.2 shows comparison of causes of hole. This table we have to shows in different causes of hole such as knitting hole, GSM hole, chemical hole. We have try to shows there comparison. We have collect five inspection report factory 1 and factory 2 and individually identify how many faults for this reason. Here we see factory 1 total knitting hole 57 and its percentage is 57.37% and factory 2 total knitting hole is 71 and its percentage is 49.31%. Then factory 1 total GSM hole is 31 and its percentage is 32.29% and factory 2 total GSM hole is 63 and its percentage is 43.75%. and last one is chemical hole factory 1 total chemical hole is 8 and its percentage is 8.33% and factory 2 total chemical hole is 10 and its percentage is 6.94%.

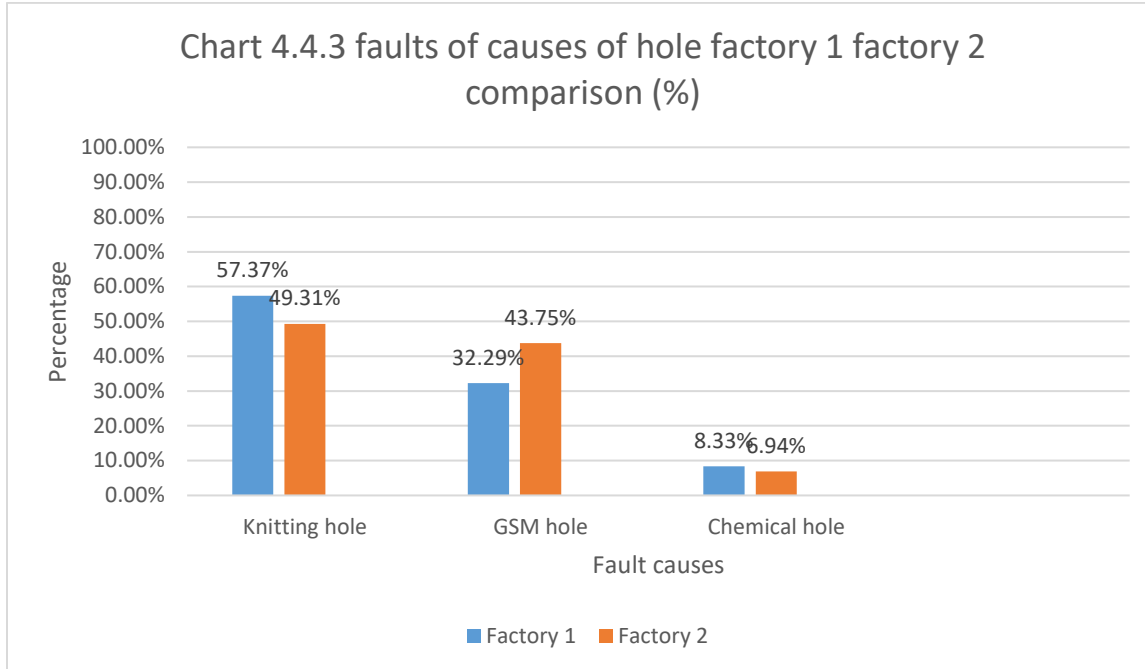


Chart 4.4.3 this graph show faults of causes of hole percentage comparison. Here we have to shows the factory 1 knitting hole percentage is 57.37% and factory 2 percentage is 49.31%. Then factory 1 GSM hole is 32% and factory 2 is 43.75%. and then factory 2 chemical hole is 8.33% and factory 2 is 6.94% . Here factory 1 and factory 2 chemical hole percentage deferent is very close.



## **Chapter – 5**

### **Conclusion**

## **Conclusion:**

In this thesis we discuss about the grey fabric and finished fabric inspection and also we discuss about the comparison between grey fabric and finished fabric inspection. And the paper is concluded as –

- Here we see that the factory 2 hole (60) is more than factory 1 (49). The reason is, 2nd factory have huge machine setting problem more than factory 1. For this reason factory 2 hole is more.
- Oil spot is a common problem for all of garments. Factory 1 have more oil spot than factory 2. In Factory 1 the oil spot is created from machine parts. This problem is more in factory 2.
- In factory 2 have more fly contamination problem than factory 2. Because in factory 2 they have yarn mixing problem. Of one yarn is mixed to another yarn then create fly contamination.
- Slub is a problem of spinning. In factory 1 this problem is more than factory 2. In factory 1 yarn quality is not so good. For this reason they facing large amount of this problem.
- Setup problem is so rare problem. In factory 1 have more setup than factory 2. Factory 1 have many yarn tension problem. For this reason is fault is huge in factory 1.

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

## References

1. <http://www.apparel-merchandising.com/2012/03/fabric-inspection-4-point-%20system.html>
2. <http://texhelpline.blogspot.com/search/label/Fabric%20inspection%20Faults%20and%20their%20causes>.
3. <http://www.slideshare.net/sheshir/knitted-fabric-faults-and-their-?related=1>
4. <http://textilelearner.blogspot.com/2013/11/inspection-of-fabric-major.html>
5. <https://www.onlineclothingstudy.com/2012/08/how-to-use-4-point-system-in-fabric.html>

# Comparative Study on Grey and Finished Fabric Inspection to Ensure Quality Garments

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