



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

## **Faculty of Engineering**

**Department of Textile Engineering**

### **Thesis Report On Study on fabric and sewing defect of Home textile industry.**

**At**

**Zaber & Zubair Fabrics Ltd. (Home Textile)  
Pagar, Tongi, Gazipur**

**Course Title: Project (Thesis)**

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## LETTER OF APPROVAL

January 20, 2021

To

The Head

Department of Textile Engineering

102, Shukrabad, Mirpur Road, 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 “Analysis of different between Before and After defects in home textile Industry” has been prepared by the student bearing ID 191-23-600,191-23-597 are completed for final evaluation. The whole report is prepared based on the proper investigation and interruption through critical analysis of empirical data with required belongings. The student were directly involved in their project activities and the report become vital to spark of many valuable information for the readers.

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

Yours Sincerely



Mst. Murshida Khatun

Assistant Professor



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## DECLARATION

We hereby declare that the work which is being presented in this report entitled, “**Thesis report on study on Different Between Before and After Defects in Home textile industry at Zaber & Zubair Fabrics Limited.**” Is original work of our own, has not been presented for a degree of any other university and all the resources of collected information for this report have been duly acknowledged.

| Name                      | ID         | Signature  |
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-The Author

**Dedication to our**

**Respected Parents & Beloved Teacher.**

# ABSTRACT

Now, one of the most important factors in the home textile sector is garment defect, which has a negative impact on actual production. This study focuses on the various forms of defects that are commonly used in the garment business. We discovered from our research that understanding the many sorts of garment defects is critical.

These faults in the home textile sector are determined by the classification of defects and the competence of an inspector to make conclusions. It will be difficult to discover problems in clothes (home tex) if you have no concept what they are, but if you know what they are, it will be simple. If somebody wishes to work in the home textile sector like us, they must be familiar with all forms of garment problems.

Garment producers are responsible for maintaining a specified Garments quality standard for every product they supply or deliver to customers. We discovered that after reading this thesis, we have a better understanding of all forms of garment defects, such as fabric defects, cutting and spreading errors, sewing defects, and finishing defects.

## TABLE OF CONTENT

|  |       |
|--|-------|
| LETTER OF APPROVAL-----                          | i     |
| DECLARATION-----                                 | ii    |
| ACKNOWLEDGEMENT-----                             | iii   |
| ABSTRACT-----                                    | iv    |
| <br>   |       |
| CHAPTER – 1 : INTRODUCTION-----                  | 1     |
| 1.1 Introduction-----                            | 2-3   |
| 1.2 History of Bangladesh garments industry----- | 3-5   |
| 1.3 Background of the study-----                 | 5     |
| 1.4 Objectives of the Study-----                 | 6     |
| 1.5 Outcome-----                                 | 6     |
| 1.6 Important and Scope of the study-----        | 6     |
| 1.7 Limitations of the study-----                | 7     |
| <br>   |       |
| CHAPTER – 2: LITERATURE REVIEW-----              | 8     |
| 2.1 Sewing-----                                  | 9     |
| 2.2 Sewing Machine-----                          | 10    |
| 2.3 Sewing Machine History-----                  | 10-11 |
| 2.4 Classification of Sewing Machine-----        | 11-12 |
| 2.5 Different Parts of Sewing Machine-----       | 13-14 |
| 2.5.1 Lower part of Sewing Machine-----          | 14    |

|  |           |
|--|-----------|
| 2.5.2 Needle-----  | 15        |
| 2.6 Needle Identification-----   | 15        |
| 2.6.1 Impact of Wrong Needle Selection-----                                      | 15        |
| 2.6.2 Sewing Thread-----   | 16        |
| 2.6.3 Sewing Thread which are used in garments-----                              | 16-17     |
| 2.6.4 Characteristics of Sewing Thread-----                                      | 17        |
| 2.7 Before defect of home textile-----   | 17        |
| 2.7.1 Four point system -----  | 18        |
| 2.7.2 Defect Classification-----   | 18        |
| 2.7.3 Common before faults are mention bellow with their cause and remedies----- | 20-26     |
| 2.7.4 After defects mention bellow with their causes and remedies -----          | 26-39     |
| <b>CHAPTER-3: MATERIALS AND METHODS-----</b>                                     | <b>40</b> |
| 3.1 Methodology-----   | 41        |
| 3.2 Data Collection-----   | 41        |
| 3.3 Before defects in home textile hourly repot-----                             | 41-42     |
| 3.4 After defects in home textile hourly report-----                             | 43-44     |
| <br>   |           |
| <b>CHAPTER- 4: RESULT AND DISCUSSION-----</b>                                    | <b>46</b> |
| 4.1 Zaber & Zubair Fabrics Ltd. Total working result-----                        | 47        |
| 4.2 Overall result-----  | 48        |
| 4.3 Pie chart of before and after defects percentage-----                        | 48        |
| 4.4 Discussion-----  | 48        |
| <br>   |           |
| <b>CHAPTER-5: CONCLUSION-----</b>  | <b>49</b> |
| 5.1 Conclusion-----  | 50        |
| Reference-----   | 51        |
| <br>   |           |
| <b>TABLE:</b>  |           |
| Table no. 01 defect and penalty point -----                                      | 18        |

|  |           |
|--|-----------|
| <b>Table no. 02 Defect Category</b> -----                                | <b>27</b> |
| <b>Table no. 03 Before inspection report for IKEA buyer hourly</b> ----- | <b>43</b> |
| <b>Table no. 03 After inspection report for IKEA buyer hourly</b> -----  | <b>44</b> |
| <b>FIGURE:</b>   |           |
| <b>Fig: 01 Picture of sewing machine</b> -----                           | <b>9</b>  |
| <b>Fig: 02 Different parts of sewing machine</b> -----                   | <b>13</b> |
| <b>Fig: 03 Lower parts of sewing machine</b> -----                       | <b>14</b> |
| <b>Fig: 04 Picture of sewing thread</b> -----                            | <b>16</b> |
| <b>Fig: 05 Back stitch missing</b> -----                                 | <b>27</b> |
| <b>Fig: 06 Open seam</b> -----   | <b>28</b> |
| <b>Fig: 07 Gathering sewing</b> -----                                    | <b>29</b> |
| <b>Fig: 08 Stitch skipped</b> -----                                      | <b>30</b> |
| <b>Fig: 09 Tension tight or loose</b> -----                              | <b>30</b> |
| <b>Fig: 10 Uncut thread</b> -----  | <b>31</b> |
| <b>Fig: 11 Hanging thread</b> -----                                      | <b>31</b> |
| <b>Fig: 12 Puckering</b> -----   | <b>32</b> |
| <b>Fig: 13 Less SPI</b> -----  | <b>33</b> |
| <b>Fig: 14 Sized mixed</b> -----   | <b>33</b> |
| <b>Fig: 15 Damaged button</b> -----                                      | <b>34</b> |
| <b>Fig: 16 Bad packaging</b> -----                                       | <b>34</b> |
| <b>Fig: 17 Hole</b> -----  | <b>35</b> |
| <b>Fig: 18 Foreign yarn</b> -----  | <b>36</b> |
| <b>Fig: 19 Insects on fabric</b> -----                                   | <b>36</b> |
| <b>Fig: 20 Wrong label</b> -----   | <b>37</b> |
| <b>Fig: 21 Wrong dimension packaging</b> -----                           | <b>37</b> |
| <b>Fig: 22 Oil spot</b> -----  | <b>38</b> |
| <b>Fig: 23 Wrong direction</b> -----                                     | <b>38</b> |
| <b>Fig: 24 Loose thread</b> -----  | <b>39</b> |





# **CHAPTER – 1**

## **INTRODUCTION**

## 1.1 Introduction:

In Bangladesh's fast rising economy, the textile and garment sectors constitute a single source of growth. Textile and garment exports account for the majority of foreign exchange earnings. Textiles, apparel, and ready-made garments (RMG) exports accounted for 77% of Bangladesh's total goods exports in 2002.

Bangladesh's gross domestic product (GDP) was estimated at US\$6.29 billion by the World Bank in 1972, and it rose to \$368 billion by 2021, with \$46 billion coming from exports, 82 percent of which were ready-made clothes. Bangladesh was the world's second-largest clothing producer in 2016, trailing only China. Bangladesh is the world's second-largest supplier of fast fashion brands from Western countries. Bangladesh is the world's second-largest apparel supplier of western fast fashion labels, with 60% of export contracts going to European clients. Sixty percent of western brands' export contracts are with European buyers, thirty percent with American buyers, and ten percent with foreign buyers. Only 5% of textile plants are held by foreign investors, with local owners controlling the majority of production. [5] The RMG business generated US\$28.14 billion in fiscal year 2016-2017, accounting for 80.7 percent of total export earnings and 12.36 percent of GDP; the industry was also adopting green manufacturing methods.

The textile sector in Bangladesh has been at the center of the trade vs. assistance controversy. It is maintained that encouraging Bangladesh's garment sector as an open trade system is a far more effective type of help than foreign aid. Quotas under the WTO's Agreement on Textiles and Apparel (ATC) and Everything But Arms (EBA), as well as the US's 2009 Tariff Relief Assistance in the global clothing market, have helped Bangladesh's ready-made garments (RMG) industry entrepreneurs. Despite accounting for 45 percent of all industrial jobs in Bangladesh in 2012, the textile industry only provided 5% of the country's total national income. The Bangladeshi textile industry and its purchasers have come under scrutiny after a series of building fires and collapses that resulted in the deaths of thousands of workers. Many people are concerned about potential worker safety infractions and are lobbying the government to raise safety regulations. The involvement of women in the issue is essential because some believe that the textile sector has provided important economic security for women, while others contend that women are disproportionately textile workers and thus disproportionately victims of such accidents. Although steps have been taken to improve working conditions, many people believe that more can be done. [8] Despite the challenges, Bangladesh's clothing manufacturing sector could reach 60% value addition by relying on strong backwardly linked yarn-fabric making facilities directly from imported raw cotton, achieving a new high of US\$30.61 billion in exports in fiscal year 2018. Advancing is most likely one of the most important aspects of the clothes industry. This transaction will never be fulfilled until it is promoted. From buyer to creation, the merchandiser plans or manages everything. For all of the tasks, he is present. When a merchandiser receives a request, he considers everything he'll need to execute the request and devises a good plan of action to do

so. can complete the shipping in a timely manner while keeping the buyer's requirements in mind At the assembly plant level, the merchandiser creates all of the requests for decorations such as surface need, sewing string, get, washing if necessary, holder, polybag, shipment game-plan, and so on. In general, merchandiser pick up appears to be on the ground.

Rational knowledge is particularly important for material structure and advancement guiding. Reasonable knowledge allows us to be talented and faultless in applying theoretical material to real-life situations.

We study about weave, garment merchandising, garment age, quality control, and the cutting and finishing zone operation. We tried our hardest to feel at ease with this project, which will help us live a more realistic life in the future.

## **1.2 Historical background of the Garment Industry:**

Once Bangladeshi textile, particularly muslim and jamdani cloth, gained international acclaim, it was employed as the sumptuous clothing of royalty in Europe and other places. Our fabric industry were not developed at all by the British authorities in India. Instead, they destroyed them and imported English textiles. The Textile Industry In Bangladesh, large-scale production of readymade garments (RMG) in organized factories is a new phenomena. Individual tailors manufactured clothing according to requirements set by individual customers who supplied the fabrics until the early 1960s. Except for children's apparel and men's knit underwear (genji), Bangladesh's domestic market for readymade garments was almost non-existent until the 1960s. The RMG business in Bangladesh has been developed predominantly as an export-oriented industry since the late 1970s, despite the fact that the local market for RMG has been rapidly expanding due to increased personal disposable income and a shift in lifestyle. In terms of employment, foreign exchange profits, and GDP contribution, the sector has rapidly grown in prominence. Most notably, the RMG sector's rise resulted in a group of entrepreneurs that built a robust private sector. A significant number of these entrepreneurs are women. The Baishakhi Garment, one of the earliest export-oriented garment manufacturers, was founded in 1977 by a woman entrepreneur. In the RMG industry, many women hold senior executive roles. During the last 15 years or so, the RMG industry, which is entirely export-oriented, has witnessed amazing growth. Only 9 export-oriented garment manufacturing units existed in 1978, with export earnings of less than one million dollars. Some of these factories were quite small, producing clothing for both home and international markets. Reaz Garments, Paris Garments, Jewel Garments, and Baishakhi Garments were four such small and old units.

The pioneer, Reaz Garments, began as a tiny tailoring shop in Dhaka called Reaz Store in 1960. For approximately 15 years, it only served domestic markets. It changed its name to M/s Reaz Garments Ltd. in 1973 and expanded its activities into the export market in 1978, selling 10,000 men's shirts worth French Francs 13 million to a Paris-based corporation. It was Bangladesh's first direct exporter of clothing. Desh Garments Ltd was founded in 1979 as the first non-equity joint-venture in the garment sector. Desh worked with Daewoo Corporation of South Korea on technical

and marketing issues. It was also the first corporation that was solely focused on exports. It had roughly 120 operators, including three women who had been trained in South Korea, and it began production in early 1980 with these skilled workers. In 1980, Youngones Corporation, a South Korean company, launched the first equity joint-venture garment factory with Trexim Ltd., a Bangladeshi company. The new firm, Youngones Bangladesh, was founded with 51 percent of the equity supplied by Bangladeshi partners. In December 1980, it shipped its first shipment of padded and non-padded jackets to Sweden. Only 47 garment manufacturing units existed by the end of 1982. In 1984-85, there were 587 garment factories, which marked a turning point. In 1999, there were around 2,900 RMG factories. Bangladesh is now one of the world's top 12 clothing exporters, ranking sixth in the US market and fifth in the EU market for T-shirts. During the 1990s, the industry expanded at a rate of around 22% per year.

The growth of the industry in terms of number of units and employment generation is shown in table - 1 below:

Table 1: Growth of the industry and Employment:

| Year    | Number of Garment Industries | Employment in Million Workers |
|---------|------------------------------|-------------------------------|
| 1983-84 | 134                          | 0.040                         |
| 1988-89 | 759                          | 0.317                         |
| 1993-94 | 1839                         | 0.827                         |
| 1998-99 | 2963                         | 1.500                         |
| 2003-04 | 3957                         | 2.000                         |
| 2008-09 | 4825                         | 3.100                         |

There are currently over 5000 garment industries in Bangladesh, with Dhaka accounting for 75% of them. The remainder are located in Chittagong and Khulna. These businesses have employed fifty thousand people, the majority of whom are uneducated rural women. This industry accounts for almost 76 percent of our export earnings.

The country's RMG sector, to a creditable extent, has relieved Bangladesh of its overpopulation-related unemployment burden by supplying the most jobs, second only to agriculture,

transportation, and commerce and industry. This industry has helped the underserved, significantly changing the country's socioeconomic situation. Such empowerment and employment only served to improve awareness of children's education, health safety, population control, and catastrophe management. It's the end of an era. It is an epoch making event in the history of Bangladesh.

### **1.3 Background of the study:**

Without using a sewing measure, the house textile is totally split. Regardless, there are a variety of issues that arise from time to time, and as a result, stitching is abandoned. Nonappearance of proper ability, machine agitation impact, and incorrect machine change are some of the explanations. Quality, productivity, cost, and capability have all suffered as a result of these obscurities. As a result, quality norms are a part of an organization's standard working method, item improvement, and assembling organization. The association's rules reflect the quality of excellence it aspires to. The primary goal of using a quality standard is to ensure that items and lines of things are consistent. Because of the necessity to maintain the status quo or the natural order of things, it is necessary to recognize deficiency and find an acceptable solution to decrease the blunder. Thing control plot was utilized in the evaluation as part of the framework control list. The quick region of a sewing flaw is enormous in terms of expanding the relationship between outstanding quality and effectiveness. In the aftermath of sewing, flaws have a negative impact on the item's costs. There's a difference between spotting a fault and avoiding crease removal and resewing before completing certain jobs. This discussion is based on a modern structure in which the head serves as the primary line of important worth control execution. Furthermore, exceptional sewing stations lack a head to perform in the critical line quality control role. Finally, a disfigurement assessment method was completed, and a pleasing suggestion was discovered.

### **1.4 Objectives of the Study:**

This thesis paper examines the causes of before and after home textile flaws, as well as methods for preventing thread breakage.

- a. To learn about a suitable quality management framework.
- b. To devise a new quality control approach.
- c. To learn more about the malformations of household textiles.

Using a specific solution to expel or minimize deformities.

- a. To understand the causes of string malformations and how to treat them.
- b. To put a particular setup in place for string deserts.
- c. To establish a rule that will assist a specialized individual in a crucial sector.
- d. To demonstrate how specialized knowledge—and by what means—can be used to improve creating skills.

### **1.5 Outcome:**

Sewing strategy is probably one of the most important stages in house textile adventures' labor intensive moment parts. Defects in this system have a detrimental impact on the item's quality and efficiency, as well as increasing the cost of production. The goal of this evaluation is to see if the woven wear age methodology is even out in a woven wear creation adventure, as well as to see which techniques have the most severe sewing speed flaws in the sewing office, and to provide recommendations for enhancing quality control.

### **1.6 Important and Scope of the study:**

- To break down the sorts of deficiencies in sewing area.
- To assume a perfect job in increment or decline generation ability.
- To compute every hour blames in a line effectively.
- To limit sewing issue during generation.
- It gives learning why sewing flaw increment or decline.
- To keep away from imperfections on articles of clothing and spare time.

### **1.7 Limitations of the study:**

- Limitation of time to research this topic.
- Limitation of primary data sources.
- Limitation of accurate data.
- Input and output problem.
- Respondent unwillingness.
- Changing the style and arrangement.



**CHAPTER-2**  
**LITERATURE REVIEW**

## 2.1 Sewing:

Sewing is the art of making stitches using a sewing needle and thread to fasten or connect objects. Sewing is one of the oldest textile crafts, dating back to the Paleolithic period. Archaeologists believe Stone Age humans throughout Europe and Asia sewed fur and leather clothes with bone, antler, or ivory needles and "thread" formed of various animal body parts such as sinew, catgut, and veins before the creation of spinning yarn or weaving fabric.

Sewing has been done by hand for thousands of years. The introduction of the sewing machine in the 19th century and the growth of computerization in the 20th century resulted in mass production and export of sewn goods, yet hand sewing is still done all over the world. Fine hand stitching is a feature of high-quality tailoring, haute couture fashion, and custom dressmaking, and is pursued as a means of creative expression by both textile artists and enthusiasts. [required citation]

The word "sewing" was first recorded in the fourteenth century.



**Figure 1:** Picture of sewing machine

## **2.2 Sewing Machine:**

Sewing machines are machines that utilize thread to sew cloth and other materials together. During the first Industrial Revolution, sewing machines were designed to reduce the quantity of manual sewing labour in the apparel industry. The sewing machine has substantially enhanced the efficiency and production of the clothing industry since its development in 1790, which is commonly attributed to Englishman Thomas Saint.

Individual objects are sewn on home sewing machines employing a single stitch type at a time. The stitching process has been automated in modern sewing machines so that the cloth flows in and out without the hassle of needles, thimbles, and other hand sewing instruments. Early sewing machines were powered by a foot-operated treadle mechanism or by continuously spinning a handle. Later on, devices that were powered by electricity were introduced.

Industrial sewing machines, by contrast to domestic machines, are larger, faster, and more varied in their size, cost, appearance, and task.

## **2.3 Sewing Machine History:**

The history of the sewing machine is filled with allegations, unsuccessful attempts, and at least one major scandal. It's an amazing narrative that shows the seam-ingly modest sewing machine ruffled more than a few feathers in its existence, from nearly avoiding death to patent court challenges.

A 20,000 year old art form

Without the creativity of hand sewing, the history of the sewing machine would be incomplete. People began sewing by hand approximately 20,000 years ago, with the first needles made of bones or animal horns and thread made of animal sinew. The natural development of wanting to enhance sewing processes and make it less tedious is explained by our imaginative instinct. As a result of the Industrial Revolution in Europe in the 18th century, the necessity to reduce hand stitching in factories became critical.

## **1790: The First Detailed Design**

The origins of the sewing machine can be traced back to this point. The first sewing machine was created by Thomas Saint, an English cabinet builder. The patent specified a machine for leather and canvas that was operated by a hand crank. Nobody knows if Saint created a prototype, but the patent drawings were discovered in 1874 by English engineer William Newton Wilson. He made a copy to prove that it worked because they were so detailed.

## **1830: The First Successful Sewing Machine**

Joy! We now have a working sewing machine, 40 years after Thomas Saint initially drew and described a sewing machine. A French tailor, Barthelemy Thimonnier, designed a machine that created a chain stitch by using a hooked needle and one thread.

### **2.4 Classification of Sewing machine:**

There are two types of sewing machines by According to operating system they are available in the garments industry. They are given below:

- A. Electrically operated sewing m/c
- B. Manually operated sewing m/c

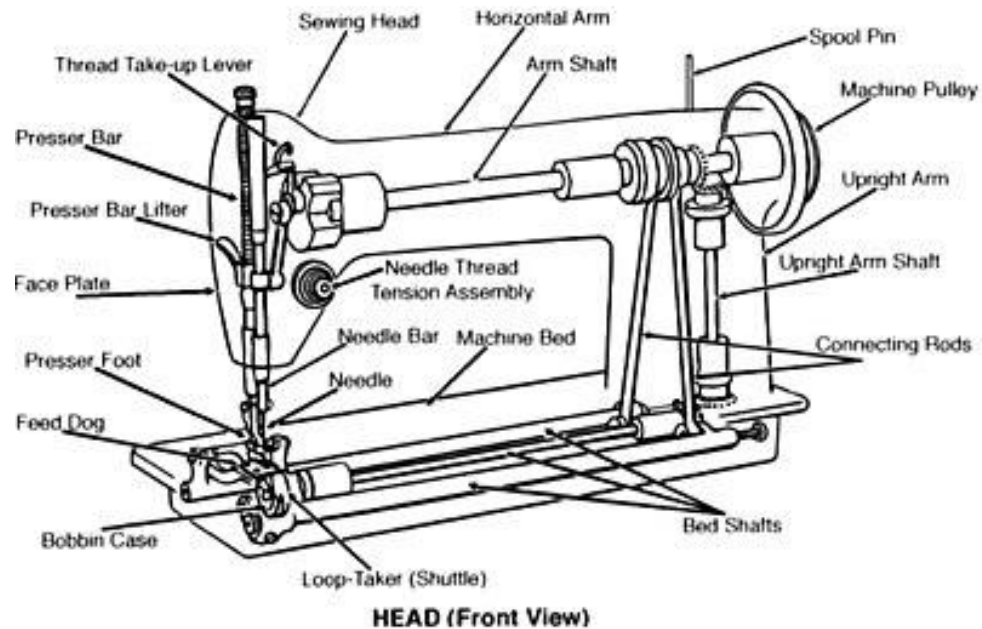
There are various types of Industrial sewing machines is:

1. Bar tack sewing m/c (with automatic thread trimmer)
2. Bias tape cutting m/c
3. Blind stitch sewing machine
4. Button attaching machine
5. Button covering stitch belt loop making m/c (Kansai m/c)
6. Button hole m/c (for woven fabric)
7. Button hole sewing m/c (for knit fabric)
8. Chain stitch sewing machine
9. Collar and cuff turning and blocking machine

10. Double chain stitch m/c (double needle with reserve feed)
11. Double chain stitch sewing m/c (4- needle elastic inserting m/c)
12. Double chain stitch sewing machine (4- needle short)
13. Feed of the arm (double chain stitch m/c, 3-needle)
14. Hemstitch machine for pant
15. Interlock m/c (twin needle, 5-thread over lock m/c)
16. Label/elastic inserting machine
17. Lap seaming m/c (for back tape attaching)
18. Linking machine
19. Lock stitch m/c (1-needle with vertical trimmer wiper & reverse feed)
20. Lock stitch m/c (2-needle with split needle bar sewing)
21. Lock stitch m/c (single needle sewing m/c)
22. Lock stitch m/c (single needle with automatic thread trimmer)
23. Lock stitch m/c (twin needle feed)
24. Lock stitch or plain stitch sewing machine (single needle with variable top feed with automatic thread trimmer)
25. Over edging machine
26. Over lock m/c (1-needle, 3-threads)
27. Over lock/Over edge sewing m/c (twin needle, 4-thread m/c)
28. Pin tucking machine
29. QQ loop making m/c
30. Shoulder pad-attaching machine
31. Automatic multi-needle shirring machine
32. Top & bottom cover stitch flat lock machine (cylinder bed and flatbed)
33. Top and bottom cover stitch flatbed m/c (3-needle)
34. Zigzag lock stitch sewing machine (1-needle)

## 2.5 Different Parts of Sewing Machine:

The upper part of sewing machine carrying the parts is pointed bellows according



**Fig 02:** Different parts of sewing machine

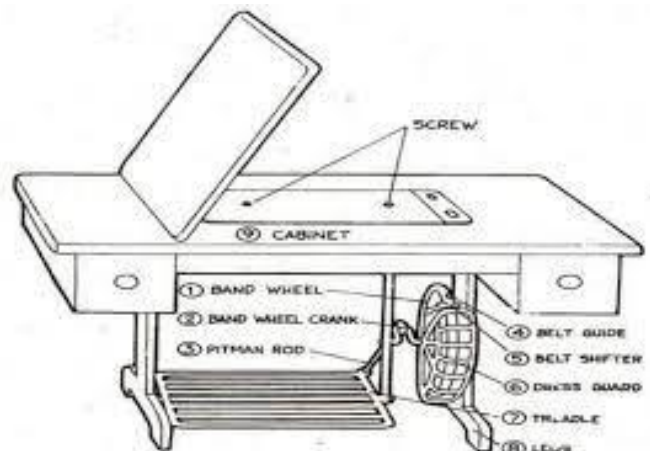
1. Arm
2. Arm shaft
3. Horizontal Arm
4. Balance Wheel/Hand Wheel
5. Bed
6. Bobbin
7. Bobbin Case
8. Bobbin Cover
9. Bobbin Winder
10. Face Plate

11. Feed Dogs
12. Head
14. Needle bar
15. Needle Clamp
16. Pattern/Stitch selector
17. Presser Foot
18. Presser Foot Lever
19. Reverse Lever
20. Slide Plate
21. Spool Pin
22. Spool pin for bobbin winding
23. Take up Lever
24. Tension Disc
25. Thread Cutter
26. Thread Guide
27. Throat Plate or Needle Plate

### 2.5.1 Lower part of Sewing Machine:

The lower parts of sewing machine are mention below with alphabetically

1. Band Wheel
2. Band Wheel Crank
3. Pitman Rod
4. Belt Guide
5. Belt Shifter
6. Dress Guard
7. Treadle or Foot Pedal
8. Legs



**Fig 03:** Lower part of Sewing Machine

9. Cabinet

10. Screw

### **2.5.2 Needle:**

Stitching needles are used for sewing in all lengths, from the old to the new. One side of a sewing machine needle with an eye for string or yarn was highlighted for stitching purposes. A sewing needle is a long, thin device with a sharp point. Sewing needles made of bone or wood were used in the past; nowadays, they are composed of high carbon metal wire that is nickel- or 18K gold plated for use resistance. Platinum is used to make the highest-quality weaving needles. Needles have traditionally been stored in needle books or needle cases, which have evolved into an object of progress.

A number on the package represents needle estimate. The size and thickness of a needle will rise as the size number drops, according to the show. A size 1 needle, for example, will be thicker and that's only the beginning, whereas a size 10 needle will be more limited and superior.

### **2.6 Needle Identification:**

A sewing machine needle is identified with three parameters-

- System (m/c)
- Point
- Size with Number

#### **2.6.1 Impact of Wrong Needle Selection:**

**If the needle is better at that point sewing string:**

- The string can't move effectively through the needle eye.
- The string won't take position appropriately at needle long furrow. If the string is better than needle:
- May created slipped fasten as the needle can't make immaculate size or circle. If the needle is coarse than required fabric:
- Texture will be bolted odd because of huge gap.
- Crease puckering might be created on woven texture.

If the needle is better than required fabric:



- During sewing needle will be avoid and bend with the activity of throat plate.
- This bend needle will create slip fasten as the looper may not get the circles of needle string.

### **2.6.2 Sewing Thread:**

Sewing threads are specific yarns that are made and engineered to effortlessly run through a sewing machine. During the product's useful life, they make efficient stitches without breaking or getting deformed. A thread's primary purpose is to provide beauty and performance in stitches and seams.



**Figure 04:** Picture of Sewing thread

### **2.6.3 Sewing Thread which are used in garments:**

Various types of sewing thread which are widely used in garments manufacturing:

- Nylon thread
- Glassed cotton thread
- Viscose thread
- Polyester thread

- Linen thread
- PTFE thread
- Soft cotton thread
- Mercerized cotton thread
- Silk thread
- Aramid thread

#### **2.6.4 Characteristics of Sewing Thread:**

There are different key properties of sewing thread which are mentioned in the following:

- Tensile strength
- Tenacity
- Loop strength
- Loop strength ratio
- Minimum loop strength
- Elongation at break
- Stress strain curve
- Elasticity
- Shrinkage
- Abrasion resistance
- Color fastness

#### **2.7 Fabric defect of home textile:**

When we talk about a defect, we're talking about a flaw in the material's quality. Fabric flaws lower the cost of the fabric while also lowering its market value. Any anomaly in the fabric that prevents the consumer from accepting it is referred to as a Fabric Defect.

### 2.7.1 Four Point System:

Most of the apparel industry prefer Four Point rating system for determining fabric quality, and it is certified by the American Society for Quality Control (ASQC) as well as the American Apparel Manufacturers (AAMA).

The 4-Point System assigns 1, 2, 3 and 4 penalty points according to the size, quality, and significance of the defect. No more than 4 penalty points is assigned for any single flaw. A defect can be measured either length or width direction; the system remains the same. Only major errors are considered. No penalty points are assigned to minor defects.

### 2.7.2 Defect Classification:

Whenever errors are recognized during fabric inspection under 4 points system and defect must be assigned a number of points depending on the severity or length.

#### Defects and penalty points:

| Defects length                    | Points           |
|-----------------------------------|------------------|
| Up to 76 mm/3"                    | 1 (white color)  |
| More than 76mm/3' Up to 152 mm/5" | 2 (Green color)  |
| More than 152mm/5" Up to 229mm/9" | 3 (Yellow color) |
| More than 229mm/9' & holes        | 4 (Red color)    |
| Selvedge to selvedge any defect   | 4                |

**Table no: 01**

#### Points calculation in metric system:

Average points for the inspected lot are calculated from the following rules:

$$\text{Total Roll points} * 100 * 39.37$$

---

Total inspected meters \*finished width (inch)

**Fabric Grading:**

| <b>Fabric Length</b> | <b>Points</b> | <b>Grads</b> |
|----------------------|---------------|--------------|
| Per 100 Sq. meters   | Up to 10      | A            |
| ”                    | 11-20         | B            |
| ”                    | 20 More       | Reject       |

\*Only major defects are taking into account. A serious defect is any defect that would cause a final garment to be considered a second.

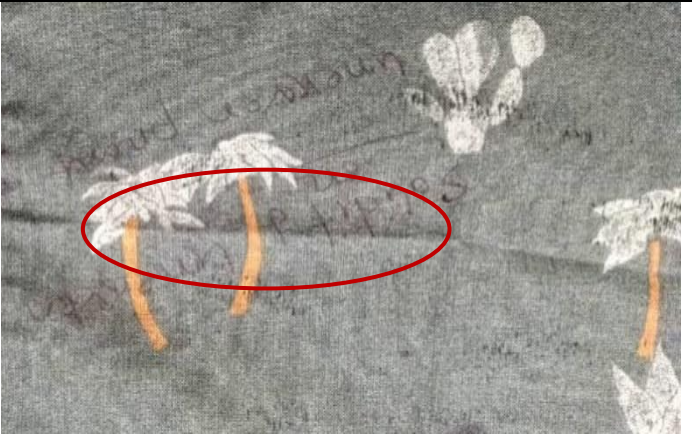
\* Upon the number and the size of the imperfections in the given yard, a maximum of 4 points can be given to one linear yard.

\* Four points can be given for each linear yard when a defect is running continuously along the length of the fabric.

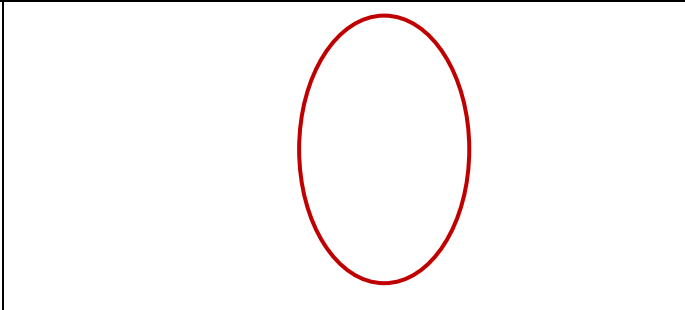
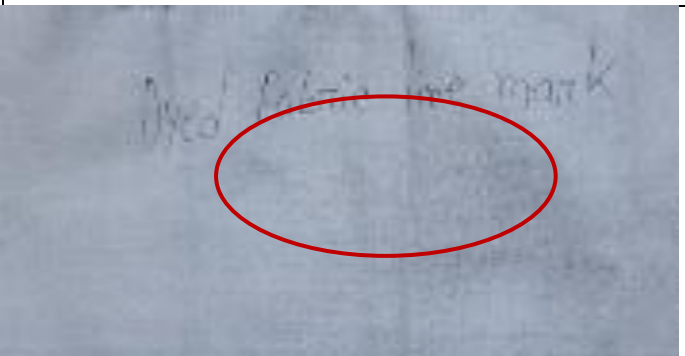



\* Hole point may be evaluated by size.

| <b>Holes and openings (the largest dimension)</b> |   |
|---|---|
| 1“ or less  | 2 |
| Over 1“   | 4 |


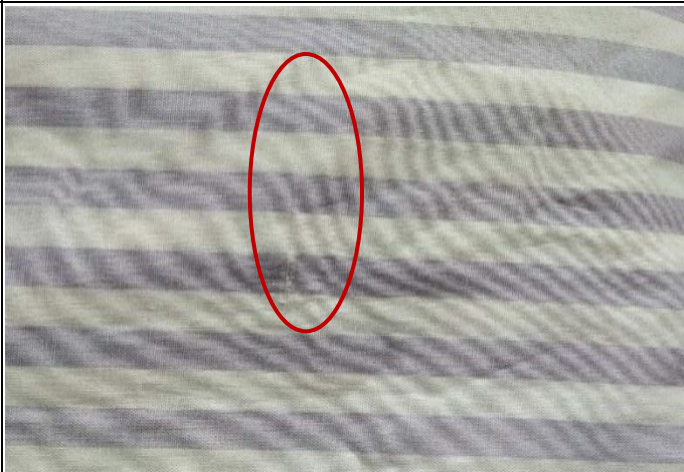

**2.7.3 Common faults are mention bellow with their cause and remedies:**


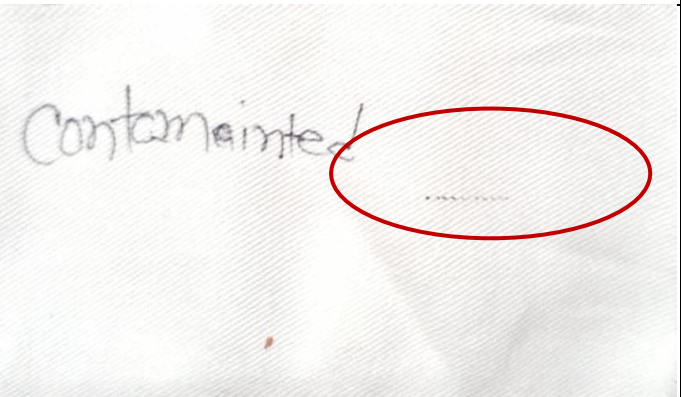
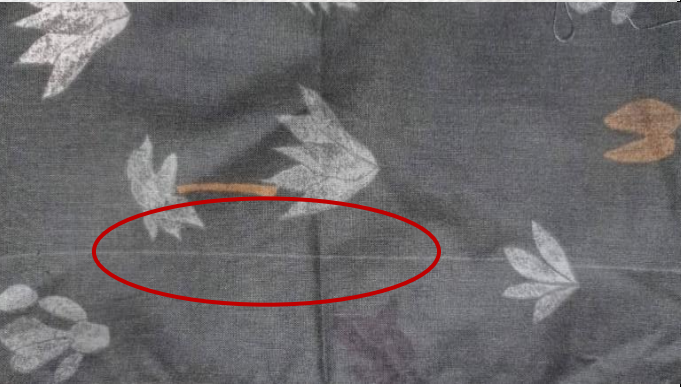
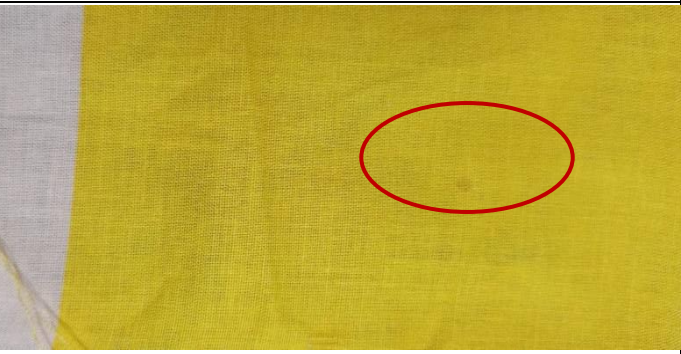
| SL. | Defect Name  | Defect image  |
|-----|--|---|
| 01  | <p><b>Uneven print</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. Uneven pressure on the printing rollers.</li> <li>2. Uneven diameter of the roller.</li> <li>3. Defective doctor blade or uneven pressure applied on the doctor blade.</li> <li>4. Use of defective printing table.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Ensure even pressure on the printing rollers and the doctor table.</li> <li>2. Central drum lapping should be set evenly.</li> <li>3. Ensure the printing rollers dimension is even throughout.</li> </ol> |  |



|                  |   |  |
|------------------|---|--|
| <p><b>02</b></p> | <p><b>Pen mark:</b></p> <p><b>Causes:</b></p> <p>1. For the negligence of the worker.</p> <p><b>Remedies :</b></p> <p>1. Verify the skilled workers.</p>                              |    |
| <p><b>03</b></p> | <p><b>Dyed fabric line mark</b></p> <p><b>Causes :</b></p> <p>1. Do not Maintain the correct pH level.</p> <p><b>Remedies :</b></p> <p>1. Maintain the correct pH level.</p>          |    |
| <p><b>04</b></p> | <p><b>Printout</b></p> <p><b>Causes:</b></p> <p>1. Improper alignment of the printing screens.</p> <p><b>Remedies:</b></p> <p>1. Ensure proper alignment of the printing screens.</p> |   |
| <p><b>05</b></p> | <p><b>Dirty spot</b></p> <p><b>Causes:</b></p> <p>1. If the machine is not cleaned well.</p> <p><b>Remedies:</b></p> <p>1. The machine must be kept clean at all times.</p>           |  |
| <p><b>06</b></p> | <p><b>Hole</b></p> <p><b>Causes :</b></p> <p>1. Mechanical faults in loom.</p>  |  |

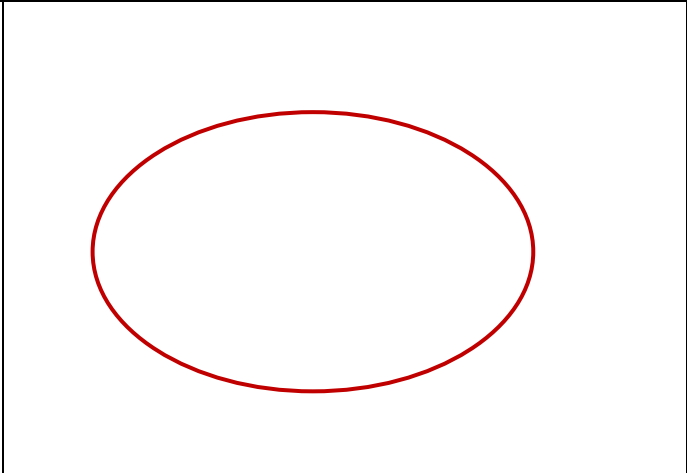
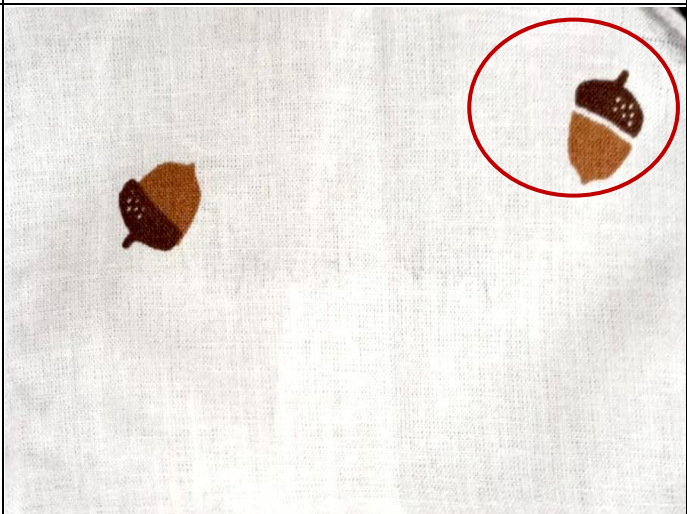




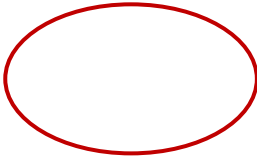
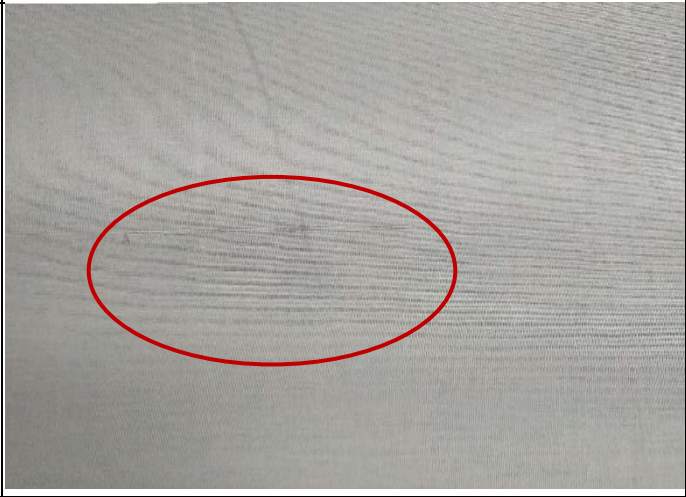
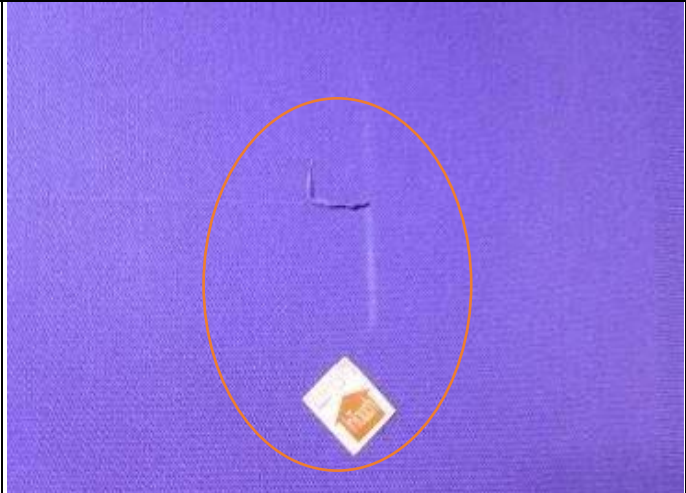
|    |  |  |
|----|--|--|
|    | <p>2. Holes form during the finishing processes due to presence of foreign matter.</p> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Rectify the mechanical faults.</li> <li>2. Take precautions weaving to avoid incidence of woven foreign matter.</li> </ol>  |  |
| 07 | <p><b>Discolor</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. Printing roller and doctor blade not properly cleaned before printing.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Properly clean the machine ,roller and doctor blade before a new lot printing starts</li> </ol> |   |
| 08 | <p><b>Miss pick</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. If operator starts a stopped machine without picking the broken weft from the shade.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. The operator should check the broken weft and start the machine.</li> </ol>      |  |
| 09 | <p><b>Insect spot</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. If there are insects on the fabric, then fold the fabric in that condition.</li> </ol> <p><b>Remedies:</b></p>   |  |

|    |  |  |
|----|--|--|
|    | <p>1. When folding, the fabric should be check thoroughly.</p>   |  |
| 10 | <p><b>Color spot</b></p> <p><b>Causes:</b></p> <p>1. Inadequate dye stuff mixing</p> <p><b>Remedies:</b></p> <p>1. Consistent dye mixing.</p>  |    |
| 11 | <p><b>Yarn contamination:</b></p> <p><b>Causes:</b></p> <p>1. If there any foreign yarn inside the machine.</p> <p><b>Remedies:</b></p> <p>1. The machine must be kept clean.</p>                    |   |
| 12 | <p><b>Line mark</b></p> <p><b>Causes:</b></p> <p>1. Improper loose thread trimming prior to printing.</p> <p><b>Remedies:</b></p> <p>1. Ensure proper thread trimming before the process starts.</p> |  |
| 13 | <p><b>Iron spot</b></p> <p><b>Causes:</b></p> <p>1. If there is any dirt on the iron.</p> <p><b>Remedies:</b></p> <p>1. Thoroughly clean the iron before ironing.</p>                                |  |

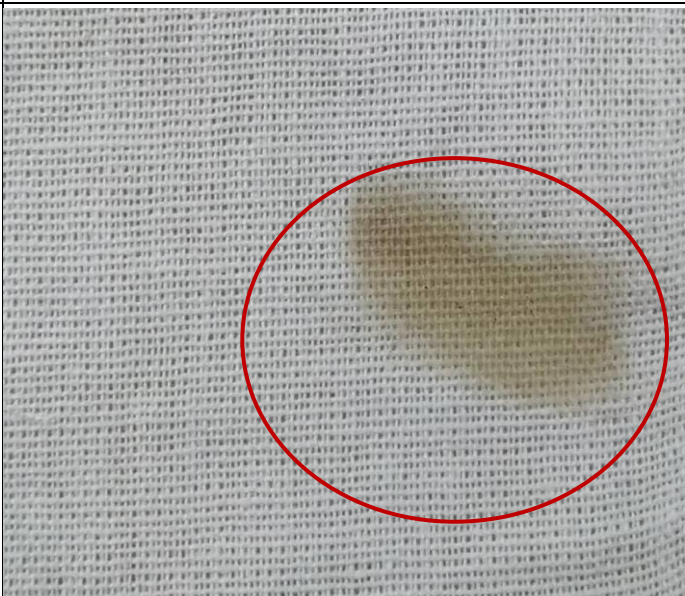






|                  |  |  |
|------------------|--|--|
| <p><b>14</b></p> | <p><b>Color line mark</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. Improper scouring</li> <li>2. Incorrect dyeing temperature and time.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Proper scouring</li> <li>2. Consistent process parameters.</li> </ol>  |    |
| <p><b>15</b></p> | <p><b>Design out</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. Fabric crease comes under the printing screen, leading to printing on the top of the crease leaving unprinted area below.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Ensure the fabric is aligned in a relaxed state before printing starts.</li> </ol> |   |
| <p><b>16</b></p> | <p><b>Color out</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Color running low in a reservoir on the printing machine.</li> </ol> <p><b>Remedies :</b></p> <ol style="list-style-type: none"> <li>1. Color running standard in a reservoir on the printing machine.</li> </ol>   |  |
| <p><b>17</b></p> | <p><b>White spot</b></p> <p><b>Causes:</b></p> <ol style="list-style-type: none"> <li>1. Improper scouring</li> <li>2. Color not dissolved consistently.</li> </ol>  |  |

|                  |   |  |
|------------------|---|--|
|                  | <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Proper scouring</li> <li>2. consistent color mixing</li> </ol>  |  |
| <p><b>18</b></p> | <p><b>Screen jam -Causes:</b></p> <ol style="list-style-type: none"> <li>1. If the density of the printing press is high.</li> <li>2. If the screen is not clean.</li> </ol> <p><b>Remedies:</b>1. The screen must be kept clean.</p>   |    |
| <p><b>19</b></p> | <p><b>Color bleed</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Too low viscosity of color paste.</li> <li>2. Too high concentration of dye stuff in print paste.</li> </ol> <p><b>Remedies :</b></p> <ol style="list-style-type: none"> <li>1. To maintain standard viscosity of color paste.</li> </ol>            |   |
| <p><b>20</b></p> | <p><b>Broken pick</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Improper condition or quality of emery roller covering.</li> <li>2. Viscose yarn from old lot or of lower strength is used.</li> </ol> <p><b>Remedies:</b></p> <ol style="list-style-type: none"> <li>1. Check the emery roller covering.</li> </ol> |  |



|                  |   |  |
|------------------|---|--|
|                  | <p>2. Ensure proper check on the quality of blended yarn.</p>   |  |
| <p><b>21</b></p> | <p><b>Oil spot</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Improper oiling or greasing of looms.</li> <li>2. Oil stained take up roller.</li> </ol> <p><b>Remedies :</b></p> <ol style="list-style-type: none"> <li>1. Rub gently to quicken the penetration of stain remover.</li> <li>2. Rubbing should be done towards the center of stain to avoid spreading.</li> </ol> |   |
| <p><b>22</b></p> | <p><b>Crease mark</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Improper fabric movement.</li> <li>2. Incorrectly set bowed expander.</li> <li>3. More cycle time.</li> </ol> <p><b>Remedies :</b></p> <ol style="list-style-type: none"> <li>1. Anti-creasing agents are used to avoid crease mark problem.</li> </ol>  |  |
| <p><b>23</b></p> | <p><b>Slub</b></p> <p><b>Causes :</b></p> <ol style="list-style-type: none"> <li>1. Undrafted portion in the yarn.</li> </ol> <p><b>Remedies:</b></p>   |  |

|  |   |  |
|--|---|--|
|  | 1. Minimize the incidence of slubs during spinning.<br>2. Clear the yarns effectively during winding. |  |
|--|---|--|

### 2.7.3 Sewing home textile defects:

In the dress industry, the phrase "disfigurement" is the most commonly used term. The defects in a piece of clothes are as obvious as rejecting it. The apparel industry is rife with many types of deformations. These flaws are dependent on the depiction of distortions and the ability of the examiner to choose in parts of clothing adventure. Performing a thorough examination of every possible distortion during a quality assessment isn't practical. As per the articles of clothing workmanship and presence of articles of clothing absconds are partitioned in the three different ways-

1. Critical defects
2. Major defects
3. Minor defects

### Defects Category

| Critical Defects              | Major defects         | Minor Defects   |
|-------------------------------|-----------------------|---|
| 1. Metal/ sharp object        | 1. Yarn contamination | Any defect is not noticeable to the customer and not visible when using it & does not affect quality. |
| 2. Bad smell                  | 2. Loose thread       |   |
| 3. Insects                    | 3. Un cut thread      |   |
| 4. Label missing              | 4. Loose Button       |   |
| 5. Sharp edge                 | 5. Open Seam          |   |
| 6. Wrong information on label | 6. Back stitch        |   |

## Table no: 02

### Sewing defect causes and remedies:

#### 1. Back stitch Missing

##### Causes:

For the lack of experience of operators and back stitching very carefully.

##### Remedies:

Sewing by an experienced operator.



Fig 05: Back stitch Missing

#### 2. Open seam

##### Causes:

1. Failure of needle to enter loop.
2. Needle diversion during sewing.
3. Thread circle disappointment during sewing.
4. Incorrect sewing strain in the needle during sewing.
5. Flagging of texture because of poor control of presser foot.
6. It's basically mechanical problem

## Remedies:

1. Check needles is embedded and adjusted effectively supplant the needle.
2. Re altering the string pressure before sewing.
3. Reset to standard and check circle arrangement through run mechanism
4. Re alters presser foot weight before sewing.



**Fig 06: Open seam**

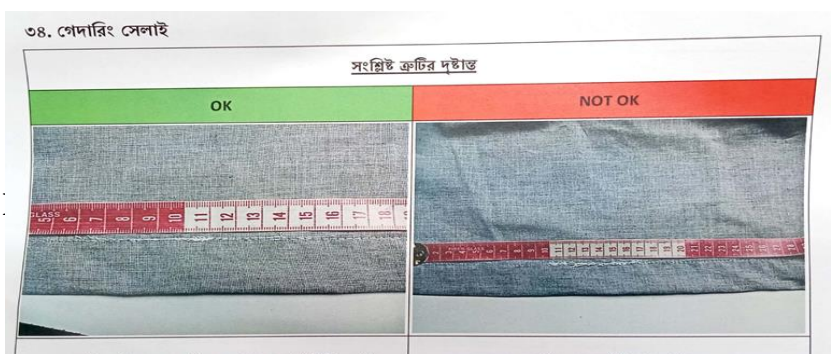
## 3. Gathering sewing

### Causes:

1. If the stitch regulator is not working properly

### Remedies:

1. The regulator must work properly



**Fig 07: Gathering sewing**

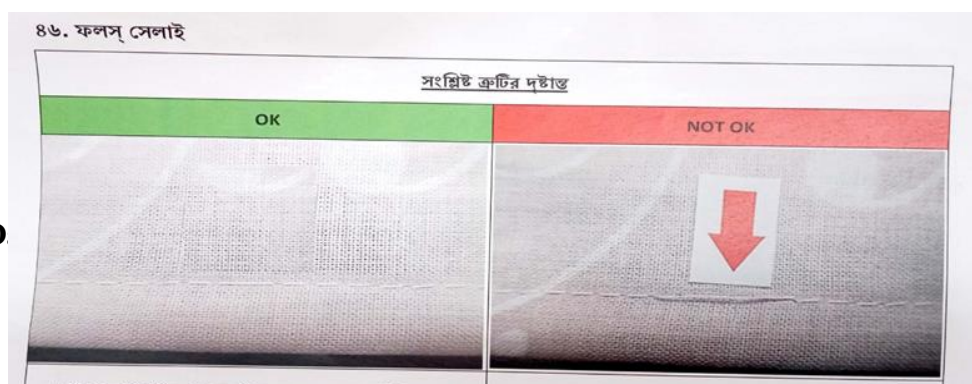
#### **4. Stitch Skipped**

##### **Causes:**

1. Failure of needle to enter circle at legitimate time
2. Deflection of needle or twisted needle
3. Thread circle disappointment because of broken needle size for string size
4. Improper sewing strain in the needle
5. Thread circle disappointment because of wrong setting of string control mechanism
6. Flagging of texture because of poor presser foot control

##### **Remedies:**

1. Check the needles is embedded and adjusted correctly.
2. Proper machine freedom and timings
3. Replace the needle
4. Change the needle size as per string size
5. Re altering the string tension
6. Reset to standard and check circle development through run mechanism
7. Re modifying the presser foot pressure





**Fig 08: Stitch Skipped**

## 5. Tension tight or loose

### Causes:

1. upper threads or lower/ bobbin threads tension is too tight or loose

### Remedies:

1. Upper threads or bobbin threads tension is maintain standard .



**Fig 09: Tension tight or loose**

## 6. Un cut threads

### Causes:

1. Missing cut it by operator or helper.

### Remedies:

1. Work very carefully.

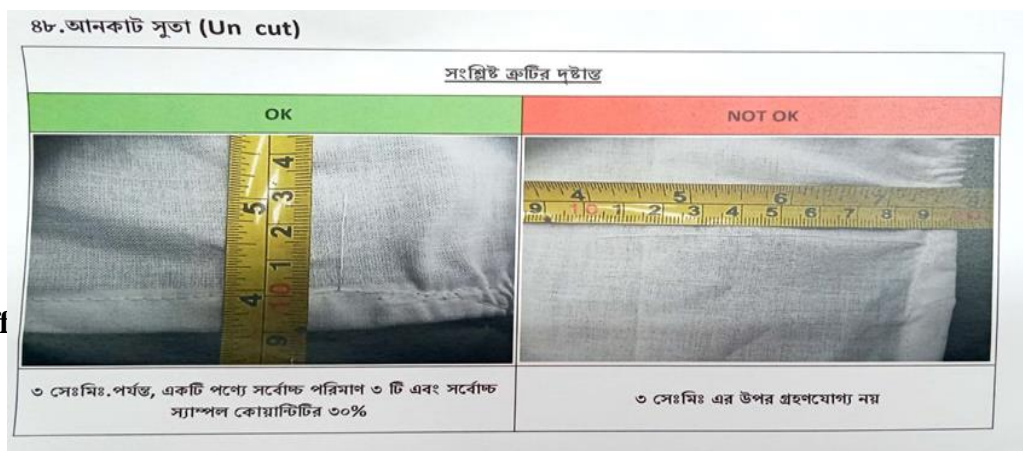




Fig 10: Un cut threads

## 7.Hanging Thread

### Causes:

Missing cut it by operator or helper.

### Remedies:

1. Work very carefully

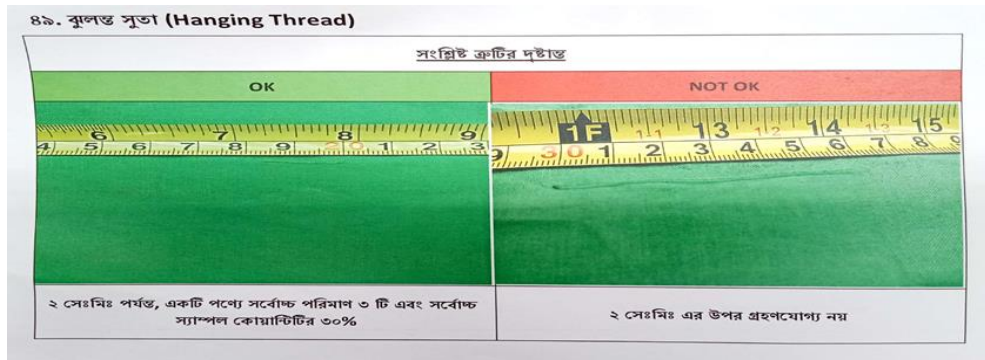


Fig 11: Hanging Thread

## 8. Puckering

### Causes:

1. Material bolstering problem
2. Uneven extending on to utilizes of texture during sewing
3. Dimensional flimsiness of the employs of texture etc

### Remedies:

1. Machine feed component must be great quality.
2. Worker training

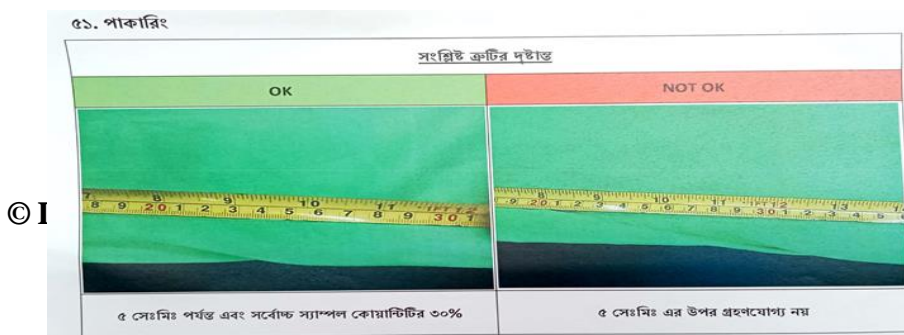


Fig12: Puckering

## 9. Less SPI

### Causes:

- 1.Improper unwinding of thread from package during sewing
2. Fraying of thread in the needle
3. Twisting of needle thread in the bottom of thread package

### Remesies:

- 1.Winding of more threads in the thread guide
2. Finer threads must be used or to be used heavy needle
3. Foam pad must be used to the bottom of threads package.

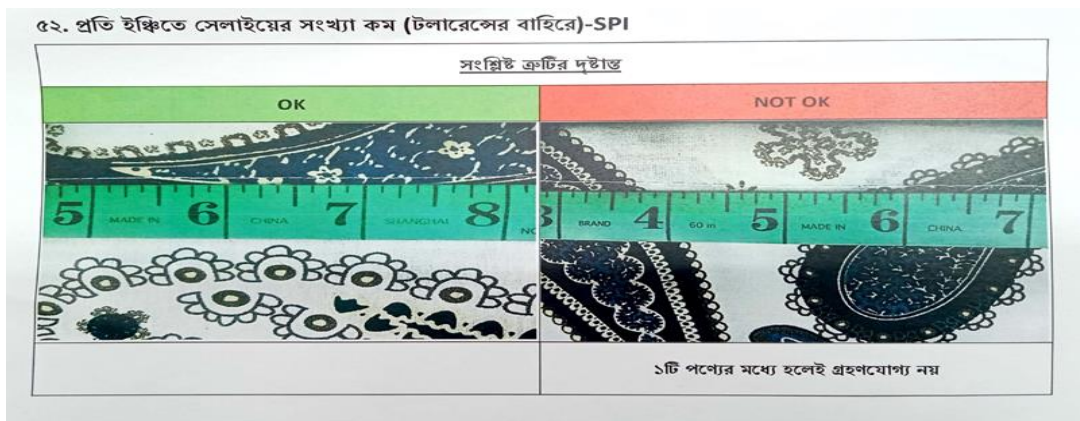


Fig13: Less SPI

## 10. Size mixed

## Causes:

1. For worker's mistake

## Remesies:

1. Working with an experienced worker.



Fig 14: Size mixed

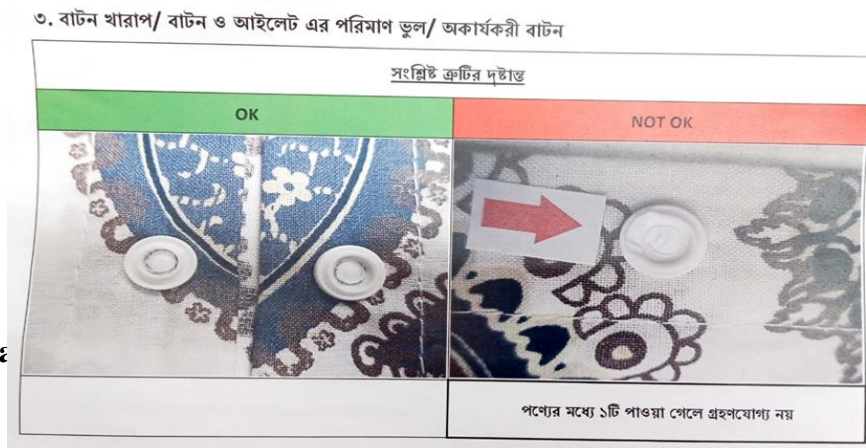
## 11. Damaged Button

### Causes:

1. Pushing with something hard materials.

### Remedies:

1. Collect buttons carefully



**Fig15: Damaged Button**

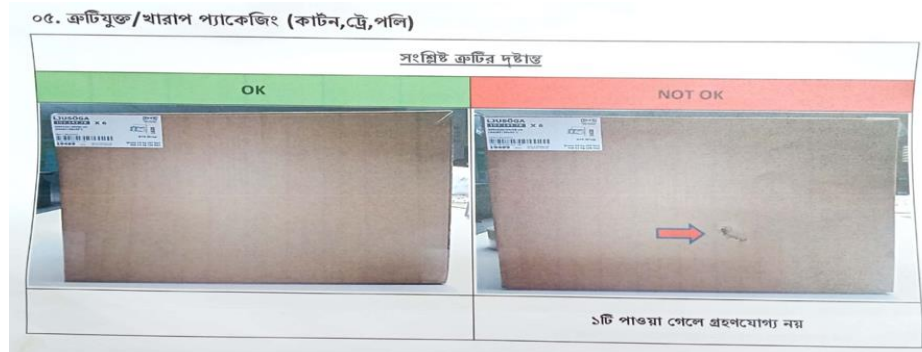
## 12. Bad packaging

### Causes:

1. For worker's mistake

### Remedies:

1. Working with an experienced worker.



**Fig16: Bad packaging**

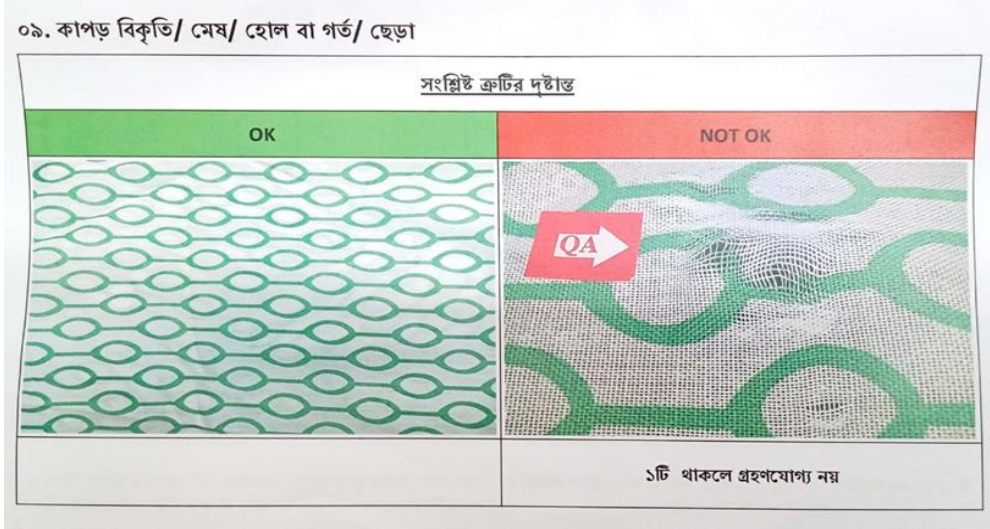
## 13. Hole

### Causes:

1. Holes can emerge out of texture or it could be brought about by the creation side, either by inappropriate cutting or broken needle puncturing the fabric.
2. Very hardened and dry yarn.
3. Improper cleaning of sewing machine.

### Remedies:

1. Proper investigation of texture and cut piece.
2. Must be utilize a texture shortcoming detector.
3. Air humidification.
4. Use of yarn having lower bristliness



**Fig17: Hole**

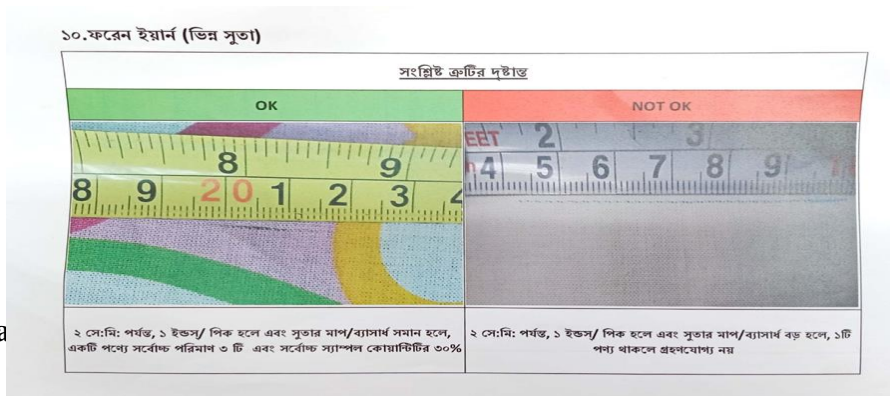
## 14. Foreign yarn

### Causes:

1. If do not keep the floor clean.

### Remedies:

1. The floor must be kept clean at all times.





**Fig18:** Foreign yarn

## 15. Insects on fabric

### Causes:

1. Sewing floor is not always kept clean

### Remedies:

1. Sewing floor must be kept clean at all times.



**Fig19:** Insects on fabric

## 16. Wrong label

### Causes:

For the lack of experiences of operators and attach size label very carefully.

### Remedies:

Label is removed and replaced again in correct size number then attach again.

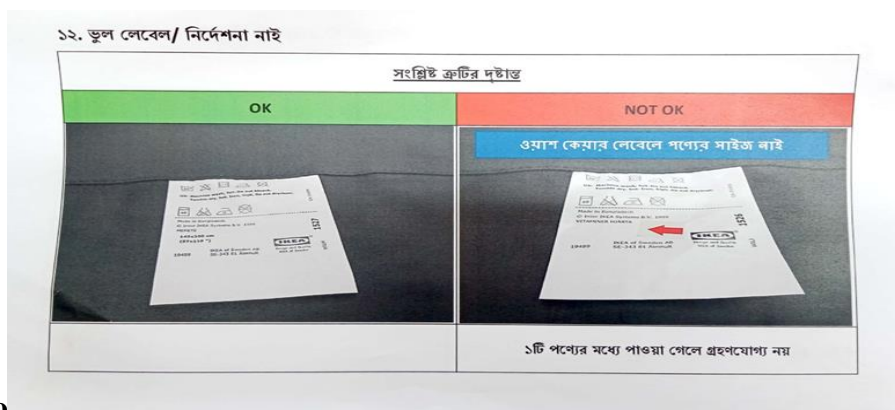


Fig20: Wrong label

## 17. Wrong dimension packaging

### Causes:

1. For worker's mistake

### Remedies:

1. Working with an experienced worker.



Fig21: Wrong dimension packaging

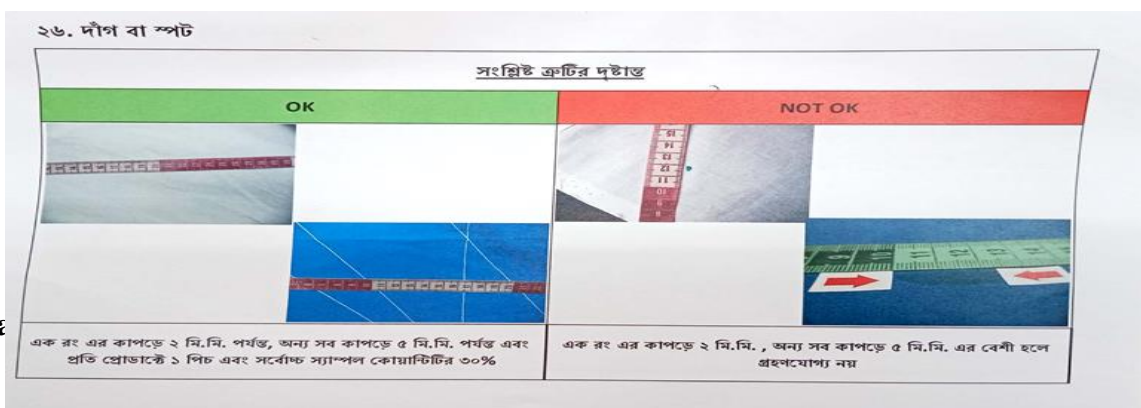
## 18. Oil Spot

### Causes:

During sewing measure if oil and wax are store from the machine to the garment surface by then oil spot is occurred. It's make a terrible spot picture on the garments surface.

### Remedies:

Oil spot is expelled from the texture by an uncommon kind of splash named 'Spot lifter'. First its shower on the spot and after that dried in air.



**Fig22: Oil Spot**

## 19. Wrong direction

### Causes:

1. For worker's mistake

### Remedies:

1. Working with an experienced worker.



**Fig23: Wrong direction**

## 20. Loose threads

### Causes:

1. It happens because of inappropriate cutting or finishing
2. In sewing process additional string allowance.

### Remedies:

1. Properly checked the Garments finishing
2. Sewing string must utilize appropriately.

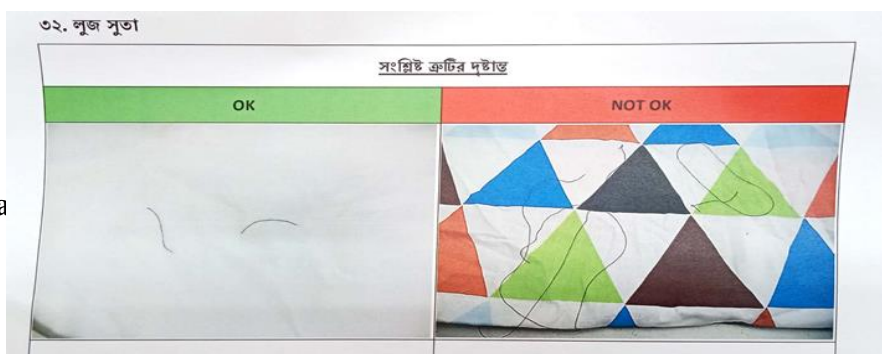




Fig24: Loose threads

## 21. Needle mark

### Causes:

1. For uneven fasten or any uneven crease need to uniform at that point open that join or crease after that creation this Needle mark.
2. For the absence of focus or experience of operators

### Remedies:

1. To cures any kinds of sewing faults
2. To pressing at great temp. & uniform

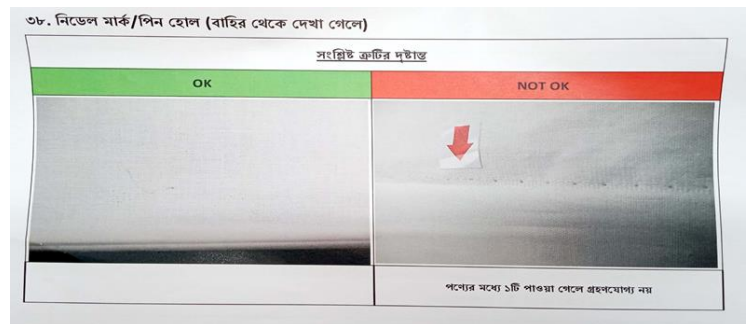


Fig25: Needle mark

# **CHAPTER-3**

## **MATERIALS AND METHODS**

### **3.1 Methodology:**

For this assessment and understanding, the investigation approach mastered was seething. Pagar, Tongi, and Gzipur were discovered after a logical analysis was conducted on clothes samples from the company "Zaber & Zubair Fabrics Ltd." Before and after the sewing floor, a preliminary appraisal was performed. It has been established that the floor before and after stitching is significantly capable of distortions and changes. In order to coordinate inspection work, a driving sewing line is identified for this motivation.

For this assessment and understanding, the investigation approach mastered was seething. Pagar, Tongi, and Gzipur were discovered after a logical analysis was conducted on clothes samples from the company "Zaber & Zubair Fabrics Ltd." Before and after the sewing floor, a preliminary appraisal was performed. It has been established that the floor before and after stitching is

significantly capable of distortions and changes. In order to coordinate inspection work, a driving sewing line is identified for this motivation.

Following the discovery of the underlying causes of the most prominently occurring deserts, many advice for reducing the occurrence of these distortions were presented. The capacity seething has been made a condition of the standards.

### 3.2 Data Collection:

Data sheets were gathered from the quality department of the before and after sewing sections, as well as from the quality table at the end of the line on the home textile production floor. There were a total of 15460 samples of fabric that were examined. The total number of accepted parts is 15157, with 228 faulty pieces and 75 discarded. Then we looked for stitching problems on 10452 items of home textiles, 10172 of which were accepted, 210 of which were found to be defective, and 65 of which were rejected.

### 3.3 Fabric defects in home textile

**Table no 03: Inspection Report for IKEA buyer hourly**

**Buyer:**

**Date: 13 September 2021 – 5 October**

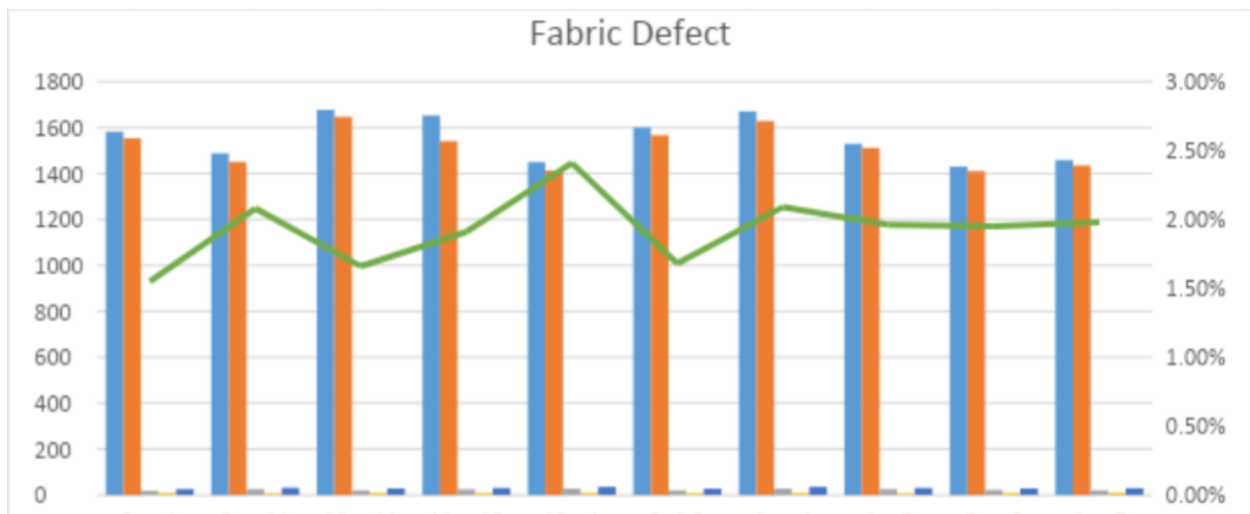
| Defects name          | Face side | Back side | Total |
|-----------------------|-----------|-----------|-------|
| Uneven print          | 25        | 25        | 50    |
| Pen mark              | 13        | 13        | 26    |
| Dyed fabric line mark | 5         | 5         | 10    |
| Printout              | 9         | 8         | 17    |
| Dirty spot            | 6         | 6         | 12    |
| Hole                  | 2         | 1         | 3     |
| Discolor              | 5         | 5         | 10    |
| Miss pick             | 7         | 4         | 11    |
| Insect spot           | 3         | 2         | 5     |
| Color spot            | 9         | 9         | 18    |
| Yarn contamination    | 4         | 2         | 6     |
| Line mark             | 5         | 1         | 6     |
| Iron spot             | 4         | 3         | 7     |
| Color line mark       | 2         | 2         | 4     |
| Design out            | 7         | 7         | 14    |
| Color out             | 8         | 6         | 14    |
| White spot            | 14        | 10        | 24    |
| Screen jam            | 3         | 3         | 6     |

|             |    |    |    |
|-------------|----|----|----|
| Color bleed | 7  | 8  | 15 |
| Cut pick    | 9  | 10 | 19 |
| Oil spot    | 7  | 5  | 12 |
| Crease mark | 5  | 5  | 10 |
| Slub        | 10 | 10 | 20 |

|                                     |           |            |            |            | Hou<br>r  |           |           |           |           |           | Tot<br>al |
|-------------------------------------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Quality                             | 8 to<br>9 | 9 to<br>10 | 10<br>to11 | 11<br>to12 | 12to<br>1 | 2 to<br>3 | 3 to<br>4 | 4 to5     | 5 to<br>6 | 6 to<br>7 |           |
| Total inspection<br>Quantity        | 1583      | 1488       | 1677       | 1653       | 1450      | 1600      | 1670      | 1530      | 1430      | 1460      | 15460     |
| Total Pass<br>goods                 | 1555      | 1451       | 1646       | 1540       | 1412      | 1568      | 1628      | 1512      | 1410      | 1435      | 15157     |
| Defective<br>Quantity               | 18        | 25         | 20         | 24         | 27        | 20        | 27        | 25        | 22        | 20        | 228       |
| Rejects<br>quantity                 | 8         | 6          | 8          | 7          | 8         | 7         | 8         | 6         | 8         | 9         | 75        |
| (Defective<br>+Rejects)qua<br>ntity | 25        | 31         | 28         | 30         | 35        | 27        | 35        | 30        | 28        | 29        | 298       |
| QC Faults%                          | 1.55<br>% | 2.08<br>%  | 1.66<br>%  | 1.91<br>%  | 2.41<br>% | 1.68<br>% | 2.09<br>% | 1.96<br>% | 1.95<br>% | 1.98<br>% |           |

**Table: 03**

**INSPECTED GOODS, OK GOODS, DEFECTIVE GOODS & REJECTED GOODS**



### 3.4 After defects in home textile

**Table no 04: Inspection Report for IKEA buyer hourly (Sewing Defect)**

| Defects name         | Face side | Back side | Total |
|----------------------|-----------|-----------|-------|
| Open seam            | 16        | 20        | 36    |
| Hanging thread       | 13        | 13        | 26    |
| Down stitch          | 10        | 10        | 20    |
| Skep/Drop stitch     | 6         | 6         | 12    |
| Uneven join stitch   | 11        | 16        | 27    |
| Thread gathering     | 17        | 18        | 35    |
| Tension loose        | 7         | 8         | 15    |
| Uneven hem           | 5         | 5         | 10    |
| Raw edges            | 9         | 9         | 18    |
| Wrong label          | 3         | 0         | 3     |
| Label position Wrong | 5         | 0         | 5     |
| Back stitch          | 5         | 5         | 10    |
| Damage button        | 9         | 9         | 18    |
| Uneven button        | 5         | 5         | 10    |
| Damage eyelet        | 4         | 4         |       |
| Wrong direction      | 7         | 7         | 14    |
| Non Matching thread  | 8         | 8         | 16    |
| Selvedge show        | 2         | 1         | 3     |
| Uncut thread         | 18        | 18        | 36    |
| Slunted label        | 3         | 3         | 6     |
| Puckering            | 8         | 8         | 16    |
| Creager mark         | 4         | 4         | 8     |

|  |  |  |  |  |             |  |  |  |  |  |              |
|--|--|--|--|--|-------------|--|--|--|--|--|--------------|
|  |  |  |  |  | <b>Hour</b> |  |  |  |  |  | <b>Total</b> |
|--|--|--|--|--|-------------|--|--|--|--|--|--------------|

| Quality                      | 8 to 9 | 9 to 10 | 10 to11 | 11 to12 | 12to1 | 2 to3 | 3 to 4 | 4 to5 | 5 to 6 | 6 to 7 |       |
|------------------------------|--------|---------|---------|---------|-------|-------|--------|-------|--------|--------|-------|
| Total inspection Quantity    | 1013   | 1106    | 1050    | 1005    | 1167  | 1053  | 1107   | 1094  | 937    | 920    | 10452 |
| Total Pass goods             | 988    | 1070    | 1019    | 980     | 1130  | 1032  | 1070   | 1067  | 906    | 902    | 10172 |
| Defective Quantity           | 18     | 19      | 20      | 24      | 24    | 20    | 22     | 21    | 22     | 20     | 210   |
| Rejects quantity             | 7      | 6       | 5       | 6       | 8     | 7     | 8      | 5     | 6      | 7      | 65    |
| (Defective+Rejects) quantity | 25     | 31      | 28      | 30      | 35    | 27    | 35     | 30    | 28     | 29     | 298   |
| QC Faults%                   | 2.46%  | 2.81%   | 2.66%   | 2.98%   | 2.74% | 2.26% | 2.71%  | 1.91% | 2.99%  | 3.18%  |       |

**Table :04**

**INSPECTED GOODS, OK GOODS, DEFECTIVE GOODS & REJECTED GOODS**



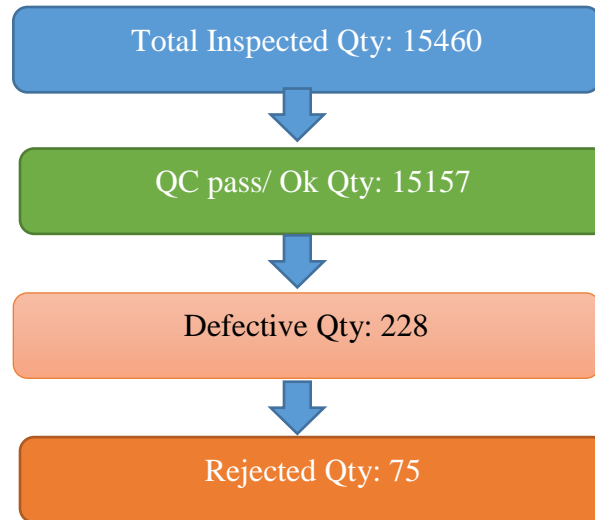
**Chart 2: INSPECTED GOODS, OK GOODS, DEFECTIVE GOODS & REJECTED GOODS**

# **CHAPTER- 4**

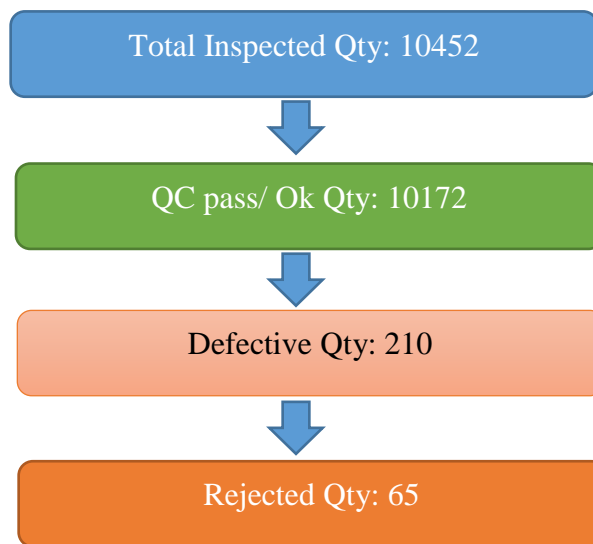
## **RESULT AND DISCUSSION**

#### 4.1 Zaber & Zubair Fabrics Ltd. Total working result fabric and sewing defects in home textile total working result:

##### Fabric defects in home textile total working result:



##### Sewing defects in home textile total working result:

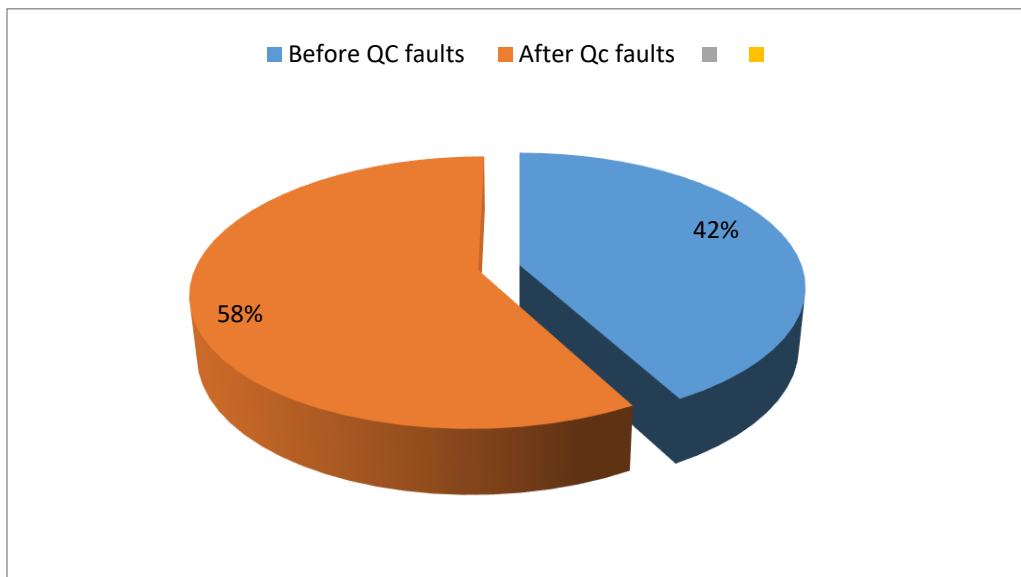




## 4.2 Overall result:

In this industry we totally inspected 15460 pieces fabrics accepted pieces is 15157 and 228 pieces were found defective and 75 pieces rejected. Then we checked sewing defects a total of 10452 pieces of home textile accepted pieces 10172 and 210 pieces were found defective and 65 pieces rejected.

## 4.3 Pie chart of Fabric and Sewing faults percentage:



## 4.4 Discussion

We observed and collected data for 23 working days in before and after home textile flaws at Zaber & Zubair Fabrics Ltd. We saw that there, both before and after. Fabrics were checked in a total of 15460 pieces. There were 15157 accepted pieces, 228 defective pieces, and 75 rejected components. Then we tested for stitching errors on a total of 10452 pieces of home textiles, of which 10172 were acceptable, 210 were found to be defective, and 65 were rejected.

# **CHAPTER-5**

## **CONCLUSION**

## **5.1 Conclusion:**

After a long period of scrutiny, experimentation, and discussion, we have finally finished our thesis. We have gained a lot of experience thanks to this thesis. We've also broadened our horizons and learned more about the garment manufacturing process, as well as garment faults and how to avoid them. As a result, it must be sold at a lesser price, causing the corporation to lose a significant amount of value. A manufacturer should endeavor to minimize fabric defect from every processing step to decrease the value loss due to a variety of flaws developing in the fabric. An automated flaw detection and identification system can increase product quality while also lowering costs associated with poor quality.

We may conclude from our thesis work that all processing processes, from cutting and spreading to finishing, are accountable for various types of fabric flaws. We have completed thesis work with great attention and success. We discovered that everyone in the sector is really helpful and has a positive attitude. Finally, we can say that this thesis will be quite useful in our professional lives.

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