



**Faculty of Engineering
Department of Textile Engineering**

Project (Thesis) on
Defects of woven fabric and their Remedies.

Course code: TE-4214

Course title: Project (Thesis)

Submitted by:

Md. Tamim Hussain Sikder

ID: 172-23-306

Md. Babul Hasan

ID: 172-23-308

Supervised by:

Dr. Md. Mahbubul Haque

Professor

Department of Textile Engineering

Daffodil International University

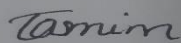
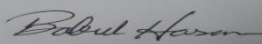
A thesis submitted in partial fulfilment of the requirements for the degree of

**Bachelor of science in Textile Engineering
Advance Apparel Manufacturing Technology**

DECLARATION

We hereby announce that we completed this project under the guidance of Dr. Md. Professor Mahbubul Haque, Daffodil International University's Department of TE. We also announce that no part of this initiative, or any part of it, has been applied for a degree elsewhere.

Prepared By:

Name	ID	Signature
Md. Tamim Hussain Sikder	172-23-306	
Md. Babul Hasan	172-23-308	

**Department of Textile Engineering
Daffodil International University.**

ACKNOWLEDGEMENT

We thank almighty Allah, the owner of all sovereignty, the most merciful, and the eternal, for providing us with the strength and ability to conduct this research.

It gives us great pleasure to express our deep appreciation and deep indebtedness to Professor Dr. Engr., our esteemed and learned teacher and guide. Dr. Md. Professor Mahbubul Haque of Daffodil International University's Department of Textile Engineering in Dhaka.

We would like to express our heartfelt gratitude to our esteemed instructor and guide professor Dr. Engr. Md. Mahbubul Haque for his consistent and unwavering encouragement, insightful advice and constructive criticism, as well as his constant watch and inspiration to complete the work successfully. We would not have been able to advance even a single step forward toward our desired goal in time without his scholarly encouragement, close supervision, and helpful advice. We will be eternally thankful to him.

We are also grateful to our esteemed teachers for their steadfast support and technical assistance during the project. We are also grateful to all members of the textile engineering department faculty for their helpful guidance during our thesis research.

We would like to express our gratitude to all of our classmates at Daffodil International University who participated in this discussion as part of their course work.

We are also thankful to the autoclave operators and the responsible persons for their unwavering support and technical assistance during the project. We also gather a lot of data in order to visit business and university labs. Finally, we must honor and accept our parents' unwavering love and patients.

At the very least, we expressed our gratitude to all of the esteemed individuals who assisted us in properly completing this task.

ABSTRACT

To finish our project job, we first collected some defected fabric pictures from TM Fashions and Shasha Denims Ltd's weaving floor, dyeing area, finishing floor, and inspection section. Then we divide the collected pictures of the flaws into different categories so that we can more effectively examine the fabric defects and determine an appropriate result that will be sufficient to assess the grade of various fabrics and, over time, will assist us in carrying out additional activities based on the defined type of work.

Following the assessment of the fabric samples' grade, we set out to discover the true causes of these flaws in the industrial sector.

These were made possible as a result of our project (Thesis) work. Then we try to examine them thoroughly in order to determine the source's trail and figure out how to resolve the issues.

We have made every effort to eliminate woven fabric defects caused by various manufacturing processes such as spinning, warping, dyeing, measuring, weaving, finishing, and so on.

Article I. Contents.....	i
DECLARATION.....	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
INTRODUCTIONS	1
1.Introduction:	2
Literature Survey.....	3
2.1 Factors impeding woven sector growth:.....	4
2.2 Problems found about woven fabric production in Bangladesh:	4
Section 1.01 2.3 Description of the most important problems:	4
Section 1.02 Weak condition of Bangladesh:.....	4
2.4 Method issue	5
2.5 Environmental policy.....	5
2.6 Power Consumption	5
2.7 Lack of confidence	6
2.8 Before answer that question we've to seem once some facts.....	6
2.9 High profit achieving tendency	6
2.10 Horizontally integration.....	7
2.11 New material development	7
2.12 Machine conditions	8
2.13 Industrial plant evaluation.....	8
2.14 Lack of recent style machine	8
2.15 Lack of state patronizations	9
2.16 Different reasons:.....	9
2.17 Weaving:	10
2.18 Definition of Defect:	10
2.19 Cloth Defect	10
Table 1: Fabric defects occurs in different processes.	16
2.20 List of Major problems/faults/defects of weaving are found out below:.....	16
2.21 Causes and Remedies of various cloth Defects:	17

2.22 Material examination system:	23
Review Instruments/Tools: The assessment is also administered sometimes or by	24
2.23 Strategies followed for cloth review process:	24
2.24 To use this technique somebody got to grasp following procedure:.....	24
2.25 Four Point System:	24
2.26 Review Procedure underneath four points systems.....	25
2.27 Defect Classification Using the Four-Point System.....	25
Notable points of this method area unit describing below:	27
<i>Chapter -03</i>	28
Experimental Survey/Details	28
3.1 Experimental Details/Survey:	29
3.2 Descriptions Of Fabric Defects	30
3.3 A picture of an inspection machine in shasha denims ltd during inspection:	46
Fig 21: Inspection Machine	46
3.4 Classes of Fabric defect according to textile:	46
<i>Chapter – 4</i>	48
Discussion result	48
4.1 Types of Faults:	49
4.2 Faults Common to each factories:.....	49
4.3 Faults occurred in Shasha Denims Ltd:	49
4.4 Faults occurred in TM Fashions:.....	50
4.5 Processes that cause various fabric flaws:.....	50
4.6 Relation between cloth defect and cloth quality:	52
<i>Chapter – 5</i>	53
Conclusion	53
5.1 Conclusion:.....	54
5.2 Reafferece:.....	54

CHAPTER-01
INTRODUCTIONS

1. **Introduction:** The trade of RMG is one in every of the foremost potential and revenue earning sector of Bangladesh. The Standing of the RMG market is thought worldwide. it absolutely was started within the late Seventies. Soon it became one in every of the most important economic strength for Bangladesh. The RMG sector has extra terribly much in earning exchange, equalization export and import, Brobdingnagian state drawback for the country and direction of ladies at the side of given them financial backing. Textiles and merchandise} can invariably be essential goods for mortals. Spinning and weaving were the most activities that drove the economic Revolution within the eighteenth century. Since then, the textile trade has been a number one trade within the initial part of industrial enterprise in several countries in several periods of your time within the world. Bangladesh is a vital producer & bourgeois of plain-woven RMG product. There are concerning quite five,500 plain-woven garment factories, 1,700 knitwear factories and one,300 spinning, finishing and colouring factories running in Bangladesh. Growth of clothes factories started in Bangladesh around 1980. however currently nearly eightieth of our foreign currency is attained from RMG export. at this time Bangladesh is manufacturing & exportation quite sixty things of clothes. clothes are exported to USA, Canada, Japan, Australia, geographical region and lots of different countries within the world. price-effective labour cost is that the biggest advantage for Bangladeshi clothes producers & exporters. We the boys of Bangladesh are inborn weavers. If we tend to flip back close to future, we will see that the local plain-woven sector was terribly made in product combine. however, in recent times with the gradual development in knit sector, plain-woven sector is day-by-day insulating material behind. A matter of nice sorrow that we tend to solely manufacture half-hour of export minded plain-woven materials material whereas we tend to import around seventieth plain-woven materials type abroad.

As woven fabric is playing an important role but the faults of fabric is a major drawback in the field of textile. Due to large amount of faults which can be caused due to lot of reason which hampers not only productivity but also efficiency of the industry. Less profit is the ultimate price of these problem. So in this study we will discuss about the faults in woven fabric and also the possible ways to outcome the faults.

Chapter 02
Literature Survey

2.1 Factors impeding woven sector growth:

- Need to enhance dye-stuff manufacturing capability.
- In comparison to other nations, our bank interest rate is the largest. As a result, we'll need to cut it down.
- Fabric design and testing facilities must be improved.
- Other fibres, such as bamboo and hemp, may be used.
- Solar energy installation necessitates capital.
- It is essential to increase the capacity for woven dyeing and finishing.
- We need to increase our synthetic fibre production ability.
- Finally, the quality of woven fabric should be improved, which is the most pressing issue.

2.2 Problems found about woven fabric production in Bangladesh:

General problems	Present problems	Psychological problems	Other reasons
Investment capability	Power consumption	Lack of confidence	Horizontally integration
Improper utilization of technical persons	Requirement of space	High profit achieving tendency	New fabric development
Process difficulty	Byer recommendation	Vendor don't want to take risk	Machine conditions
Environment policy	Very less woven dyeing facility		Factory evaluation

Section 1.01 2.3 Description of the most important problems:

Section 1.02 Weak condition of Bangladesh:

Restricted huge investors with less interest to speculate in huge comes.

- In our country associate degree investment of concerning 30-50 million is taken into account as terribly huge investment.
- In CHINA, INDIA, AUSTRALIA, Asian nation investment beneath a hundred million is incredibly uncommon.
- In some cases, new mill while not a thousand looms are strictly prohibited.
- so that they have excellent scope to setup numerous sorts of looms.
- As a result, they perpetually get the large orders of bulk production.

2.4 Method issue:

If we tend to specialise in these processes, we are able to simply perceive why plain-woven cloth production is tough and why variations can't be simply brought in plain-woven cloth compared with knit cloth.

2.5 Environmental policy:

- Vendee evaluates the mill by establish their environmental policies.
- Most of our factories haven't any any specific environmental policies, even they need no any ETP.
- Mill owner's main argument concerning ETP is that ETP running is incredibly pricey and further worth to the merchandise.
- patrons additionally see wherever the mill is established, is it in an exceedingly crowded Peul space or outside of the city, they additionally see what proportion impact of that mill to the surroundings.

2.6 Power Consumption:

- Little doubt it on off the foremost issues.
- Lack of resource and investment.
- Lack of maintenance of existing power plants.
- Several capable teams area unit anticipating power provide in their massive comes, those area unit already established, machines area unit available.... but power provide is nil!
- As we tend to all grasp that before weaving, warp & filler is obligatory and it consumes vast power than knit trade.
- A case study showed that a famous woven industrial plant named NOMAN WEAVING MILL'S per month required power is 3723 kw(for 128 looms).
- whereas a famous knitting industrial plant named Mother Color having 128 circular knitting machines per month power consumption is just 768 kW.
- Therefore it's currently clear that an enormous power is required to run a woven industrial plant.

2.7 Lack of confidence:

“WHY we tend to area unit manufacturing just some COMMON materials, WHY couldn't we tend to turn out different troublesome style FABRICS? wherever MOST OF THE CASES ALL FACILITIES area unit AVAILABLE!”

2.8 Before answer that question we've to seem once some facts:

- ninety-nine of our woven factories have terribly less quantity of technical persons.
- Even those non-tech persons have gained the assembly manager post. ☒ once a purchaser contacts thereupon production manager then show his material sample, that is incredibly tough to analyse and harder to provide.
- That point he (PM) began to rely on his mill pressure, by this point he simply arranged that “ why I even have already got enough order of traditional bulk material production, why ought to settle for that tough style order, that analysis ought to be delay and therefore the whole method of production ought to trouble my mind a lot!”
- Another truth tells that “this sort of relaxed mentality “ didn’t grow in a very day, it is the dearth of inspiration to the manager from the superiors. As a result, day by day that person loses his attention towards performing some innovative things.
- These lead United States of America to the unsatisfactory development.

2.9 High profit achieving tendency:

- This kind of tendency incorporates a nice impact in our woven sector. A case study tells that our mill house owners continually attempt to create minimum two hundredth profit on each shipment/individual product.
- To realize high profit generally they apply extralegal theory, for instance in filler they use lower quality or lower value chemical. Suppose a material construction is $50*50/140*96=58''$ in this case total warp needed is 8120 however they are doing it with 8000 ends. No drawback they minimize the matter within the section of finishing. in order that they saved one hundred twenty cones then $120*2.8=336$ greenback saved.
- Here comes the matter of value, in People's Republic of Bangladesh the value {of material|of cloth|of material} is comparatively high than alternative fabric manufacturing countries. Main reason is that we tend to continually import raw materials to machines, these accessorial large worth to the product. Here comes

another proven fact that our mill house owners don't seem to be deep thinkers or having business connected intelligence. They can't understand that if they think about the value of those product, they'll get a lot of orders, however it's a matter of nice sorrow that they can't try this. In another case most of the time they follow the international value, for instance one yds material worth is two.98 \$, Republic of India that point smartly drop the speed in to two.85\$. other than the Bangladeshi mill house owners drop the speed. once more {Republic of India|Bharat|Asian} raises the value however that point patrons assume that India offers United States of America higher quality than People's Republic of Bangladesh, then why ought to we tend to drop the order in Bangladesh!

- o The common worth of Bangladesh-made shirts was \$62.74 per dozen in 1998. This worth was the second lowest. The country sold very cheap priced shirts of an equivalent class at \$54.79 per dozen. costs of Indian, Mexican and Sri Lankan shirts were \$81.04, \$76.26 and \$74.77 severally. Against this, the costs of metropolis and Malaysia shirts were \$107.34 and \$134.08 severally. Exporters from People's Republic of Bangladesh turn out largely those things on that quotas area unit on the market.

2.10 Horizontally integration:

Most of the plain-woven factories area unit horizontally integrated. It appears that they don't have any spinning, dyeing, printing, finishing, clothes facilities underneath one specific shed. Most of them are abundantly obsessed with yarn offer. A matter of nice sorrow that our yarn quality isn't too smart and value is relatively beyond international market. As a result, the material value is become high.

2.11 New material development:

- Terribly less quantity of recent material development in keeping with customer necessities, conjointly we have a tendency to aren't capable of all type of material development.
- Own innovation is sort of absent here.
- Therefore, we have a tendency to can't attract or assure the new consumers, people who need to drop their orders.
- That's why we have a tendency to invariably got the order traditional or normal material production.

- material developers aren't interested to create up new material construct as a result of there may not have facilities to supply that kind valuable additional material.
- Finally we have a tendency to invariably having same customer same production.

2.12 Machine conditions:

- Most of the machines of our factories area unit virtually 5/10/15 years recent. Thus, once consumers come back to AN audit therein mill, they became discouraged.
- A number of the factories area unit exploitation finish life distortion and size machines therefore the potency became less.
- Most of machine having duplicate elements therefore they losing their potency step by step.
- Another case study same that in most of the factories the warpers & weavers beams became 'TAL' that's why distortion and size became faulty.

2.13 Industrial plant evaluation:

- Unfair policies of massive industries conjointly accountable for this condition. A case study showed that massive industries once expand their plants, they simply get additional power as a result of their notable whereas new factories didn't attain that.
- Consumer's mentality is additionally accountable, they invariably drop order to the notable factories. whereas in several places in our country turn out quality materials. Another construct is that those fewer notable factories didn't prove themselves, they didn't catch customer. They glad themselves by manufacturing solely native material.

2.14 Lack of recent style machine:

Our machines are capable of manufacturing solely traditional style materials. Therefore, we have a tendency to can't manufacture tough style cloth specially curtain cloth and

serious blankets. In winter major countries a great demand of serious blanket is seen. The absence of recent JACQUARD machine caused a great misfortune to urge those order.

2.15 Lack of state patronizations:

- ⇒ Little doubt that plain-woven sector may be a promising sector in People's Republic of Bangladesh. It desires large government patronization; however, the \$64000 state of affairs is completely completely different.
- ⇒ To import plain-woven machinery and accessories, trafficker doesn't get any Tax vacation facilities. If we have a tendency to focus Republic of India, China, Honking, Asian country and different plain-woven cloth manufacturing countries, we have a tendency to found that their producers have gotten large facilities provided by their government. Facilities are given below.

2.16 Different reasons:

- ⇒ Their government provided large analysis facilities and that they have gotten the independence of constructing selections.
- ⇒ They need got 100% tax free facilities for any quite plain-woven connected import.
- ⇒ They need got uninterrupted power offer.
- ⇒ Their bank interest for this sector is sort of 0-1%.
- ⇒ They need got large technical persons further as fashionable machineries.
- ⇒ They achieved extremist fashionable technologies by the shake of giant Textile connected institutes.

Now if we have a tendency to focus our Textile sector specially plain-woven sector we have a tendency to face higher than mentioned laggings.

Now we have a tendency to are standing towards a good chance that's technical textiles. Its application is bit by bit increasing day by day. a very important reality is that ninetieth of Technical textiles are created by woven materials. currently if we would like to grab that chance or catch the market we have a tendency to should have to be compelled to improve our gift condition of plain-woven sector.

2.17 Weaving:

Weaving is that the intersection of 2 sets of straight yarns, warp and woof, that cross and interlace at right angles to every different. The lengthwise yarns are unit referred to as warp yarns and dimension wise yarns are unit referred to as woof or filling yarns and also the cloth created is understood as woven cloth. The machine used for weaving cloth may be a loom. it's a posh work. variety of faults occur in cloth throughout weaving method.

2.18 Definition of Defect:

A state that impairs price or utility.

Or wish or absence of one thing necessary for completeness or perfection.

Or A fault that spoils the fabric.

2.19 Cloth Defect:

A cloth Defect is any abnormality within the Fabric that hinders its satisfactoriness by the buyer. Fabric faults, or defects, are unit liable for nearly eighty fifth of the defects found by the garment industry. an automatic defect detection and identification system enhances the merchandise quality and ends up in improved productivity to fulfill each client demands and to scale back the costs associated with off quality. Higher the assembly speeds build the timely detection of fabric defects a lot of vital than ever.

1. Pre-treatment process			
S. NO.	Faults	Causes	Remedies
1.	Oil and grease stains	Oil spills over sections that come into contact with materials, causing stains, due to the negligence of repair staff and machine operators.	Oil and grease stains are removed with emulsifiers.
2.	Singe Marks	Non-uniform singeing results from the blocking of certain flame orifices and creases in the fabrics, and damaged areas look darker after dyeing or printing.	The fabrics should be re-singed and readyed after the color has been removed.
3.	Draft Stains	If a wet cloth is left for a longer period of time after bleaching, it will display deeper color stains after dyeing, printing, or finishing.	To remove stains from the fabric, it is acidified, washed, and dried.
4.	Rope Marks	Fibres grow horizontally as the fabric is scouring and bleaching in rope shape under high pressure during twisting.	The fabric is stentered to eliminate the folding, and in the case of extreme folds, it is mercerized.
2. Dyeing			
S.NO.	Faults	Causes	Remedies
1.	Dark Selvedges and Bronzing	Non-uniform winding of fabric during jigger dyeing causes dark selvedges. Bronzing can also be seen by using vat and sulphur dyes in open soup spoons.	The color of the faulty fabric is removed and redyed. During the redyeing process, the beaming of the cloth should be fine.
2.	Dye Stains	Non-uniform winding of fabric during jigger dyeing causes dark selvedges. Bronzing can also be seen by using vat and sulphur dyes in open jiggers.	In the case of vat and quick colors, the fabric should be dyed again after being

			stripped of its color. For direct dyed fabric, a boiling leveling bath should be used. It's also a good idea to use leveling agents.
3.	Dye Molting	Unlevel dyeing is caused by incorrect recipe concentrations and dyeing methodology.	Stripping, reducing, or reoxidizing the dye is needed. By using the shading process, you can change the colour.
4.	Sided Dyeing	Continuous dyeing causes colour depth differences on both sides due to unequal strain on the dye mangle.	The fabric should be dyed with uniform pressure on the dye mangle after being stripped of its colour.
5.	Colour Migration	The strength of colour on one side of the fabric differs from the other. Non-uniform drying on both sides of the cloth is the main factor.	The fabric should be dyed and the colour removed.

3. Printing

S.NO.	Faults	Causes	Remedies
1.	Colour Seepage	Uneven feeding of low viscosity printing paste results in stains on areas of the cloth that are not to be printed.	The feed of the print paste must be fair and uniform, and the viscosity must be sufficient.
2.	Squeeze Marks	Variations in the colour strength of printed fabric due to squeeze pressure differences. This issue is	Change the squeeze pressure if necessary. Using

		also caused by poor thickener and rubber consistency.	a high-quality thickener and rubber with a suitable shore hardness.
3.	Colour Stains and Unprinted part	The main white grounds are overprinted with colour from a previous panel that was faulty. This is caused by gelatin or screen ducco wear.	The broken screen must be replaced.
4.	Misalignment or overlapping of design	Defective rollers or screens on the printing machine cause misalignment or overlapping of the printed design. It may also be attributed to mistakes in the design's engraving or photographing.	The printing machine's screens or rollers should be correctly mounted. Errors in the design's engraving or photographing should be corrected.

4.Washing

S.NO.	Faults	Causes	Remedies
1.	Weaker Colour	Saturation of the washing containers with dyestuffs or dirty water results in a stain on the white fabric.	The washing machine's squeezing mangles should be washed. Washing liquor should be replaced on a regular basis.
2.	Stains on White Ground	Saturation of the washing containers with dye-stuffs or contaminated water cause stain on white portions of the fabric.	Squeezing mangles of the washing machine should be cleaned. Washing liquor should be frequently renewed.

3.	Poor Washing Fastness	Bad washing fastness is caused by a lack of complete removal of excess colour or a low washing process efficiency.	It is necessary to change the temperature of the washing basins. Remove any soap or other chemicals that have been applied.
----	-----------------------	--	---

5.Steaming

S.NO.	Faults	Causes	Remedies
1.	Colour intensity differences on cloth sides.	Differences in colour intensities between cloth sides are caused by non-uniform temperature and steam distribution within the steamer.	Temperature uniformity and steam distribution in the steamer should be perfect.

2.	Water Drops	Condensed water drips onto the fabric during steaming due to insufficient insulation and heat distribution.	The temperature should be uniformly distributed during steaming, and the steamer's insulation should be strengthened.
----	-------------	---	---

6.Finishing 6.1. Stentering

S.NO.	Faults	Causes	Remedies
1.	Starch stains and white lines on finished cloth	Since the starch in the padding liquor is not fully dissolved, starch stains and white lines appear on the finished fabric.	The fabric should be reduced in size and re-starched.
2.	Longitudinal Creases	Creases with a Longitudinal Component If the cloth passes	The fabric should be padded and

		through non-uniform cylinders after starching, longitudinal creases form.	dried on an even surface after being soaked in a hot water solution.
3.	Wrong and Narrow Width	Cloth with non-uniform width results from frequent stoppages during mercerization or drying.	To achieve the appropriate width, the cloth should be passed through the Stenter once more.

6.2. Calendaring

S.NO.	Faults	Causes	Remedies
1.	Non-lustrous spots or lines	Non-lustrous spots or lines on the fabric are caused by grooves or scratches on the calendar bowls.	The cloth should be recalendered on a smooth, flawless calendar after being padded in hot water.
2.	Poor finish of Cloth	Calendered fabric with a high starch content and a high moisture regain would have a weak finish.	Before calendaring, the cloth should be thoroughly dried and treated with a suitable finishing recipe.
3.	Poor degree whiteness	Poor whiteness of the fabric can be caused by residual acidity in the bleaching and mercerization processes, incomplete dissolution of the optical brightener, and the use of low-quality softeners.	Scouring and bleaching should be done correctly at first. The optical brightener must be fully dissolved. The PH of bleached fabrics should be modified, and a

			suitable softening agent used.
--	--	--	--------------------------------

Table 1: Fabric defects occurs in different processes.

2.20 List of Major problems/faults/defects of weaving are found out below:

- Thick finish and Warp streaks
- Reediness
- Weft bar
- weft crack
- Thick and thin places
- Weft loops
- Box marks
- High incidence of warp breaks
- weft breaks
- Shuttle traps
- Shuttle flying
- Smashes
- Defective selvedge
- Broken picks
- Bullet
- Broken finish
- Coarse finish
- Coarse choose
- Slough off
- thick picks
- Double finish
- End out
- Fine end
- Jerk-in
- Knot
- Loom bar
- Loom barre
- Misdraw (Colour)
- Miss pick
- Reed mark
- Reed streak

- Set mark
- Shade bar
- Stop mark
- end
- Pilling
- Float
- Pin marks
- Contamination of fluff.

2.21 Causes and Remedies of various cloth Defects:

Warp streaks: Warp streaks square measure slim, barre and dense stripes running on the warp direction. Main reasons square measure the variation in density of adjacent cluster of warp ends thanks to inhomogeneous dent spacing, wrong drawing-in, or count variations. Also, the variations in lustre, reflectance of dye pick-up of adjacent teams arising out of variations in raw materials, blend composition or yarn constructions contribute for streaks.

Reediness: These square measure terribly fine cracks or lines between teams of warp threads, caused thanks to excessive warp tension, late shedding, use of coarse reed with a lot of range of ends per dent, bent reed wires, improper spacing of reed wires, wrong drawing, and short troughing of shed, i.e. tension distinction between high and bottom shed lines throughout beat up.

Weft bar: It's a band running weft-wise across the total dimension of the material. the conventional reasons are the periodic medium to long run irregularity within the yarn yarn, count distinction in yarn, excessive tension within the yarn feed package, particularly in filaments, variability in choose density and distinction in twist, colour or shade of adjacent cluster of picks, distinction in mix composition or within the cottons used.

Weft crack: It's a skinny place or missing yarn across the body of the material. the most causes square measure improper setting of opposed crack motion, loose fitting of reed, loose or done in crank, worn out crank arm, done in crank shaft bearings, loose belt, done in duck bills and beaters, weft fork not functioning properly, faulty take up,

brake motion not acting in a flash, shuttle placing on the yarn fork thanks to weak choosing, swing rail done in, weaver not adjusting the fell of fabric properly at the time of beginning a loom, and gripper not holding the yarn firmly.

Thick and Thin places: These square measure kinds of like yarn bar, however not like yarn bars, it repeats at intervals. They are primarily thanks to irregular let-off, incorrect setting of holding and emotional pawls on the ratchet wheel of take-up motion, gears of take-up motion not meshing properly, and kit wheel teeth done in or broken.

Weft loops: Loops project from the surface of fabric|of material} either on one or each side of a cloth because of a little portion of yarn obtaining caught by the warp threads. the most reasons square measure late shedding, low warp tension and use of dangerous temples.

Box marks: Box marks square measure thanks to one thing bruising or staining the yarn whereas it's in or close to the box. Main causes square measure dirty boxes, shuttle riding over the yarn, oil from shuttle tongue, dirty shuttles, yarn flying concerning too freely, oil splashes from loose cranks, oily spindles and buffers and dirty choosing stick for below choose.

High incidence of warp breaks: Excessive warp tension, blunt or loose shuttle tip, rough shuttles, too little or too massive shed formation, bottom shed line beating down on kill race, jerky movement of healds, too early or too late shedding, race board badly done in, healds catching one another, sharp or rigid reed wires, warp size accumulation on reed, pirns jutting higher than or below shuttle, improper filler, improper wetness within the loom shed, a weaker warp yarn, the next speed of loom, a lot of range of ends per in. for the count getting used, less air area in reed square measure the most causes for excessive warp breaks.

Weft breaks: High pick tension, improper build of pirn, knots at the nose or chase of pirns, back stitches in cones fed as pick in shuttleless looms, rough and broken surface

of pirns, shuttle tongue not in level, rough places within the shuttle, broken nylon loops, shedding off or loosely designed pick package, shuttle eye broken or broken, pick at bay within the box, selvedge ends cutting the pick, pick fork too way through the grate, rough box fronts or shuttle guides, improper alignment of cone in pick feeder, lower twist in pick leading to pick gap get into air-jet looms, grippers missing the picks, improper knotting of tail ends, and rough handling of cones area unit the most reasons for higher pick breaks.

Shuttle traps: Entangled warp ends thanks to fluff falling on the warp, broken warp finish entangled to adjacent finish, knot with a protracted tail leading to trap, snarls in yarn obtaining entangled, too much appearance in yarns, weak choosing, faulty shuttle checking, gear wheels slithering thanks to broken teeth, loose stop rod finger, and uneven joint of flat belt area unit the conventional reasons for shuttle lure.

Shuttle flying: Fibrous yarns, knots with long tail ends, slack warp, uneven race board, tiny sheds, bottom line too high, worn pickers, swells giving twist to the shuttle because it leaves the box, early choosing, late shedding, unbalanced shuttle, box spindle not set properly, box front not set properly and missing shuttle guard area unit the most reasons for shuttle flying.

Smashes: Daggers not operating, frog spring ineffective, dangerous shuttle, improper boxing of shuttle, worn out picker, tired transfer hammer, broken pirn and entanglements area unit main causes of smashes.

Bad selvedge: Improper shuttle wire tension, bent shuttle jaw, shuttle crack, additional tension on selvedge yarns, late shedding leading to rubbing of shuttle to the selvedge and improper selection of selvedge weave for the material being woven area unit the most reasons for dangerous selvedge.

Broken picks: A filling yarn that's broken the weaving of a material seems as a defect. Improper functioning of pick stop motion leads to broken picks undetected and stepping into to the fabric.

Bullet: Bullets area unit low twisted double yarn seen pick wise in materials. Those area unit usually zero twisted parallel yarns. sensible causes of faults area unit improper functioning of bunch motion, incorrect yarn path through spindle, loose tensioners, capsule and spring operating, depleted yarn as bunch and knot isn't applied once removing bunch yarn.

Half pick: just in case of brand looms, if the second brand doesn't collect the pick, it shall stop in between, and that we get half pick.

Broken end: A defect in cloth caused by a warp yarn that was broken throughout weaving or finishing.

Coarse end: Warp yarn that contains a diameter overlarge, too irregular or that contains an excessive amount of foreign material to form an excellent, sleek cloth.

Coarse pick: Filling yarn that's overlarge and imperfect to look to advantage within the final cloth.

Slough off: yarn has slipped from the pirn. correct observation of strength and chase in pirn winding will solve this drawback.

Thick end and thick pick: Higher diameter in yarn for a brief distance will be thanks to improper piecing s at spinning preparative or come by pressure on the drafting rollers for a brief time. This can also happen thanks to not removing of spinners double, not piecing the top properly by removing the lapped materials, accumulation of fluff in condensers, cradles and within the necks of the top rollers.

Double end: 2 ends that weave joined. This happens attributable to migration of a broken finish to the adjacent reed area at the side of the near finish.

End out: A warp yarn that was broken or missing throughout weaving.

Fine end: A defect in silk warp yarn consisting of skinny places that occur once a number of the filaments that ought to be within the warp yarn are absent, typically caused by improper reeling. Warp finish of abnormally tiny diameter, i.e. long skinny places of sophistication 11 and 12 is also referred as fine end.

Jerk-in: an additional piece of filling yarn jerked by the shuttle into the material at the side of a daily pick of filling.

Knot: Knot is outlined as a knob or lump fashioned by interlocking parts of 1 or a lot of versatile strands or a amount of yarn, or thread, that varies with the fibre; it consists of a group of coils. Control in pirn winding, the winding to binding coils magnitude relation will solve this drawback.

Loom bar: A modification in shade across the breadth of a material, ensuing from a build from tension in the shuttle before a filling modification.

Loom barre: Repetitive selvedge-to-selvedge unevenness in plain-woven material typically attributed to a mechanical defect within the let-off or the take-up motion.

Misdraw (Colour): In plain-woven materials the drawing of coloured yarns through the loom harness contrary to the colour pattern and/or style weave is termed as misdraw. just in case of warp knits misdraw is that the drawing of coloured yarns through the guide bars contrary to the pattern style.

Miss pick: A defect in plain-woven material caused by a missing or out-of sequence yarn.

Reed mark: A crack between teams of warp ends, either continuous or at intervals, which can happen thanks to broken reed or improper spacing of dents. Reed streak: A warp wise defect owing to a foul reed like uneven reed area, bent reed wire, slant wire, broken reed wire etc.

Set mark: Defect in plain-woven material ensuing from prolonged loom stoppage. attributable to the humid weather and therefore the fine mud gift within the atmosphere, the fabric exposed shall get slightly

different colour and conjointly some relaxation takes place. A combined impact offers a line in yarn direction.

Shade bar: a definite shade modification of short period across the breadth of the material. This is normally thanks to a mixture from yarn with completely different property.

Stop mark: slender band of various weave density, across the breadth of a plain-woven material, caused by improper warp tension adjustment when a loom stop. A well-trained weaver will cut back this type of defects.

Tight end: Warp yarn during a plain-woven material that was underneath excessive tension throughout weaving or shrank quite the conventional quantity.

Pilling: Fibre filaments that break in yarn thanks to friction exploit tiny clumps of loose fibres on the surface.

Float: Slack warp and Faulty Pattern Card are the most reasons for a float during a plain-woven material.

Pin marks: Poorly adjusted temple pins or broken pins will result in pin marks. Contamination of fluff: completely different fibres or foreign materials get mixed throughout spinning, winding or in weaving preparation stage, inflicting visual objection in material. The causes are improper cleanliness, not properly cleansing the machines when every take off and heap changes, improper suction of drafting zones of gill boxes and roving, improper cleansing of individual and scrapper plate when each heap modification of take off, not mistreatment of curtains for partition of machines running on completely different colors, overhead cleaners of ply winding and ring frames processing mud on running spindles or drums, material not lined to avoid fly and fluff accumulation, use of compressed gas for cleansing machines whereas

in operating or whereas adjacent machine is functioning and use of common come back air ducts and running completely different coloured fibres in the shed.

2.22 Material examination system:

Definition of inspection: Activities like activity, Examining, Testing, one or a lot of characteristics of a product or supply examination these with specific needs to work out conformity. The fabric roll is far from loom so sent to associate examination frame.

Object of cloth inspection: The word of examination in textile engineering principally identifies to the visual examination or review/scrutinize of materials (like material, accessories, trims etc). it's an essential method in any plain-woven trade to stay far from rejects thanks to low material quality and precautions to remove sudden loss/defects of finished product.

The quality of a finished item in plain-woven trade principally be controlled on the standard of cloth once it's created as a roll from. Even it occupies 60/70 % of total price. Fashion business ought to take some defensive actions to confirm quality full cloth is getting used in their things and set up cloth review department with fashionable instrumentation and trained men. A best answer would be to mechanically examine cloth because it is being created and to encourage maintenance personnel to stop production of defects or to vary method parameters mechanically and consequently improve product quality.

Fabric mills and clothes trade, each parties quality team ought to offer their highest effort to erase any sudden circumstances. Even the foremost exceptional/excellence producing methods cannot make amends for defective materials.

Clothes producer: Got to examine minimum 100% per colour or a lot of any consignment after they got and assess them supported a four-point system. By this method, they will minimize cloth connected quality troubles before it affected to production.

Cloth mill: Got to examine 100% of finished goods; defects should be recorded for every roll.

Review Instruments/Tools: The assessment is also administered sometimes or by

- ❖ Choose glass.
- ❖ measure by tape.
- ❖ Visual.
- ❖ UV lamp.
- ❖ Streak instrument.
- ❖ recognizing with Shirley stain or similar staining agents.

2.23 Strategies followed for cloth review process:

1) Graniteville "78" system.

2) Urban centre system.

3) Four purpose system

4) Ten-point system But, specifically four purpose system is preferred and loosely used because it is incredibly straightforward to applicable, educate and learn. Let's realize a small description of four purpose review system below.

2.24 To use this technique somebody got to grasp following procedure:

- ❖ Large plan on nature of cloth defects (how a defect appearance and its appearance).
- ❖ cloth review methodology or preparation.
- ❖ Criteria of giving penalty points supported defects and defect length. Calculation methodology of total penalty points for total defects found during a cloth roll or consignment.
- ❖ A Check sheet or format for keeping knowledge.

2.25 Four Point System:

Most of the apparel/woven trade prefers Four purpose classification system for decisive cloth quality and it's certified by the American Society of internal control (ASQC) further because the American attire makers (AAMA).

The 4-Point System assigns one, 2, three and four penalty points in keeping with the dimensions, quality and significance of the defect. No quite four penalty points is appointed for any single defect. Defect will be measured either length or dimension direction, the system remains an equivalent. solely major defects square measure thought-about. No penalty points square measure appointed to minor defects.

2.26 Review Procedure underneath four points systems:

- ✪ Decide the number to examine a minimum of 100% of any consignment.
- ✪ Even tiny consignment needs to make sure to decide on a minimum of one roll of every colour means. If quite one role should be chosen, then choose the extra roles in proportion to the whole variety of roles per colour received.
- ✪ Develop the rolls to examine.
- ✪ Set the rolls on the review device.
- ✪ cloth inspector ought to have associate approved cloth submission kind to match with bulk lot.
- ✪ live the material dimension and bring to a halt a vi in. piece across the dimension of the tip of the roll. Mark the proper and left aspect of the strip. when examine each fifty yards please weigh down the review method and use the strip to envision for any shading issues. Also ensure to envision the tip of the role.
- ✪ examine for visual flaws underneath clear lighting supply with slow speed to seek out the imperfections.
- ✪ Check for biased, bowed and skew cloth.
- ✪ Mark any imperfections by the coloured sticker or chalk so they will be simply found whenever required.
- ✪ ensure the roll exist the correct distance as declared by the provider. cloth item, length, width, roll no, defect varieties and different price tag info should be recorded properly.

2.27 Defect Classification Using the Four-Point System:

When defects are found during fabric inspection using the Four-Point System, the defect must be assigned a number of points based on the magnitude and duration of the defect.

Inches (“)	(mm)	Points
From 0>3” length/width	Up to 75 mm	1 Points
From 3.1”>6” length/width	75 mm>150mm	2 Points
From 6.1>9” length/width	150mm>230mm	3 points
More than 9” length/width	More than 230mm	4 Points

Only the most significant bugs are considered. Any defect that would cause a final garment to be considered a second is considered a serious defect.

- A maximum of 4 points can be assigned to one linear yard depending on the number and size of the imperfections in the yard.
- When a defect runs continuously along the length of the cloth, four points can be awarded for each linear yard.
- It's possible that the whole point is evaluated by size.

Openings and holes (largest dimension)	
1" or less	2
Over 1"	4

Roll / Shipment Acceptability

Fabric shipments can be rated as second-rate and unacceptably bad based on the following total points. The fabric supplier is responsible for any defects in the fabric and must pay 1 yard for every 8 marks. Fabric suppliers should pay for any faulty garment cutting panels or parts for the following products known as point fabrics.

Synthetic woven	average of 15 points per 100 linear yards
Twill,Cotton,Linen	average of 20 points per 100 linear yards
Warp knit	average of 15 points per 100 linear yards
Flat knit rib	average of 0 points per piece
Print	average of 0 points per 100 repeat
Synthetic/Synthetic blends weft knits	average of 15 points per 100 linear yards
Body mapping, Engineering	average of 0 points per 100 repeat

Defect calculation: total liner yards + total defect points x 100

If total purpose is larger than thirty per a hundred liner yards, no explicit roll ought to be thought of initial quality.

Total defect points per a hundred sq. yards of fabric square measure computed and thus the acceptance criteria are sometimes no over forty penalty points. cloth rolls containing over forty points square measure thought of "seconds".

The formula to reason penalty points per a hundred sq. yards is given by:

= (Total points scored within the roll * 3600) / cloth dimension in inches * Total yards inspected

Example: a cloth rolls one hundred fifty yards long and 56" wide contains following defects.

6 defects up to 3" length	6 x 1	6 points
4 defects from 3" to 6" length	4 X 2	8 points
2 defects from 6" to 9" length	2 X 3	6 points
1 defect over 9" length	1 X 4	4 points
1 hole over 1"	1 X 4	4 points
Total defect points		28 Points
Therefore, Points / sq. yards	$= (28 \times 3600) / (56 \times 150) = 12$ points	

Notable points of this method area unit describing below:

- The method has no stipulation for the likelihood of minor defects.
- The material is hierarchal in spite of the end-product.
- No quite four penalty points is appointed for any single defect.

Chapter -03

Experimental Survey/Details

3.1 Experimental Details/Survey:

In order to gather varied info concerning cloth defects, we've visited 2 plain-woven industries one is Sim materials restricted and another one is Shasha denims restricted. it should be mentioned that:

SIM cluster has been one amongst the pioneers of the textile trade of Asian nation. This cluster has introduced several new ideas to the commerce and trade trade of Asian nation. With it's diversification policies, SIM cluster has conquered many alternative arenas in conjunction with textile, though textile remains the carter focus of the cluster activity. New life was injected into the razed SIM materials Textile industrial plant in 2000. Since then this cluster grew over the years into a complete textile industrial plant with SIM materials masterful workers and trendy technology. SIM materials can stay AN acknowledged leader in providing prime quality materials for Pants, Skirts, Suites etc to it's customers. SIM materials can still give superior quality of materials.

Shasha Denims Ltd is that the leading denim cloth producer in Asian nation since 2000. It is a professionally managed and technically sound organization placed at Dhaka Export process Zone (DEPZ). The plant is totally integrated with State of the Art technology and machinery from Switzerland, Germany, Belgium, USA and Asian nation to offer their valued client the \$64000 classical Indigo Denim created with the most effective and hottest computerised SLASHER colouring technology. With ever increasing acceptance of their quality cloth and increase in demand the production capacities were expanded at regular intervals. Production capability of Shasha Denims Ltd is 1.8 million yards per month and deliver the biggest amount from Asian nation. Shasha Denims Ltd have the widest vary of denim materials. nobody within the country produces the maximum amount.

Both Sim materials restricted and Shasha denims restricted are produces solely plain-woven materials. During the time of industrial plant visit we have a tendency to found, there are several cloth faults happens throughout production in different section. The defects are described below:-

3.2 Descriptions Of Fabric Defects:

Slub:



Fig 01: Slub

Causes: If the yarn contains unexpected slub, such slub will show up as a defect in the cloth.

Remedy: The quality controller must pay close attention to the yarn's quality.

Hairy fabric:



Fig 02: Hairy Fabric

Cause: This type of material fault comes because of the appearance of the yarn.

Remedies:

- ❖ The yarn got to be checked by throughout the time of procurance to avoid these faults.
- ❖ we want to shop for sensible yarn.

Thick and thin place:



Fig 03: Thick & Thin Places

Causes: This can happen thanks to not removing of spinners double, not piecing the tip properly by removing the lapped materials, accumulation of fluff in condensers, cradles and within the necks of the top rollers.

Remedy: The yarn got to be checked by QC throughout the time of procurance to avoid these faults.

Knot:



Fig 04: Knot

Causes: If the TPI of yarn higher, then we are going to have the given look of the material.

Remedy: Yarn with appropriate TPI ought to be bought.

Starting Mark:



Fig 05: Starting Mark

Reason:

- ❖ once a loom stops as a results of woof breakage.
- ❖ Improper quantitative relation of take up and relieve
- ❖ Machine stoppage for very long time.
- ❖ Back rest roller position.
- ❖ Drop wire height and position of drop wire.
- ❖ Position of reed consistent with weaving cycle.

Remedies:

- ❖ By making certain the right quantitative relation between the take up and relieve.
- ❖ By minimizing the longer machine stoppage time.
- ❖ Back rest roller ought to be positioned properly in order that any reasonably loom bar or beginning mark could also be avoided.
- ❖ Tension on warp yarn ought to be maintained properly.
- ❖ Drop wire height and position ought to be maintained properly to avoid beginning mark.

Loose warp in Fabric:

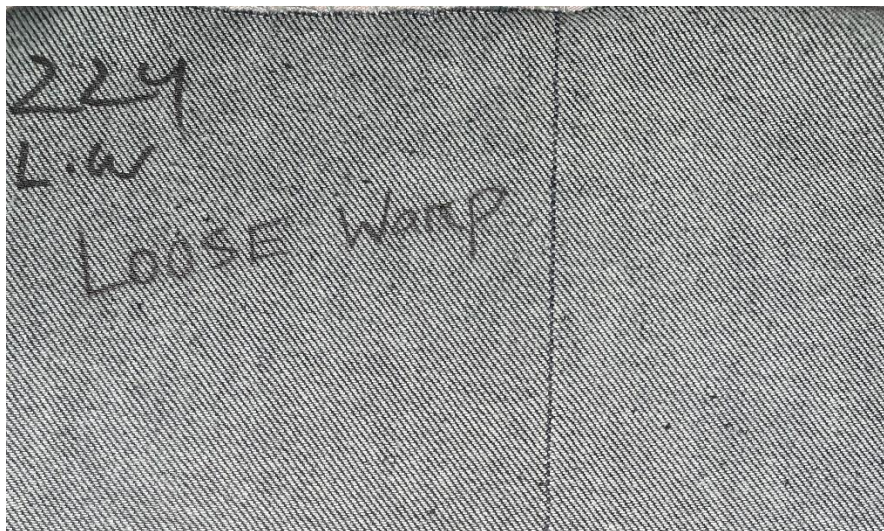


Fig 06: Lose Warp

Reasons:

- ❖ If the warp yarn breakage throughout winding.
- ❖ If the strain of warp yarn is low in warp, then this fault seems.
- ❖ If the weavers beam contains broken warp yarn for size.
- ❖ throughout the weaving because of warp breakage this fault could also be occurred.

Remedies:

- ❖ The warp tension in warp ought to be equal and uniform.
- ❖ we've got to inspire the employee to require care of the material.

Double end:

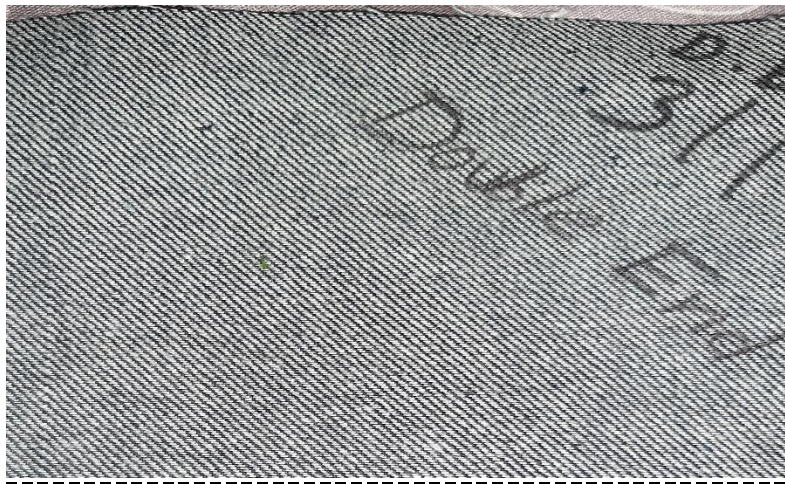


Fig 07: Double End

Cause:

- ❖ When size if the 2 ends of warp stick along. And if the employee doesn't observe that properly than those ends will go along through constant heald eye and may produce this problem.

Remedies:

- ❖ The knotting ought to be done terribly fastidiously that, 2 or additional ends can't be knotted with one another.
- ❖ Employee need to be terribly careful throughout weaving.

Pile of warp or loose yarn:



Fig 08: Lose Yarn

Causes:

- ❖ If the beam contains the loose warp yarn this could be occurred this fault.
- ❖ If the warp yarn breakage throughout weaving.

Remedies:

- ❖ Loom operator ought to be terribly careful to the yarn breakage.
- ❖ The floating thread area unit cut with a clipper.

Broken Pick:



Fig 09: Broken PICK

Causes:

- ❖ If the beat-up motion is finished before insertion of full decide, this sort of fault could also be occurred.
- ❖ If the pressure of the relay nozzle is just too low, then this fault could also be occurred.
- ❖ Faulty relieve and take up motion.
- ❖ Faulty filling stop motion.

Remedies:

- ❖ we've to cut back speed of the machine.
- ❖ we've to take care of the pressure of relay nozzle is optimum.
- ❖ correct temporal order of selecting and beating ought to be maintained.

Miss Pick:



Fig 10: Miss Pick

Cause:

If an employee begins a stopped machine while not selecting the broken filling from the shed then this type of fault arises.

Remedy:

We have to encourage the employee to try to job properly throughout time of decide finding.

Snarl or loose weft:

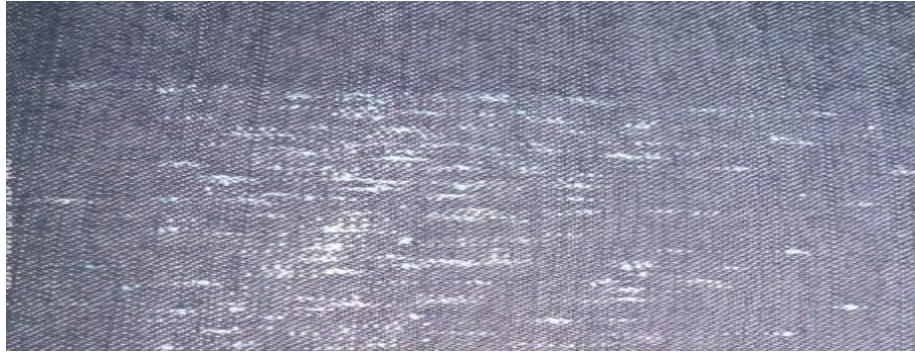


Fig 11: Snarl

Causes:

- ❖ It happens thanks to the non-functional of the programmable felling tensioner.
- ❖ Thanks to movability of the filling yarn.
- ❖ The incorrect alignment of Pre-winder to mounted nozzle.

Remedies:

- ❖ The degree of the PFT ought to be good.
- ❖ The pressure of the most valve, relay valve and relay nozzle ought to be good.
- ❖ The alignment of the pre-winder ought to uniform and straight.

Holes:

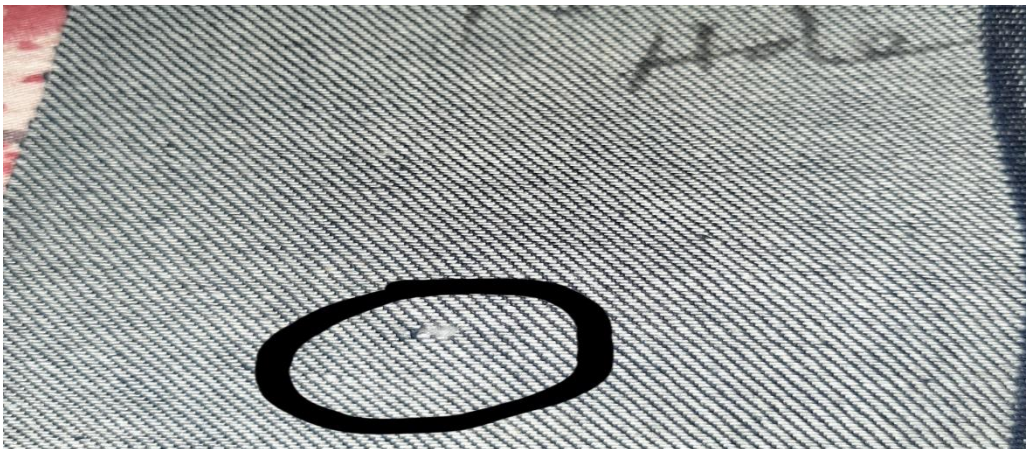


Fig 12: Hole

Causes:

- ❖ If we tend to try and cut the balls of the material that makes the planning of the material poor then it'll be cut beside the warp. this can produce hole within the material. These holes become larger when the finishing method.
- ❖ It may be happened because of the clash between material and sharp fringe of machine components.

Remedies:

- ❖ If we tend to management the ball, we are able to management hole.
- ❖ Employee need to careful throughout the transportation {of material/ of cloth of material} from one floor to a different to avoid sharp purpose tingle with fabric.

Oil spot:

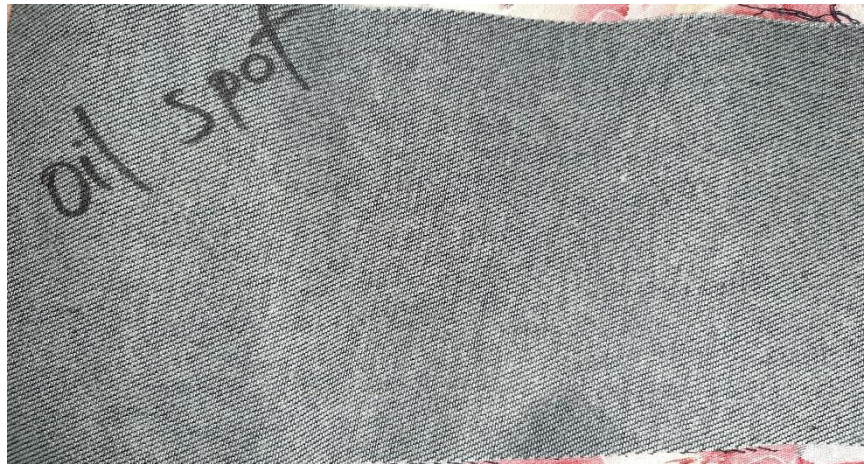


Fig 13: Oil Spot

Causes:

- ❖ Because of carelessness of the upkeep employees and therefore the machine operatives, oil spills over elements that are available contact with the materials and stains are made.
- ❖ Oil spot on the materials is caused by an excessive amount of oiling on loom elements from different sources.

Remedies:

- ❖ By applying stain remover
- ❖ These stains are often removed by scouring.

Tails out:



Fig 14: Tails Out

Cause:

If the cutter doesn't work properly then this sort faults arise.

Remedy:

To solve this downside either we've amendment the degree of cutter or we've to alter the cutter blade.

Temple mark:



Fig 15: Temple Mark

Cause:

If the location of ring within the temple bar is wrong or the pressure of temple to the material is simply too high.

Remedy:

The setting of temple ought to be good and also, the bristle ought to be sharp and straightforward going.

Cut or torn selvedge:



Fig 16: Torn Selvedge

Cause:

If the cutter don't cut the sting the of the material properly or if the weave within the fringe of the material is not correct. Then we'll have this fault.

Remedies:

- ❖ we are able to solve this downside by dynamic the blade of the cutter.
- ❖ By dynamic the degree of the cutter.
- ❖ By applying appropriate weave system within the fringe of the material.

Reed mark:

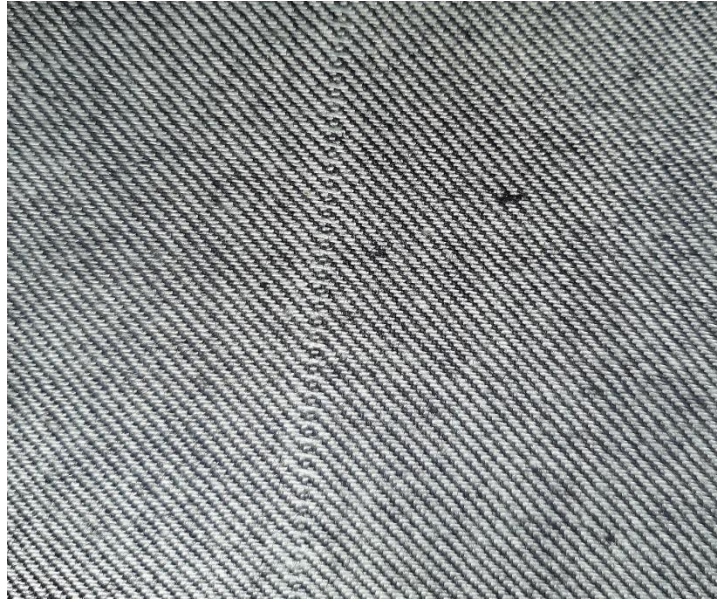


Fig 17: Reed Mark

Causes:

- ❖ A crack between teams of warp ends, either continuous or at intervals, which may happen due to improper spacing of dents.
- ❖ If the dent of the reed is broken then we'll have this sort of faults.

Remedy:

The reed has to be changed.

Crease mark:

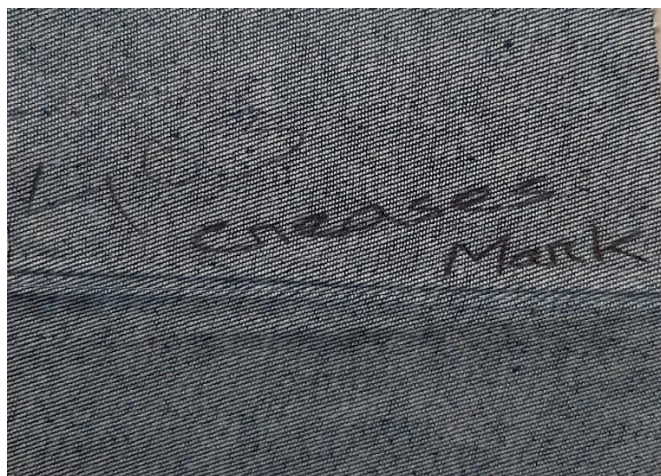


Fig 18: Crease Mark

Causes:

- ❖ Lack of balance in construction of the material.
- ❖ Pressure of high jacker roller.
- ❖ Faulty plaiting device.
- ❖ Slack on tight selvedge causes crease at AN angle to eh selvedge.
- ❖ Variation of heating and cooling rate.
- ❖ Improper cloth movement.

Remedies:

- ❖ Anti-creasing agents area unit wont to avoid crease mark drawback.
- ❖ Correct maintenance of the machine.

Shade variation:

Fig 19: Shade Variation

Causes:

- ❖ The material has the equal dye affinity and if pre-treatment e.g. scouring and bleaching has taken place in numerous machined.
- ❖ Liquor quantitative relation modified ☐ In every batch, time of the material ropes passing through the nozzle is modified.
- ❖ Colouring procedure is totally different for every batch.
- ❖ Temperature and added bulk chemicals modified.
- ❖ Inferiority water particularly pH scale, hardness and salt content.

Remedies:

- ❖ Confirm the material has a similar dye affinity and if pre-treatment e.g. scouring and bleaching has taken place in numerous machined
- ❖ Make sure that in every batch the material rope passes through the nozzle of the machine the same range of your time throughout the particular colouring method.
- ❖ Use a similar stand procedure for every batch.
- ❖ Standards on your dyes and auxiliaries.
- ❖ Check your facility daily, particularly the pH scale, hardness and salt content.

Bad Selvedge:



Fig 20: Bad Selvedge

Causes:

- ❖ If stretches or movableness is applied on the picks yarn the dangerous selvedge is occurred.
- ❖ If the temple isn't properly used throughout weaving.
- ❖ It's obligatory to drag the selvedge's yarn through the Heald Eye and Heald shaft. If it does not complete fastidiously the selvedge are going to be poor.
- ❖ Loose or Tight selvedge yarn within the Beam.
- ❖ If the calendar is cut by the press roller.

- ❖ Dangerous beaming causes the dangerous selvedge of the material.
- ❖ If the stenter machine stretches the material a lot of.

Remedies:

- ❖ Throughout weaving loom operator ought to use caution on the problems.
- ❖ Stretching dimension ought to be set terribly fastidiously.

3.3 A picture of an inspection machine in shasha denims ltd during inspection:



Fig 21: Inspection Machine

3.4 Classes of Fabric defect according to textile:

serial	Faults	Factory name	Process responsible for the faults

1	Starting mark	Both	Weaving
2	Loose warp yarn in fabric	Both	winding ,warping, sizing ,weaving
3	Double warp	Both	Warping
4	Broken warp	Both	Weaving
5	Tight end	Both	Weaving
6	Float warp	Both	Weaving
7	Broken Pick	Both	Weaving
8	Miss pick	Both	Weaving
9	Double Pick	Both	Weaving
10	Snarl or loose weft	Both	Weaving
11	Holes	Both	Weaving
12	Oil spot	Tm Fashions	Dyeing, weaving, finishing
13	Reed mark	Both	Weaving
14	Tails out	Both	Weaving
15	Temple mark	Both	Weaving
16	Cut or torn selvedge	Shasha denims ltd	Weaving
17	Hairy fibre	Shasha denims ltd	Spinning
18	Thick and thin place	Tm Fashions	Spinning
19	High twisted yarn	Tm Fashions	Spinning
20	Gout	Tm Fashions	Weaving
21	Knot	Both	Spinning, warping
22	Uneven printing	Shasha denims ltd	Printing
23	Shade variation	Shasha denims ltd	Dyeing
24	Colour spot	Tm Fashions	Dyeing

Chapter – 4

Discussion result

4.1 Types of Faults:

From our project work we will be able to find that they measure some common defects and there are some different defects that happen in Shasha Denims Ltd and Tm . They measure some completely different defects that happen for Shasha Denims Ltd and Tm Fashions Ltd in step with their different method.

4.2 Faults Common to each factory:

The following faults that occur in each factory Shasha Denims Ltd and Tm Fashions:

- Beginning mark
- Loose warp in cloth
- Double warp
- Broken warp
- End
- Float of warp
- Broken choose
- Miss choose
- Double choose
- Snarl or loose thread
- Oil spot
- Tails out
- Reed mark
- Slub
- Oil stained yarn
- Crease mark

4.3 Faults occurred in Shasha Denims Ltd:

Shasha Denims Ltd may be a denim primarily based plain-woven material business. solely differing types of export-oriented denim materials that are made there. the subsequent faults that occur in Shasha Denims Ltd:

- Weft bar
- Ball
- Cut or torn selvedge
- Hairy fibre
- Uneven printing

- Shade variation Though we've got found on top of fault in Shasha Denims Ltd however these styles of fault don't seem to be restricted in Shasha Denims Ltd. This style of faults may additionally occurred just in case of TM Fashions and different plain-woven factories.

4.4 Faults occurred in TM Fashions:

TM Fashions may be a textile primarily based plain-woven material business however here twill even be created. Here they produced differing types of plain-woven material like Shirt, Pants, garment etc. The faults occurred in TM Fashions square measure quietly distinction from Shasha Denims Ltd. The subsequent faults square measure occurred in TM Fashions:

- Holes
- Temple perforated hole
- Thick and skinny place
- High twisted yarn
- Gout
- Color spot During our project work we've got found the on top of faults occurred in TM Fashions.

But this types of faults don't seem to be mounted for this business additionally this styles of faults could occurred in Shasha Denims Ltd and different plain-woven primarily based business.

4.5 Processes that cause various fabric flaws:

Responsible process	Name of fabric faults
Spinning section	Broken warp
	Hairy fibre
	High twisted yarn
	Thik and thin place
	knot
	Ball
	Slub
	Oil-stained yarn

Responsible process	Name of fabric faults
Warping	Tight end
	Double warp
	Knot
	Loose warp
	Lot mixing of warp yarn

Responsible process	Name of fabric faults
Weaving Section	Gout
	Reed mark
	Cut or torn selvedge
	Tails out
	out Temple mark
	Temple cut hole
	Starting mark
	Float of warp
	Broken pick
	Miss pick
	Snarl or loose filling
	ball
	Weft bar
	Oil spot
	Double pick
	Tails out
knot	

Responsible process	Name of fabric faults
Dyeing and printing section	Oil spot
	Shade variation
	Colour spot
	Uneven printing

Responsible process	Name of fabric faults
Finishing section	Holes
	Oil spot
	Crease mark

From the discussion we are able to say that, to produce a material many sorts of fault is also occurred from totally different section. From our survey we are able to clearly say that the majority of the material faults occurred in weaving section. therefore, weaving section is undergone for cloth faults. to provide glorious quality of cloth the weaving section should be improved.

4.6 Relation between cloth defect and cloth quality:

Fabric defect depends on cloth quality ought to be created, throughout our project we've got visited two factories one is denim primarily trade and another is cloth-based trade. From our project work we are able to say that if we have a tendency to created differing kinds {of cloth | of cloth | of material} like coarser cloth and finer fabric then while not on top of fault differing kinds of faults is also occurred that we have a tendency to don't ascertained during project work.

Chapter – 5

Conclusion

5.1 Conclusion:

From the project we found that majority of the material faults occurred within the weaving section, all the opposite processes area unit also vital to induce the wonderful quality perfect material. We studied about the fault of woven fabric and their remedies.

It was found that if there is any fault in the spinning method, we couldn't expect to induce the standard material from the healthy colouring, weaving, finishing and different section.

As a result, the goods had to be sold at lower costs , that creates an enormous values loss to the corporate. To lessen the worth loss thanks to style of defect occurring within the material, a manufacturer ought to try to minimize material defect from each process steps.

An automated defect detection and identification system will enhance the merchandise quality and results in improved productivity to full fill each client demands and to cut back the costs associated with off quality.

From our project work we can utter that, not one but each and every process from spinning to finishing are equally blameworthy for the defect. We made an effort to get the supreme result from the experiment. We also fancy that the experiment will be very indispensable in our textile industry.

5.2 Reference:

1. All data obtained from the manufacturing company (shasha denims ltd)
2. Lecture sheet.
3. All enlightening data is provided to a specialized individual.
4. <http://textilelearner.blogspot.com>, <http://www.otdtextile.com>