



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

**Faculty of Engineering  
Department of Textile Engineering**

**REPORT ON  
Study on Different Types Washing fault in Denim**

**Course Title: project (Thesis)  
Course Code: TE-4214**

Submitted By

Rakebul Islam	162-23-4697
Md Mehadi Hassan	162-23-4730

Supervised By

**Engr Mohammad Abdul Baset  
Assistant Professor**

This Report Presented in Partial Fulfillment of the Requirements for the Degree  
of **Bachelor of Science in Textile Engineering.**

**Advance in Apparel Manufacturing Technology**

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## LETTER OF APPROVAL

April 11-2019

To

The Head

Department of Textile Engineering

Daffodil International University

102, Shukrabad, Mirpur Road, Dhaka 1207

Subject: Approval of Project Report of B.Sc. In TE

Dear Sir,

I am simply writing to tell you that this task report titled as "**Study on Different types Washing fault in Denim**" has been set up by the under study bearing **ID 163-23-4697 and 162-23-4730** is finished for definite assessment. The entire report is readied in light of the best possible examination at **Orix Washing Project and Confidence Industries LTD.** Furthermore, intrusion through basic examination of observational information with required possessions. The under study were straight forwardly associated with their undertaking exercises.

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

Yours Sincerely

.....

Mohammad Abdul Baset

Assistant Professor

Department of Textile Engineering

Daffodil International University



## ACKNOWLEDGEMENT

Above all, first we thanks to Almighty Allah who gives us ability and power to complete this thesis and research work. With sincerity, we extend our warm and deep appreciation and gratitude to our supervisor, **Mohammad Abdul Baset, Assistant Professor**, Department of Textile Engineering of Daffodil International University for his guidance and support to come up with this research work. Been working with him, we have not only earned valuable knowledge, but was also inspired by his innovativeness which helped to enrich our experience to a greater extent. His ideas and way of working was truly remarkable. We believe that this research could not be finished if he did not help us continuously.

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Finally, we express our sincere gratitude to our parents and friends for their continuous support, ideas and love during our studies.



## DECLARATION

We hereby declare that, this work has been done by us and not copied from else where we also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree.

### Signature of Students:

.....

**1. Rakebul Islam**

**ID: 162-23-4697**

**Department of Textile Engineering**

**Daffodil International University**

.....

**2. Md Mehedi Hassan**

**ID: 162-23-4730**

**Department of Textile Engineering**

**Daffodil International University**



**DEDICATION**

**TO OUR BELOVED & RESPECTED PARENTS**



## ABSTRACT

The Thesis is on “Study on garments washing fault” Denim is easily the most versatile fabric on the planet, and the most popular all over the world. The purpose of this project is to analytical study of garments washing quality and identify after wash defects found of garments. Garments wash is identically new adapted technology in the garments finish technology. It is specially done on denim and denim garments. In garments finish it is an indispensable part for finished garments. The washing processes are normal wash, enzyme wash, acid wash, bleach wash, stone bleach wash, towel bleach washing and different dry wash process. The garments wash after quality check and different wash process has been different defects. Then we found different defects (%) on garments after due to washing P.P light (1.22%),P.P deep (1.03%), Shade Dark (5.38%),Shade Light (2.42%),shade deep (5.32%), shade blue (2.61%), spot (0.24%), uneven (0.63%), reject (0.13%) Whisker (0.26%) We learn about all these defect occurs due to wash and learned the process of removing all the faults. So finally we think that, if we can find the washing problem and take precautionary steps to minimize the faults then we will get 100% good quality garments according to buyer requirements and also eliminate the reject of poor quality product. We specially focus after wash what type of effect comes in garments and especially what type of damages caused by this washing process.



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# **CHAPTER- 01**

# **INTRODUCTION:**



## **1. Introduction:**

Denim pants speak to an expected \$60 billion worldwide market. Style is today deficient without denim. Denim comes in all structures, looks and washes to coordinate with each dress. It is hard to trust that a similar denim was initially utilized in apparel for the jeans and overalls worn by diggers on the west coast (US). Various innovative elements have added to making denim the style symbol that it is today incorporating immense enhancements in turning, weaving, completing and so on. A standout amongst the most significant piece of production of the lovely denim pants is the washing. The difference in time, human decision, request, pieces of clothing plan and style is changing in all respects rapidly. To satisfy the need of clients, pieces of clothing producers are adjusting new innovations and procedures. Pieces of clothing wash is another innovation, which is able to meet the present necessities. So as to convey the investigations of the denim washing, assessed of the diverse kind of the denim texture and examination of the information progressively viable, writing survey was finished.

Since 1978, pieces of clothing pre washing has turned out to be increasingly prevalent. It is an innovation by which standpoint, size and design of pieces of clothing are changed or adjusted is called article of clothing washing. Washing is mostly connected on denim pieces of clothing and some other easygoing articles of clothing.

### **1.1 Purpose of washing:**

- To evacuate estimating materials and to mollify the Garment. Evacuate The Sizing Material delicate the Denim Garments.
- To change the appearance to make style. Show up alter to new style Denim Garments.
- To make diverse impacts and completes Denim pieces of clothing in the wake of Washing.
- To make vintage look and utilized Many other impact of denim pieces of clothing.
- Before pieces of clothing pre washing was done on pants, purchasers needed to wash them at home before wearing them in light of the fact that before washing they were excessively hardened, excessively long and too enormous to wear.
- After pre washing, the customers don't need to stress over the fit since the pre washing has removed practically all the shrinkage and made pants stable.



## **1.2 Objectives of the report:**

The purpose of the Report is to identify the effect of changes due to different washing process. We also try to find out the duties and responsibilities of a service holder as we will go through this Situation soon. Another objective of this Report was to know about the denim fabric and different garments washing process. This Report also includes the different changes due to washing on Denim fabric.

The specific objectives of the study are describing as follows:

- To find out the denim fabric design and about denim fabric.
- To know about the different washing process.
- To know about different dry process of garment washing.
- To determine the changes that happens on denim fabric due to different washing method.
- observe the changes that happens on the sample due to washing
- Compare the changes, before washing and after washing
- Compare the damages occurred due to washing
- And find the remedies of this damages.

## **1.3 Limitation of Report:**

There some limitations we have faced in report:

- We did not get exact cooperation from the operators.
- We did not get the investigation report.



# **CHAPTER- 02**

## **LITERATURE REVIEW:**

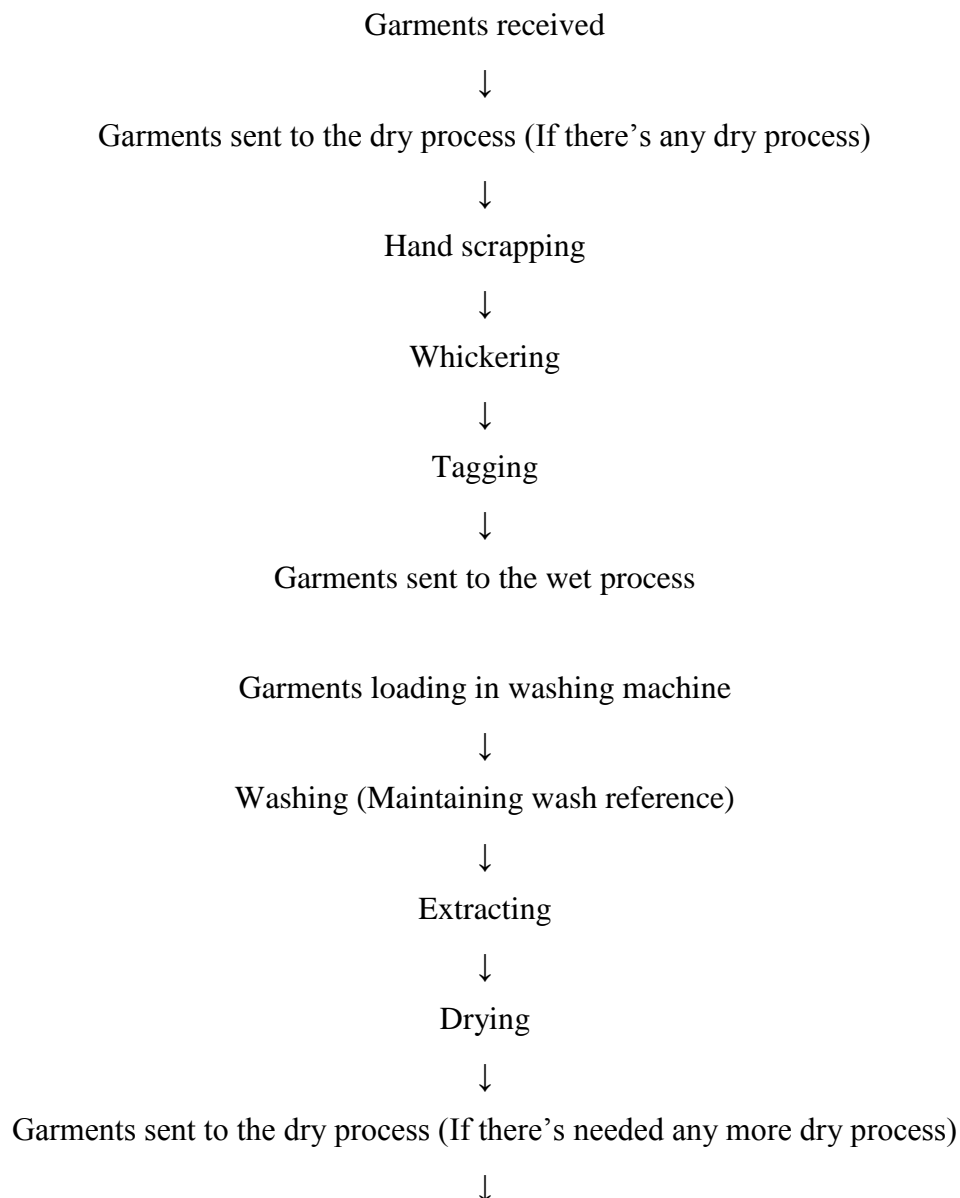


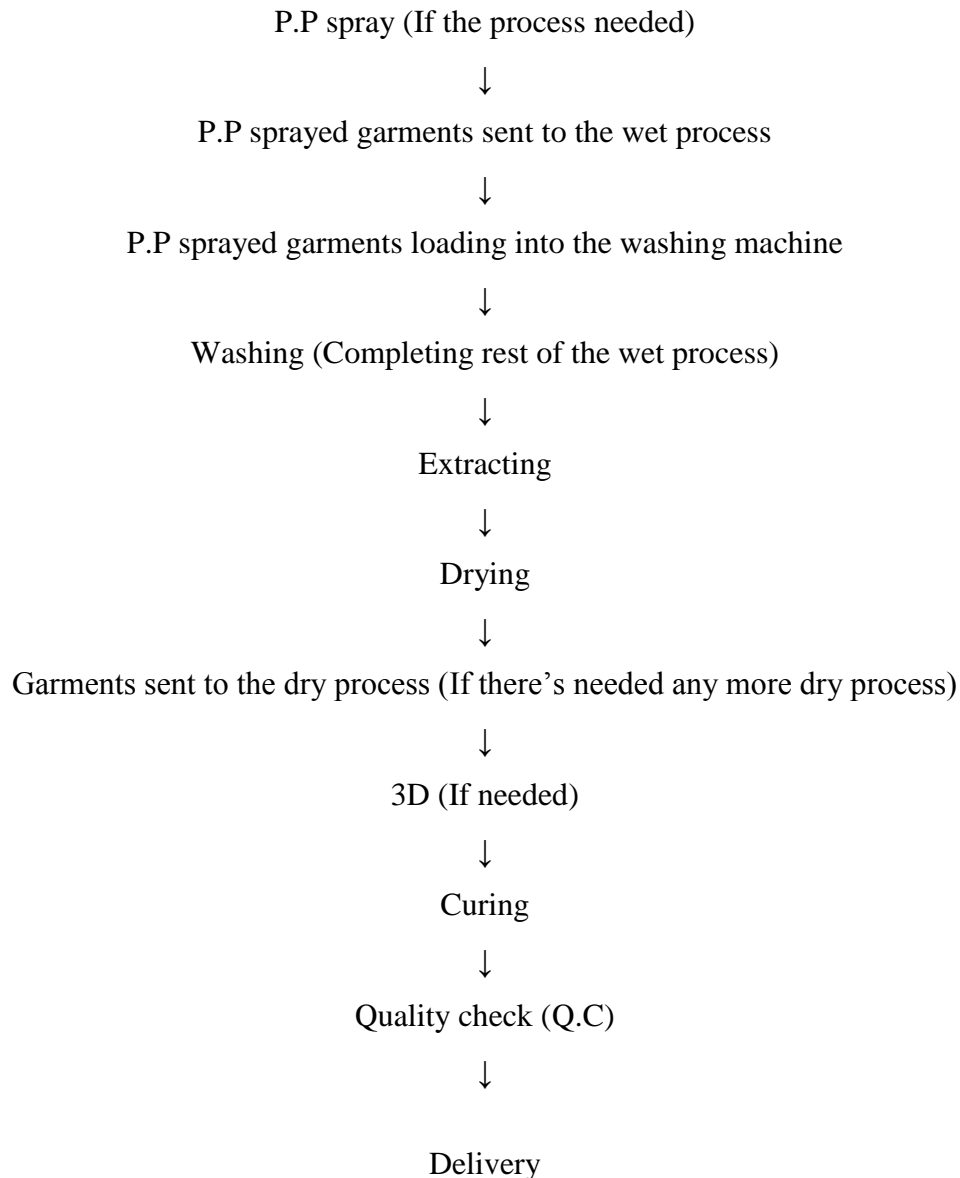
## 2.1 Garments Wash:

The garment wash is a new technology in the garment trade. Normally washing means cleaning something. But in the garment trade, only cleaning of garments is not the garment wash. Garment Washing is a technology which is applied to change or modify the outlook, appearance, comfortable, and design of garments. Garment washing is applied on solid dyed garments or solid Printed fabric. Now I would like to discuss the different types and objects of wash in the garment industry.

## 2.2 Flow chart of Denim Washing:

Actual process flow chart for garments washings are mentioned in the following:





### **2.3 Historical background of garments washing:**

Pieces of clothing washing has been utilizing for most recent 50 years in various nations around the globe. Be that as it may, in Bangladesh it was first created in 1988. Prior to this, washing was done in Hong Kong for example in the wake of sewing articles of clothing are sent to Hong Kong for washing and after that again import here for completing and pressing. So additional overhead cost (cargo cost, washing cost, time utilizations) was attracted. Presently a day article of clothing washing is done in Bangladesh and notwithstanding clothes washers are delivered locally.





## 2.4 Objectives of Garments washing:

- Washing procedure of piece of clothing is done to make wash look appearance. In the wake of washing the articles of clothing make another looks which appears the new bit of design.
- By the washing system, blurred/old look, shading or tinted influence is made in the articles of clothing which additionally appear the best pinch of pieces of clothing.
- Washing system makes new style, for example, labeling, pounding, wreck, Blasting, whickering, lasting wrinkle, profound color, splash-color, P. P shower, hand pooing, P.P wiping and so forth. This likewise appears the best dash of articles of clothing.
- The fundamental and significant capacity of washing is to lessen estimate materials accordingly the piece of clothing become measure free and become delicate hand feel.
- When these delicate articles of clothing are contacted then it appears to best pinch of pieces of clothing.
- To fascination the clients/Buyer by various sorts of Fashionable washing and market advancements.
- Due to washing, shrinkage occurs in the garments. There is no possibility of further shrinkage of the wash garments.
- Any dirt, spot or germ if added in the garments during manufacturing is also removed due to washing

## 2.5 Effects of Garments Washing:

- It means a tendency of changing outlook of a garments.
- Change in comfort.
- Change in fashion.
- Remove dirt or oil spot.
- Elimination of dirt/microorganism.
- Change in color



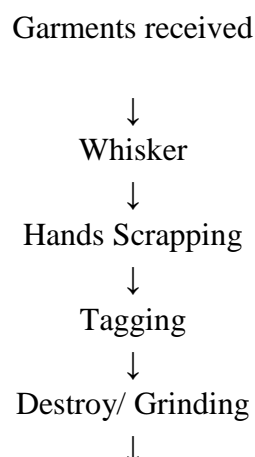
## 2.6 Advantages of garments washing:

- Removal of starch, making the garments soft feeling.
- Application of softener at the last stage of washing increase the softness property of garments.
- Any dirt, oil spot, stains developed in the garments during manufacturing also removed.
- Shrinkage occurs in garments during washing, resulting in accurate size of the garments.
- Washed garments could be used directly after purchase from stores or shops.
- Partial discoloration of garments produces new out look to the garments.
- Different types of washing produces different effect of out looking.
- Similar outlook could also be produced by different types of washing.
- Comparatively lower capital investment to set-up a garment washing plant.

## 2.7 Types of garments washing:

In garments industry, there are mainly two types of washing process for garments products. Those processes are wet washing process and dry washing process. The washing process are depends on according to the fabric quality and Buyer requirement. But most common and applied wash in garment is normal wash, which is also known as detergent wash. To the some wet washing process enzyme wash, stone wash, bleach wash, Acid wash, Towel wash is most popular to the buyer and the manufacturer. On the other hand, Potassium per magnet spray and hand scrapping Grinding and Destroy is common for dry washing process in the garments industry.

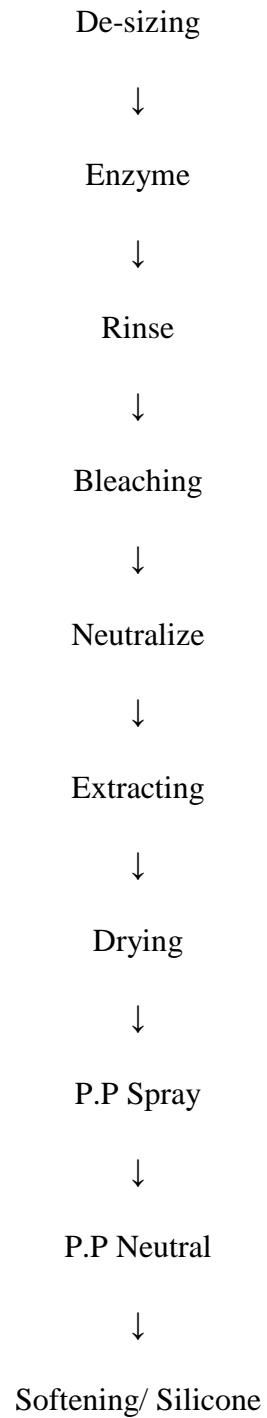
### 2.7.1 Flow Chart of Dry Process in Garments Washing:

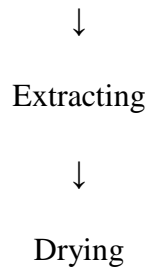




P.P Spray  
↓  
Crinkle

### 2.7.2 Flow Chart of Wet Process in Garments Washing:





## 2.8 Dry process/Mechanical process:

### 2.8.1 Whisker:

It is the first process of dry process section in garments washing. At first developed to the whickering pattern. Then whickering pattern are input in the garments. Whisker is done with the help of sharp edge emery paper rolled on fine wood stick or pasted on plastic material.



FIG 2.1: Whickering pattern

### 2.8.2 Hand Scrapping:

Removing to color from the surface of denim garment is called hand scrapping. Here, fabric is scrapped emery paper in order to get an used effect. Some number of emery paper used in hand scrapping 220, 320, 400, 600, 1000, 1200.



FIG 2.2.1: Hand Scarping

### 2.8.3 Tagging:

Tagging is one of the dry processing machine. Two types of tagging machine are use in washing industry. One is hand tagging and another is machine tagging. This machine used in the pocket corner.

In order to achieve favorite vintage look, different destroying processes such as grinding, abrasion, whole, scratching and needle effect are used in dry process section.



Machine Tagging



Hand Tagging

FIG 2.1.3: Tacking

### 2.8.4 P.P Spray:



P.P implies potassium permanganate. P.P showered onto wanted territories of articles of clothing and P.P oxidizes indigo shading. This procedure utilized in two synthetic concoctions Potassium for every manganite and Acetic corrosive in water. This procedure should be possible previously or after pieces of clothing washing process. Here, at first need to showered P.P, at that point it ought to be killed to get last impact.



FIG 2.1.4: P.P Spray

### 2.8.5 3D:

Here, pitch synthetic is utilized on rough looking regions to make the impact perpetual. At first, gum is splashed all over of the unshaven articles of clothing with shower weapon, at that point hairs are structured by collapsing the texture. At long last gum showered articles of clothing are put into broiler and dry at high temperature for 30 minutes.



FIG 2.1.5: 3D



## **2.9 Wet process/Chemical process:**

### **2.9.1 De-size:**

De-estimate is the primary procedure of wet procedure area in pieces of clothing washing. Here, de-estimating process is finished by utilizing de-measure substance to evacuate estimate material, starch, soil from the pieces of clothing. A few synthetics utilized in de-estimating process Soda, Detergent, EPQ, RM and so forth.

### **2.9.2 Enzyme:**

To coordinate with the ideal shade, here compound procedure is finished by utilizing Acid or Neutral catalyst. Protein procedure can be medium catalyst, light compound, substantial chemical or stone catalyst. Chemical procedure is utilized temperature 45c and distinctive occasions are utilized. Denim pieces of clothing are utilized Deterpal EP-Q New 700 and twill articles of clothing are utilized Bio clean catalyst.

### **2.9.3 Cleaning:**

After completing enzyme process, garments are cleaned here by rinsing 2-3 times used in normal water.

### **2.9.4 Bleaching:**

Here, shading can be expelled consistently from the pieces of clothing and evacuation of shading is finished by the purchaser endorsed shade. Blanching should be possible by utilizing K.C.I dye or Japanese Bleach.

### **2.9.5 Neutralize:**

Bleaching chemical must be neutralize here by using Sodium meta-bi-sulphite or Hydrogen per oxide. This time used in temperature 50c then time 5-10 minutes and complete 2 rinsing.

### **2.9.6 Extracting:**

In the wake of finishing all the above procedures, pieces of clothing are emptied from the machine and extricated by utilizing hydro extractor machine. Utilized in the hydro extractor machine 2-4 minutes this machine RPM 700-900.





### **2.9.7 Drying:**

Articles of clothing are dried here by utilizing gas dryer or steam dryer. Kinds of dryer choice rely upon the ideal shade. Here, it ought to be noticed that, gas dryer is ideal for rosy shade and steam dries is for pale blue shade. In the wake of drying, every one of the articles of clothing ought to be sent to the dry procedure segment for P.P shower.

### **2.9.8 P.P Spray:**

Here, P.P shower one kinds of the impact made in the articles of clothing this splash one sorts of concoction splash. Used to this compound in the P.P shower Potassium permanganate and Phosphoric corrosive. At that point the pieces of clothing give in the wet segment

### **2.9.9 P.P Neutralize:**

Here, P.P sprayed garments are neutralized by using sodium Meta bi sulphate. This is one types of wet process.

### **2.9.10 Softening:**

This process is done for increasing softness effect of garments. Softening can be done by using cationic or non-ionic softener and silicone.

### **2.9.11 Extracting:**

Finally garments are unloaded from the washing machine and extracting by using hydro extractor this machine water remove 70%.

### **2.9.12 Drying:**

Garments are dried by using gas or steam dryer. If gas dryer temperature 80-85c then time 30-35 minutes then cold dryer 10-15 minutes.

## **2.10 Types of Chemical Use in Washing Plant:**

1. Enzyme
2. Detergent
3. Acetic Acid
4. Antistain





5. Bleaching powder
6. Sodium hyposulfite
7. Caustic Soda
8. Soda Ash
9. Sodium Bicarbonate
10. Potassium permanganate
11. Cationic / nonionic Flax softener
12. Micro Emulsion Silicon
13. Salt (sodium chloride)
14. Buffer
15. Hydrogen peroxide
16. Stabilizer
17. Fixing agent
18. Catanizer
19. Optical Brightener
20. Resin
21. Sodium Metabisulphite
22. DE sizing agent
23. Pretreat Zip
24. Leveling Agent
25. Silicone
26. Texstaine RM
27. Pumice Stone
28. Blue Brightener
29. Red Brightener

## **2.10 Function of chemical in denim washing:**

### **2.10.1 Enzyme:**

The activity of chemical amid compound wash it hydrolysis the cellulose. At first it assaults the having anticipating filaments and hydrolyzed them. At that point it assaults the yarn parcel inside texture and gathering hydrolyzed the yarn partition. Thus shading turns out from the yarn divide and blurred influence is created.



### **2.10.2 Detergent:**

Concoction character is greasy liquor polyglycol ether in a fluid, glycolic arrangement. Cleanser is generally appropriate in the ceaseless and irregular pretreatment of a wide range of fiber and their mixes. To expels polluting influences, mineral oil defilement and sizes from the articles of clothing.

### **2.10.3 Acetic Acid:**

Acidic Acid is utilized to kill the pieces of clothing from antacid condition and to control the pH esteem in wash shower

### **2.10.4 Antistain:**

Antistain is utilized to avoid the recoloring on weft yarn of the denim (white yarn), white pockets of article of clothing, levels, and reached textures of piece of clothing and expanded the splendor of textures; it is likewise goes about as hostile to wrinkling specialist.

### **2.10.5 Bleaching Powder:**

Bleaching powder is an oxidizing agent. It is used in washing plant for colourout from the denim garments. We can achieve deferent shade of coloring garment i.e. Dark, Medium, Light shade.

### **2.10.6 Sodium Hyposulphite:**

Sodium Hyposulphite is used to neutralize the garments from chlorine bleach.

### **2.10.7 Caustic Soda:**

Caustic created the role in bleach technique without color change the garment and has a good cleaning power. It is work as fading affect/old looking affect come rapidly on garments.

### **2.10.8 Soda Ash:**

Soft drink cinder makes basic mechanism for the breakdown of color. Soft drink cinder help to uniform fading activity on fade shower. It has a cleaning force and help shading blurring impact of article of clothing. It is utilized likewise for shading fixing in color shower.



#### **2.10.9 Sodium Bicarbonate:**

Sodium bicarbonate is used in washing plant in the bleach bath with bleaching powder for Denim Light shade because easily color out with in shot time. As a result production increase and costing is low.

#### **2.10.10 Potassium Permanganate:**

Potassium permanganate is used in Acid wash with Punic stone for color out from the garments. It is used also spray chamber by nozzle for color out (whitish affect) from the garments.

#### **2.10.11 Flax Softener (Cationic, nonionic):**

Softener is used to make the garments treated textiles a surface feel that is both sickly and soft and also provides excellent lubricating properties.

#### **2.10.12 Micro Emulsion Silicon:**

Amino Silicon is a textile finishing agent consisting mainly of amino modified silicon. When applied on fabrics, it gives durable softness, lubricity, elastic handle, ant pilling, dimensional stability, tear resistance and fabric to be cut and sewn more easily allows and improving wear and easy care properties.

#### **2.10.13 Sodium Chloride (Salt):**

It helps to exhaust dye in to the fiber.

#### **2.10.14 Buffer:**

Buffer is used in washing plant for pH control of enzyme bath, softener bath, desizing bath.

#### **2.10.15 Hydrogen Peroxide:**

Hydrogen peroxide creates the prime role in bleach wash technique. In alkaline medium, hydrogen peroxide breaks up and gives some perhydroxhylion, which discolourthe coloring materials and as a result fading affect is developed. Hydrogen peroxide is used in scouring,



bleaching bath for white/ready for dyeing of gray fabric garments. It is used also neutralized the garment from alkaline condition.

#### **2.10.16 Stabilizer:**

Hydrogen peroxide is work a good condition at temperature above 90°C, when temperature raise to 90°C then break the Hydrogen peroxide. Stabilizer is used to protect break the hydrogen peroxide and peroxide works in bath smoothly.

#### **2.10.17 Fixing Agent:**

Fixing agent is used for unfixed dye to fix on fabrics, when fabric color will be proper fixing then color fastness & rubbing fastness will be increased.

#### **2.10.18 Catalyzer:**

Catalyzer is used in pigment exhaust method processing. Pigment is color not dyestuff. Pigment colors have no affinity to fabric when cutinize is used in fabric then increase the affinity between pigment color & fabrics.

#### **2.10.19 Optical Brightness:**

Two types of optical brightener are used in the washing plant a) Red brightener. b) Blue brightener. Mainly optical brightener is used for improve the brightness of garments.

#### **2.10.20 Resin:**

Resin is high efficiency textile resin based on etherified dimethylolglyoxalin monoureineurea. Resin is used for the creation of semi-permanent creases in denim and other cellulose fabrics. It is used also cotton and polyester fabric. Fabric retains soft handle after washing.

#### **2.10 .21 Sodium Metabisulphite:**

Sodium metabisulphite is used in the washing plant to neutralize the garment from potassium permanganate.



### **2.10.22 De-sizing Agent:**

De-sizing agent is used to remove mainly starches, waxes, fats pectin's, minerals & unfixed indigo dye from denim, twills, poplin & canvas fabrics etc.

## **2.11 Some denim garments washing process:**

1. Normal wash
2. Enzyme wash
3. Acid wash
4. Bleach wash

### **2.11.1 The washing process of Normal/Garments Wash:**

#### **Normal wash:**

Procedure in which substantial or slight ruining evacuated and exchanged to the water as an answer or scattering. Washing has the impact of cleaning surfaces. The subsequent impact is a few physical/compound procedures (Washing process). Washing and cleaning establish an intricate procedure, amid which ruining is evacuated by methods for physical detachment, with or without substance change, from a substrate. Modern washing procedures can be arranged as arrangement washing, scattering washing and response washing.



### **First step: De-sizing**

1. Lot size.....70 kg twill/ denim garments.
2. Add water.... L: R = 8-10.....560-700 liter.
3. Run the machine.
4. Add detergent...0.5gm/ liter.....280-350 gm.
5. Temperature .....sometime cool & sometime 45 c to 60 c.
6. Time.....5 to 10 minute.
7. Drop the liquor
8. Cold 2 rinse.

### **Second step: Softening**

1. Add water @ L: R =1: 6.....420 liter.
2. Washing machine running.
3. Add flax softener @ 0.6gm/ liter.....252 gm.
4. Add acetic acid @ 0.5 gm / liter .....210 gm.
5. Time.....5 to 10 minutes.
6. Drop the liquor.
7. Unload the garments on the trolley.

### **Third step: Hydro extraction (700-900 rpm)**

1. Time.....2 to 4 minute.
2. To remove excess water in the garments.

### **Four step: Dryer**

1. Load in gas dryer -50 kg
2. Running the machine.
3. Temperature:-70c to 85c.
4. Time 30-35 mts for dry.
5. Time:-10-15 mts foe cold dry.



**FIG: 2.2 Normal Wash.**



### 2.11.2 Enzyme Wash:

Compounds are bio concoction substances that carry on as impetuses toward explicit responses. What makes extremely fascinating the compounds under a concoction perspective is their high particularity or at the end of the day, their capacity to assault specifically a given substrate.

#### First Step: De-sizing

1. Lot weight (80 pes) ..... 60 kg denim long sleeve jacket.
2. Add water @ L: R = 1 : 9 ..... 540 Liters.
3. Machine Running.
4. Temperature..... 60°C.
5. Add De-sizing agent @ 0.6 gm / liter..... 324 gm.
6. Add Detergent @ 0.8 gm / liter..... 432 gm.
7. Time.....10-15 minute.
8. Drop the liquor.
9. Wash 2 time by cold water.

#### Second Step: Enzyme

1. Add water @ L : R = 1 : 8 ..... 450 Litre
2. Temperature..... 45°C.
3. Add Acetic Acid @ 0.6 gm / liter ..... 270 gm.
4. Add Anti back staining @ 0.6 gm / liter..... 270 gm.
5. Add Acid Enzyme @ 2.00 gm / liter ..... 900 gm.
6. Time ..... (Depend upon the shade )...40--60 minute.
7. Increase temperature to 90°C and run 1 minute (enzyme killing).
8. Drop the liquor/ 2 Rinse





### **Third Step: Softening**

1. Add water @ L : R = 1 : 8 ..... 450 Liter.
2. Add Acetic Acid @ 0.6 gm / liter..... 270 gm.
3. Cationic Softener @ 1 gm / liter..... 450 gm.
4. Temperature..... Cold.
5. Time ..... 10 to 15 mts.
6. Drain the bath.
7. Then unload the garments on trolley.

### **Fourth Step: Hydro extractor Machine (700-900 rpm)**

1. After unloading garments from the washing machine then they are sent to hydro extractor machine to remove excess water from the washed garments.

### **Fifth Step: Drying Machine**

1. Load 60 kg garments to gas dryer.
2. Temperature set -75°C to 85°C.
3. Run 35-40 minute.
4. After then run 10 mts in cold dryer

### **Sixth Step: Delivery**

After dryer, garment goes to quality section for quality checking and good one delivery.



**FIG: 2.2.1 Enzyme Wash.**

### **2.11.3 Acid Wash:**

Amid Acid wash, pumic stones are utilized. By the activity of pumic stones, sporadic blurring influence is created on the substantial articles of clothing like denims, thick canvas/twill, and sweater. The pumic stones act a brushing activity on the piece of clothing texture surface. The zone where all the more brushing move makes place there more dicolour or fadding influence is created and the region where less brushing move makes place less brushing move and makes place less fadding influence will be created. The multi-layer texture regions like – neckline, calf, take, placket, side crease and so on territory will be brushed more than the single layer regions. Therefore unpredictable fadding influence will be created on the articles of clothing texture surface. Along these lines thusly blurring influence might be created on the article of clothing by corrosive wash method.

A processor Acid wash of 60 kg batch of Denim long pant:-

**First Step:** Pretreatment/De-sizing.

1. Add water @ L : R = 1 : 10 ..... 600 litres.
2. Start Machine.
3. Add desizing agent @ 1 gm/litre .....600 Gms.
4. Add detergent @ 1 gm/litre ..... 600 Gms.



5. Temperature..... 60°c.
6. Time..... 15 mts.
7. Drop the liquor.
8. Rinse one for 3 minutes (cold).

**Second Step: Hot wash :**

1. Add water @ L: R = 1: 10..... 600 liters.
2. Temperature..... 60°c.
3. Time..... 5 mts.
4. Drop the liquor.
5. Here hot wash is used to remove the adhering materials from the garment surface.
6. Unload the garments from the washing m/c in the trolley.
7. Load the pre treated garments in the dryer m/c.
8. Dry the garment completely & unload the garments.
9. The pumic stones used for acid wash need to pre-treat in the following chemical solution:
10. Water ..... 100 L
11. Potassium per manganate..... 1000 Gms.
12. Phosphoric Acid..... 250 Gms.
13. Stire the solution in a stainless steel tub with dry pumic stone.
14. Soak the stones with the chemical solution ..... 10 –15 minutes.
15. The stones will pick up the solution. Then the soaked stones are dried in the open air for..... 2 to 3 hrs.
16. Then pre-treated garment 30 –40 kg per batch load in the dry washing machine.
17. Load the per-treated stones (about 50 kg) in washing machine.



18. Start machine running for each batch ..... 7 to 10 mts.
19. Stop machine running.
20. Unload the treated garment separately. Pumic stones with P.P. solution hit on garment surface as a result fadding will be developed.
21. Then load the stones treated garment in another washing machine.

**Third Step: Wash for Cleaning**

1. Batch wt..... 70 kg.
2. Add water @ L: R = 1: 8..... 560 litres.
3. Add detergent @ 1 gm/litre .....560 Gms.
4. Temperature..... 40°c -50°c.
5. Time .....10 mts.
6. Drop the liquor.
7. Here detergent is used to remove the breaking stone dust and chemicals from the garment surface.

**Fourth Step: Whitening/Neutralization**

1. Add water @ L: R = 1: 8..... 560 litres.
2. Machine running.
3. Add Metabisulphite @ 5 gm/litre..... 2800 Gms.
4. Cold temperature.
5. Time 5 mts.

6. Drop the liquor.

**Fifth Step: Soft Wash**

1. Add water @ L: R = 1: 7..... 490 liters.
2. Machine running.
3. Add Acetic acid @ 0.6 gm/liter ..... 294 Gms.
4. Add Softner @ 1 gm/liter ..... 490 Gms.
5. Then unload the garments.



Before



After

**FIG: 2.2.3 Acid Wash**



#### **2.11.4 Bleach Wash:**

A process of bleach wash of 60 kg batch of Denim half Pant as mentioned below:

##### **First Step: Pre-treatment/De-sizing**

1. Batch size..... 60 kg.
2. Add water @ L: R = 1: 9..... 540 liters.
3. Start the machine.
4. Temperature..... 60°C
5. Add De-sizing agent @ 0.6 gm / liter ..... 324 gm.
6. Add Detergent / Antistain @ 1 gm / liter..... 540 gm.
7. Time..... 15 to 25 mts.
8. Drop the liquor.

##### **Second Step: Hot Wash**

1. Add water @ L: R = 1: 9..... 540 litres.
2. Temperature..... 60°C.
3. Time..... 5 mts.

##### **Third Step: Bleaching**

1. Add water @ L: R = 1: 8..... 480 litres.
2. Machine running.
3. Add bleaching powder (k.c.i) @ 10 gm/liter 4800 Gms.
4. Add soda ash @ 5 gm/liter ..... 2400 Gms.
5. Temperature..... 60°C.



6. Time (Depend upon the shade)..... 12 to 15 mts.
7. Drop the liquor.
8. Rinse twice, each 3 minutes.

**Fourth Step: Neutral Wash**

1. Add water @ L: R = 1: 9..... 540 litres.
2. Add sodium hyposulphite @ 3 gm/liter ..... 1620 Gms.
3. Temperature ..... 40°c.
4. Time (Depend upon the shade)..... 10 to 12 mts.
5. Drop the liquor. 6. Rinse one.

**Fifth Step: Soft Wash**

1. Add water @ L: R = 1: 8..... 480 liters.
2. Add Acetic Acid @ 0.6 gm/liter ..... 288 Gms.
3. Cationic softner @ 1 gm/liter ..... 480 Gms.
4. Time..... 5 mts.
5. Drop the liquor.
6. Unload the garments to trolley.



Before

After

**FIG: 2.2.4 Bleach Wash.**

### **2.19 Different types of washing fault:**

There are a lot of washing faults. We can those after washing and during the washing process among them some faults has been mentioned below.

- Color shade variation
- Crease mark
- After wash hole
- Very dark & very light shade
- Bleaching spot
- P.P spot
- Part shade
- Uneven
- High p.p spray shade
- Low p.p spray shade
- Poor hand feel
- Inside pocket damage
- Grinding more
- Tagging problem





## **CHAPTER- 03**

### **3.1 EXPERIMENTAL DETAILS:**



### 3.0 Data collection:

For this report we have collected various reports from Orix Washing Project. In this reports we find out various defects in the garments. For fined out the problem we flow the instructions.

### Hourly Quality Report:

### Orix Washing Project

**Orix Washing project**  
Ranavola, Nishatnagar, Turag, Dhaka-1230

Hourly Quality Report ( A )

Date: 26-02-19 Buyer: NORDKINT Wash Type: ENJAINI Q.I # No: 15059  
 Style: MILANI Colour: M-BLUE Item: DEJACKET (Before Wash/ After Wash)

Type of Defects	1	2	3	4	5	6	7	8	9	10	11	12	Total
shade deep	20	30	10	30	20		10	15	12	20	12		
shade Light	05	02	04	10	02		02	04	08	05	08		
shade blue	10	15	-		10		05	02	01	07	15		
shade ghola	-	-	08	20			07	08	05	02	07		
SPOT			-							2			
REJECT			-				01		-				
UN-EVEN	01	02	03	5			09	10	2	09	02		
Total Output	120	120	120	240	100		200	200	120	200	200		
Total Good GMTS	94	71	95	175	68		171	151	92	160	156		
Reject Q.T.Y													
Reject %													
Defect Q.T.Y	36	49	25	65	32		29	39	28	40	44		
Defect %													

Prepared By: QC    QC INC: QC INC    QC Manager: QC Manager    APM/PM (Dry/Wet): APM/PM (Dry/Wet)    Technical Manager: Technical Manager    GM: GM

**FIG: 3.1 Final Q.C Report.**

Date: 26/02/2019

Total cheek quantity: 1620

Total pass quantity: 1233

Total defect quantity: 387

Total defect %: 23.89%



### 3.1.1 Hourly Quality Report:

#### Orix Washing Project

Ranavola, Nishatnagar, Turag, Dhaka-1230

Date: 26-02-2019	Buyer: NORPKINT	Wash Type: Enzyme	Q.I#No:15059
Style: MILANI	Color: M. Blue	Item: Jacket	Before/ After Wash

Type of Defect	1	2	3	4	5	6	7	8	9	10	11	12	Total
Shade Deep	20	30	10	30	20	Lunch	10	15	12	20	12		179
Shade Light	05	02	04	10	02		02	04	08	05	08		50
Shade Blue	10	15	--	--	10		05	02	01	07	15		65
Shade Dull	--	--	08	20	--		07	08	05	02	07		57
Spot	--	--	--	--	--		--	--	--	02	--		2
Reject	--	--	--	--	--		01	--	--	--	--		1
Uneven	01	02	03	05	--		04	10	02	04	02		33
Total Output	120	120	120	240	100		200	200	120	200	200		1620
Total Good	94	71	95	175	68		171	151	92	160	156		1233
Reject Q.T.Y	0	0	0	0	0		01	0	0	0	0		1
Reject%	0	0	0	0	0		0.5	0	0	0	0		0.030
Defect Q.T.Y	36	49	25	65	32		29	39	28	40	44		387
Defect%	30	40.83	20.83	27.04	32		14.5	19.5	23.33	20	22		23.89

FIG: 3.1.1 Final Q.C Report.



### 3.1.2 Description:

This operation bulletin sheet is a QC hourly Report of orix washing project. Here this sheet showed Buyer name, style name, article and this sheet also contain operation description, color, check quantity, good quantity, defect quantity, defect percentage, shade, Tint, P.P, Whisker.

Here, lot started 8 am Buyer name is NORPKINT and its style no. is MILANI required shade is M. Blue and total quantity of this lot is 1620. After final wash (Enzyme) we get 1233 pieces okay and 387 pieces not okay because of various types of washing faults. Some faults occur during dry process and some faults occur during wet process. In dry process there are many faults are occurred but in this lot we get some faults like P.P spot and whisker faults. In 387 pieces of faults here we get 2 pieces of PP spot. In wet process there are also many faults are occurred like shade deep 179 pieces, shade light 50 pieces, shade blue 65 pieces, shade dull 57 pieces, and uneven 33 pieces etc.

### 3.2 Hourly Quality Report: Orix Washing Project

**Orix Washing project**  
Ranavola, Nishatnagar, Turag, Dhaka-1230

Hourly Quality Report

Date: 02-03-2019      Buyer: ZARA      Wash Type: ENZYME      Q.I # No: 15059  
 Style: 003      Colour: M. BLUE      Item: 5 Jacket      (Before Wash/ After Wash)  
 Order No

Type of Defects	1	2	3	4	5	6	7	8	9	10	11	12	Total
shade deep		20		05			30	15	20	30	15		
shade light		05		02			10	04	05	20	02		
shade Blue		08		05			09		-		10		
shade ghola		10		10			19	50	5	35			
p.p. deep		04		02			04	02	1	1			
p.p. light		03		10			02	-		-	20		
Spot		02		-			04			-			
Reject		05		01			-	-	05	-	-		
Total Output	-	200	-	200			200	250	150	200	250		
Total Good GMTS													
Reject Q.T.Y													
Reject %													
Defect Q.T.Y													
Defect %													

Prepared By: [Signature] QC      [Signature] QC INC      [Signature] QC MATHAN      [Signature] APM/PM (Dry/Wet)      [Signature] Technical Manager      [Signature] GM

FIG: 3.2 Final Q.C Report.

Date: 2/3/2019



Total cheek quantity: 1450

Total pass quantity: 1082

Total defects quantity: 368

Total defects: 25.38%

### 3.2.1 Hourly Quality Report:

## Orix Washing Project

**Ranavola, Nishatnigor, Turag, Dhaka-1230**

Date: 2-3-2019		Buyer: Zara				Wash Type: Enzyme				Q.I#No:15059			
Style: 003		Color: M. Blue				Item: Jacket				Before/After Wash			
Type of defect	1	2	3	4	5	6	7	8	9	10	11	12	Total
Shade Deep	--	20	--	05	--	Lunch	30	15	10	3	15		98
Shade Light	--	05	--	02	--		10	04	05	20	02		48
Shade Blue	--	08	--	05	--		09	--	--	--	10		32
Shade Dull	--	10	--	10	--		19	50	05	35	--		129
P.P Deep	--	04	--	02	--		04	02	01	01	--		14
P.P Light	--	03	--	10	--		02	--	--	--	20		35
Spot	--	02	--	--	--		04	--	--	--	--		06
Reject	--	05	01	--			--	--	--	--	--		06
Total		200		200			200	250	150	200	250		1450



Output												
Total		143		165			122	179	129	141	203	1082
Good												
Reject		05		01								06
Q.T.Y												
Reject%		2.5		0.5								0.206
Defect		57		35			78	71	21	59	47	368
Q.T.Y												
Defect%		28.		17.			39	28.	14	29.5	18.	25.38
		5		5				4			8	

**FIG: 3.2.1 Final Q.C Report.**

### 3.2.2 Description:


This report Buyer name is Zara and its style no. is 003, required shade is M. Blue, total quantity of this lot is 1450, garments item is jacket. This order is the enzyme wash, both sides P.P spray. In this order 1082 pieces goods okay and 368 pieces goods not okay because of various types of washing faults. Some faults during dry process and some faults occur during wet process. In dry process there are many faults are occurred but in this lot we get some faults like PP spot and whisker faults. In 368 pieces of faults here we get 6 pieces of spot, 35 pieces P.P light, 14 pieces P.P deep, shade dull 129 pieces, shade blue 32 pieces, shade light 48 pieces, shade deep 98 pieces, but 6 pieces garments is reject this is very negative side. Other garment overall quality is good and shade is good.





### 3.3 Hourly Inspection Report:

### Confidence Industries LTD


**CONFIDENCE INDUSTRIES LTD.**  
 Wet & Dry Processing Zone  
**IN LINE INSPECTION REPORT**

SHIFT:  A  B  D  N Date: 13/02/19

Buyer: Gof Vendor: A.G.L Style: 861 PO/Ord #: Allpo-19 Body: D. SHOFFALL Order Qty.

Fabric Content: 100% Cotton Type of work: WA/OS LEA/PO/132/10x Total Production by: 13,933

**Requirement :**

Whisker  Granding  Spray  Wrinkle  Enzym

Bleach  Addisational  Taging  Hand Sand

Main Lbl: old mary Care Lbl  Size lbl

Color	Blue (10)							
Qty. Inspected	1476							
Qty. Rejected	—							
Ok	1340							

Defect Description	Major	Minor
Hand Sand Light		15
Hand Sand Less		18
Body Damage		
D.Y.Spot		09
Pocket Corner Damage		1
P.P Spot		
Whisker Light		09
Shade Light		16
Shade Blue		19
Shade Dark		55
Shade Redish		
Shade Yellow		
		= 136

Comments and / or action to be taken  
 ATTN: TO THE Q.C. DEPT. FROM (A.G.M/OS) TO SIR I HAVE  
 FIND OUT OF FOLLOWING DEFECTS IN YOUR PRODUCTION PLY  
 TAK CARE AND CONTROL IN YOUR RUNNING PRODUCTION.

Inspection Label : AQL 2.5 System.

0/91	91 / 150	151 / 280	281/500	501/1200	1201/3200	3201 / 10000	10001/36000
5 / 0	20 / 1	20 / 1	32 / 2	50/3	80 / 5	125 / 7	200/10

Pass  Fail  Rework 120

QC QA A.P.M Q.M PM A.G.M Plant. G.M

FIG: 3.2.1 Final Q.C Report.



### 3.3.1 Hourly Inspection Report:

**Confidence Industries LTD**

**Wet & Dry Processing Zone**

Date:13-02-2019	Buyer: GAP	Wash Type: Bleach
Style: 861	Color: Blue	Item: Pant
<b>Defect Description</b>	<b>Major</b>	<b>Minor</b>
Hand Sand Light	--	14
Hand Sand Less	--	22
Body Damage	--	
D.Y. Sport	--	01
Pocket Corner Damage	--	
P.P Sport	--	
Whisker Light	--	05
Shade Light	--	12
Shade Blue	--	20
Shade Dark	--	39
<b>Total</b>	<b>0</b>	<b>123</b>

Qty. Inspected: 663	Ok Goods:540	Defect Goods: 123
Main Lbl: Old Navy	Quality Reject: 00	Rework:111

**FIG: 3.3 Final Q.C Report.**






### **3.3.2 Description:**

This report is a in line inspection report, we are collect this report confidence industries LTD. Buyer name is GAP and its style no. is 861, required shade is Blue, total quantity of this lot is 663, garments item is long pants.

This order is the Bleach wash and some dry process is created in this garments. This garments dry process is whisker, wrinkle, hand sand, tagging and both sides P.P sphy. In this order 540 pieces goods okay and 123 pieces goods not okay because of various types of washing faults. Some faults during dry process and some faults occur during wet process. In dry process there are many faults are occurred but in this lot we get some faults like PP spot and shade dark faults. In 123 pieces of faults here we get 01 pieces of spot, 22 pieces hand sand less, 14 pieces hand sand light, whisker light 05 pieces, shade blue 20 pieces, shade light 12 pieces, shade dark 39 pieces, and 111 pieces created rework overall quality is good and shade is good.



### 3.4 Hourly Inspection Report:


**CONFIDENCE INDUSTRIES LTD.**  
 Wet & Dry Processing Zone  
**IN LINE INSPECTION REPORT**

SHIFT:  A  B  D  N Date: 13/02/19

Buyer: Gof Vendor: A.G.L Style: 861 PO/Ord #: ALPO-19 Body: D. SHOFFER Order Qty.:

Fabric Content: 100% Cotton Type of work: WA/103 LEA/PO/132/10x Total Production by: 13,933

**Requirement:**

Whisker  Granding  Spray  Wrinkle  Enzym

Bleach  Addisational  Taging  Hand Sand

Main Lbl: old mary Care Lbl  Size lbl

Color	Blue (10)						
Qty. Inspected	1476						
Qty. Rejected	-						
Ok	1340						

Defect Description	Major	Minor
Hand Sand Light		15
Hand Sand Less		18
Body Damage		
D.Y.Spot		09
Pocket Corner Damage		1
P.P Spot		
Whisker Light		09
Shade Light		16
Shade Blue		19
Shade Dark		55
Shade Redish		
Shade Yellow		
		= 136

Comments and / or action to be taken  
 DEFECTS TO THE Q.C/A.P.M/TEAM FROM (29/1/19) TO (13/2/19) ARE  
 FIND OUT OF FOLLOWING DEFECTS IN YOUR PRODUCTION PLY  
 TAK CARE AND CONTROL IN YOUR REMAINING PRODUCTION.

Inspection Label : AQL 2.5 System.

0/91	91 / 150	151 / 280	281/500	501/1200	1201/3200	3201 / 10000	10001/36000
5 / 0	20 / 1	20 / 1	32 / 2	50/3	80 / 5	125 / 7	200/10

Pass  Fail  Rework: 120

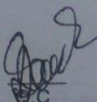


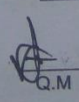
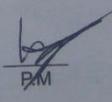

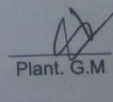
      

FIG: 3.4 Final Q.C Report.



### 3.4.1 Hourly Inspection Report

**Confidence Industries LTD**

**Wet & Dry Processing Zone**

Date:13-02-2019	Buyer: GAP	Wash Type: Bleach
Style: 861	Color: Blue	Item: Pant
<b>Defect Discription</b>	<b>Major</b>	<b>Minor</b>
Hand Sand Light	--	15
Hand Sand Less	--	18
Body Damage		
D.Y Sport	--	04
Pocket Corner Damage		
P.P Sport		
Whisker Light	--	09
Shade Light	--	16
Shade Blue	--	19
Shade Dark	--	55
Shade Redish		
<b>Total</b>	<b>0</b>	<b>136</b>

Qty. Inspected:1476	Ok Good: 1340	Defect Goods: 136
Main Lbi: Old Navy	Quality Reject:00	Rework: 120

**FIG: 3.4.1 Final Q.C Report.**



### **3.4.2 Discription:**

This report is a hourly inspection report, we are collect this report confidence industries LTD. Buyer name is GAP and its style no. is 861, required shade is Blue, total quantity of this lot is 1476, garments item is long pants.

This order is the Bleach wash and some dry process is created in this garments. This garments dry process is whisker, wrinkle, hand sand, tagging and both sides P.P s pry. In this order 1340 pieces goods okay and 136 pieces goods not okay because of various types of washing faults. Some faults during dry process and some faults occur during wet process. In dry process there are many faults are occurred but in this lot we get some faults like PP spot and shade dark faults. In 136 pieces of faults here we get 04 pieces of spot, 18 pieces hand sand less, 15 pieces hand sand light, whisker light 09 pieces, shade blue 19 pieces, shade light 16 pieces, shade dark 55 pieces, and 120 pieces created rework overall quality is good and shade is good.



### 3.5 Hourly Inspection Report Summary:

**Orix Washing Project**  
&  
**Confidence Industries LTD**

Types of Defect	Report 1	Report 2	Report 3	Report 4	Total
Shade Deep	179	98			277
Shade Light	50	48	12	16	126
Shade Blue	65	32	20	19	136
Shade Dull	57	129	39	55	280
Whisker Light			5	9	14
P.P Light		35	14	15	64
P.P Deep		14	22	18	54
Uneven	33				33
Sport	2	6	1	4	13
Reject	1	6			7
<b>Total</b>	<b>387</b>	<b>368</b>	<b>113</b>	<b>136</b>	<b>1004</b>

<b>Total Goods=5209</b>	<b>Ok Goods=4195</b>	<b>Defect Goods=1004</b>
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FIG: 3.5 Final Q.C Report summary.



### 3.5.1 Discription:

This report is a hourly inspection report summary, we are collect this report ori washing project & confidence industries LTD. Total quantity of this report is 5209 pieces garments.

This order is the Bleach and enzyme wash and some dry process is created in this garments. This garments dry process is whisker, wrinkle, hand sand, tagging and both sides P.P spry. In this report 4195 pieces goods okay and 1004 pieces goods not okay because of various types of washing faults. Some faults during dry process and some faults occur during wet process. In dry process there are many faults are occurred but in this report we get some faults like PP spot and shade dark faults. In 1004 pieces of faults here we get 13 pieces of spot, 54 pieces P.P deep, 64 pieces P.P light, whisker light 14 pieces, shade deep 277 pieces, shade blue 136 pieces, shade light 126 pieces, shade dark 280 pieces, uneven 33 pieces, reject 7 pieces, This is problem is this report some wet process problem and some dry process problem..



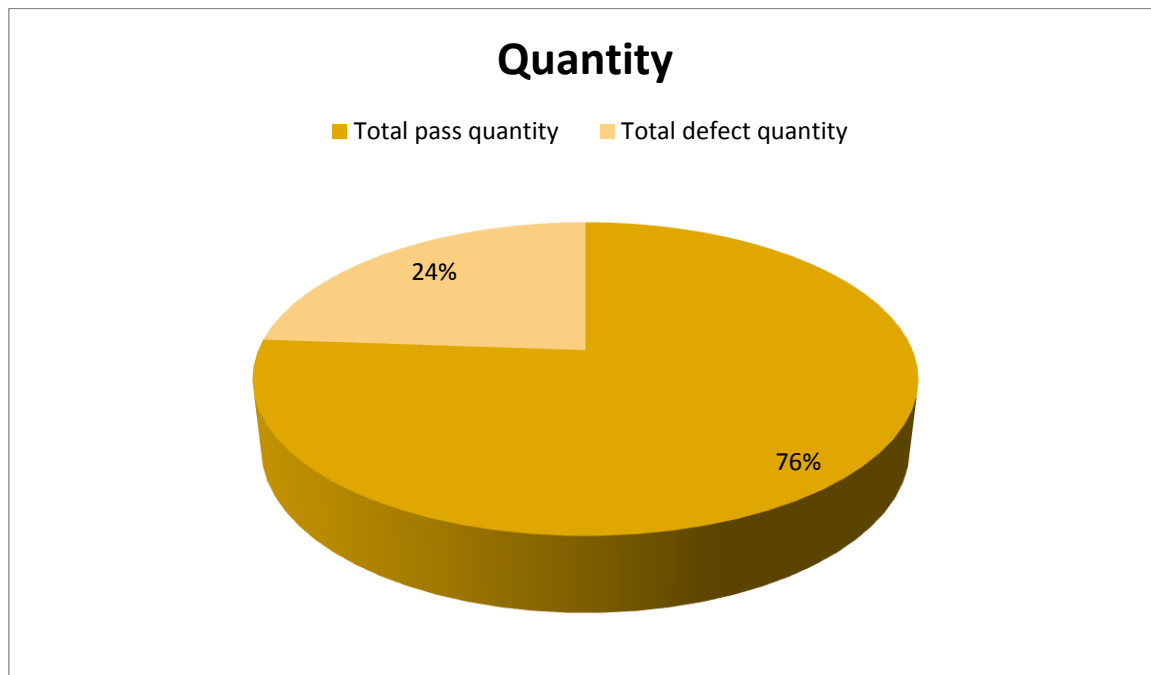
# **CHAPTER- 04**

## **RESULT & DISCUSSION:**



## 4. Result & Discussion:

### 4.1 Analysis of Quality Report from 3.1:



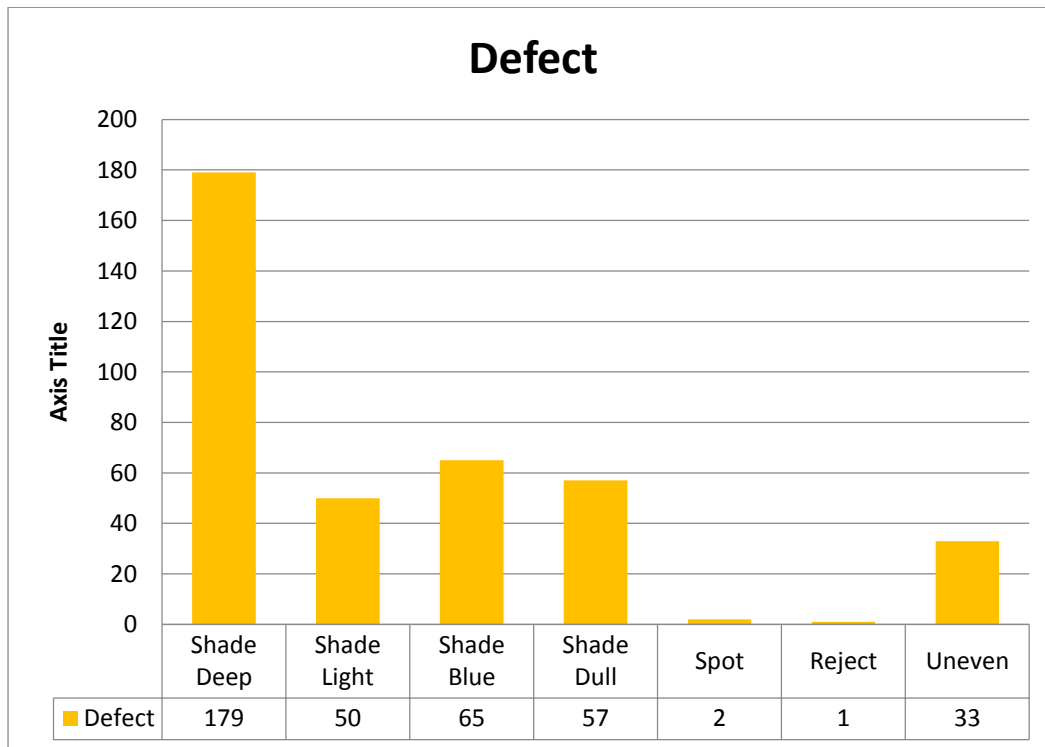
**FIG 4.1: Pie Chart of Quantity Percentage**

#### **Description:**

In this pie chart Total check quality is 1620 pieces. After enzyme wash complete we get 1233 pieces good garments and 387 pieces are not okay that are some defect take place. This is orix washing project report this report we are created pie chart percentage.



### 4.1.1 Analysis of Defect Quantity from Chart 3.1

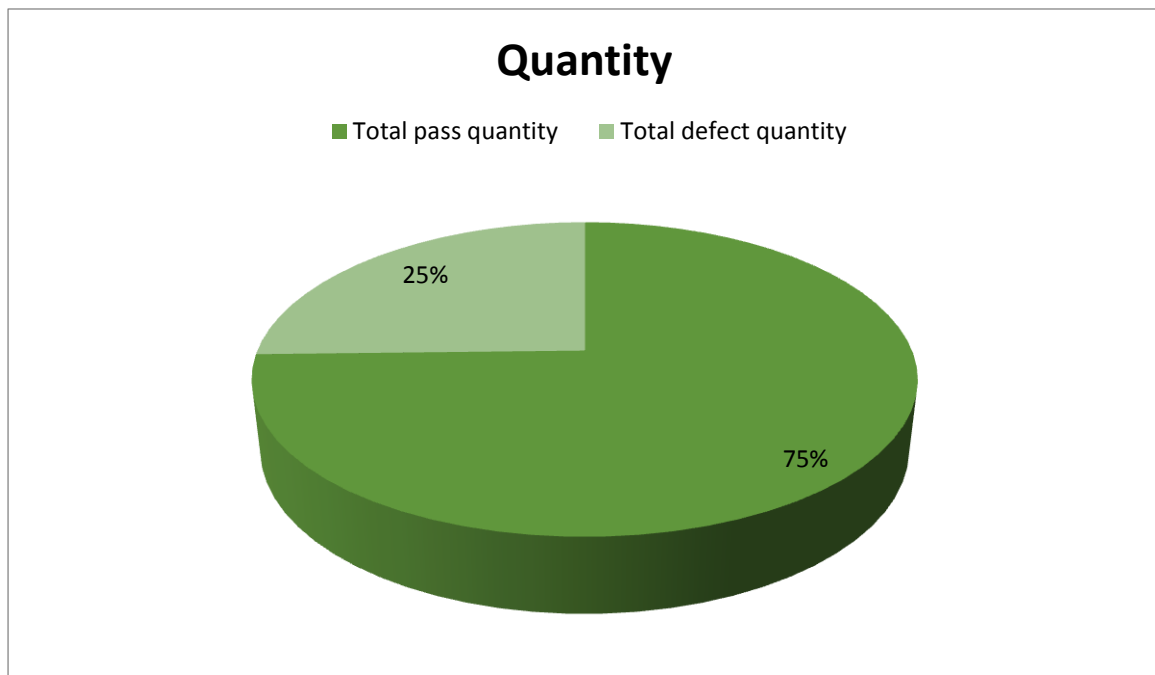


**FIG 4.1.1 Bar chat of defects.**

#### **Description:**

This chart shows the defect quantity. Here, we see the highest no. of defect shade deep 179 pieces then second highest position is shade blue 65 pieces, shade dull 57 pieces 3<sup>rd</sup> position, and shade light 50 pieces uneven 33 pieces, spot 2 pieces, reject 1 pieces that its.

#### 4.2 Analysis of Quality Report from 3.2:

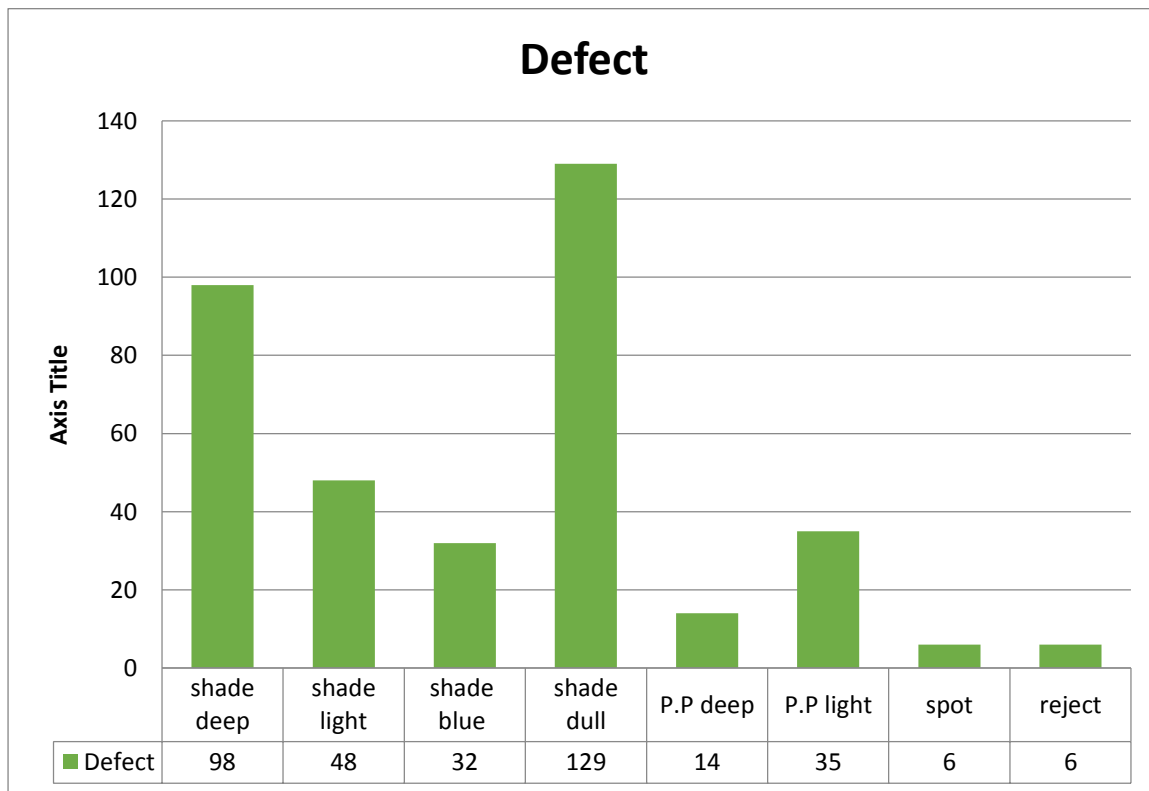


**FIG 4.2: Pie chart of different types goods**

#### **Description:**

In this pie chart Total check quality is 1450 pieces. After enzyme wash complete we get 1082 pieces good garments and 368 pieces are not okay that are some defect take place. This is orix washing project report this report we are created pie chart percentage.

### 4.2.1 Analysis of Defect Quantity from Chart 3.2:

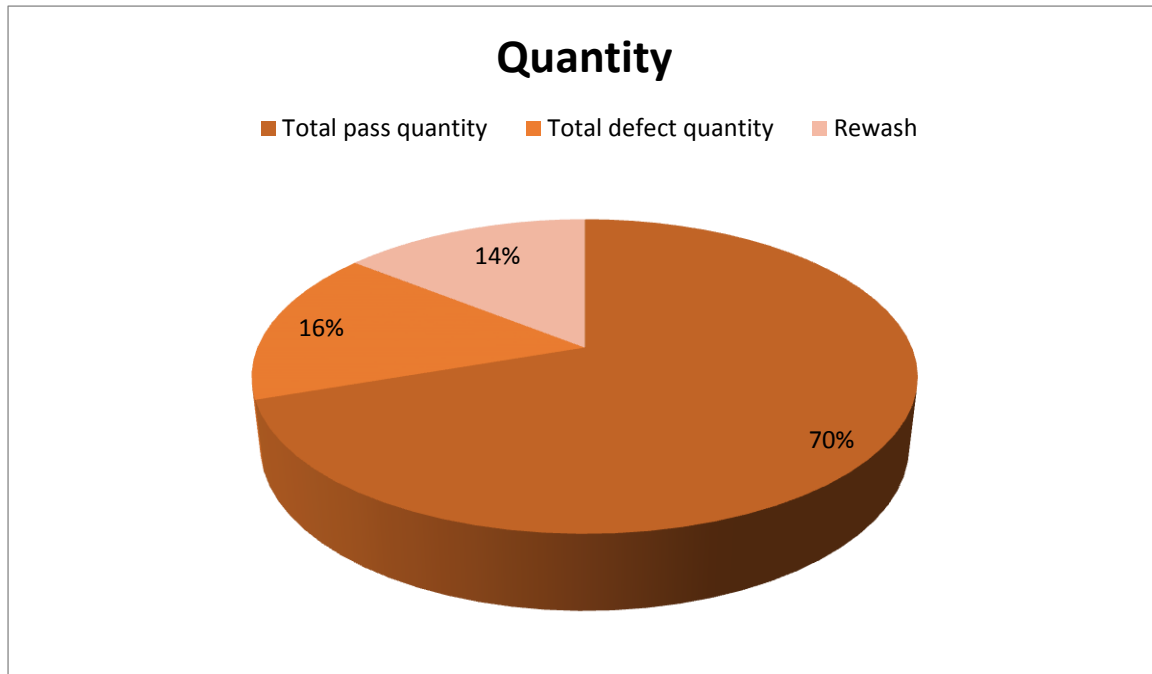


**FIG 4.2.1 Bar chart of defect number.**

#### **Description:**

This chart shows the defect quantity. Here, we see the highest no. of defect shade dull 129 pieces then second highest position is shade deep 98 pieces, shade light 48 pieces 3<sup>rd</sup> position, and shade blue 32 pieces P.P deep 14 pieces, P.P light 35 pieces, spot 6 pieces, reject 6 pieces that its.

### 4.3 Analysis of Quality Report from 3.3:

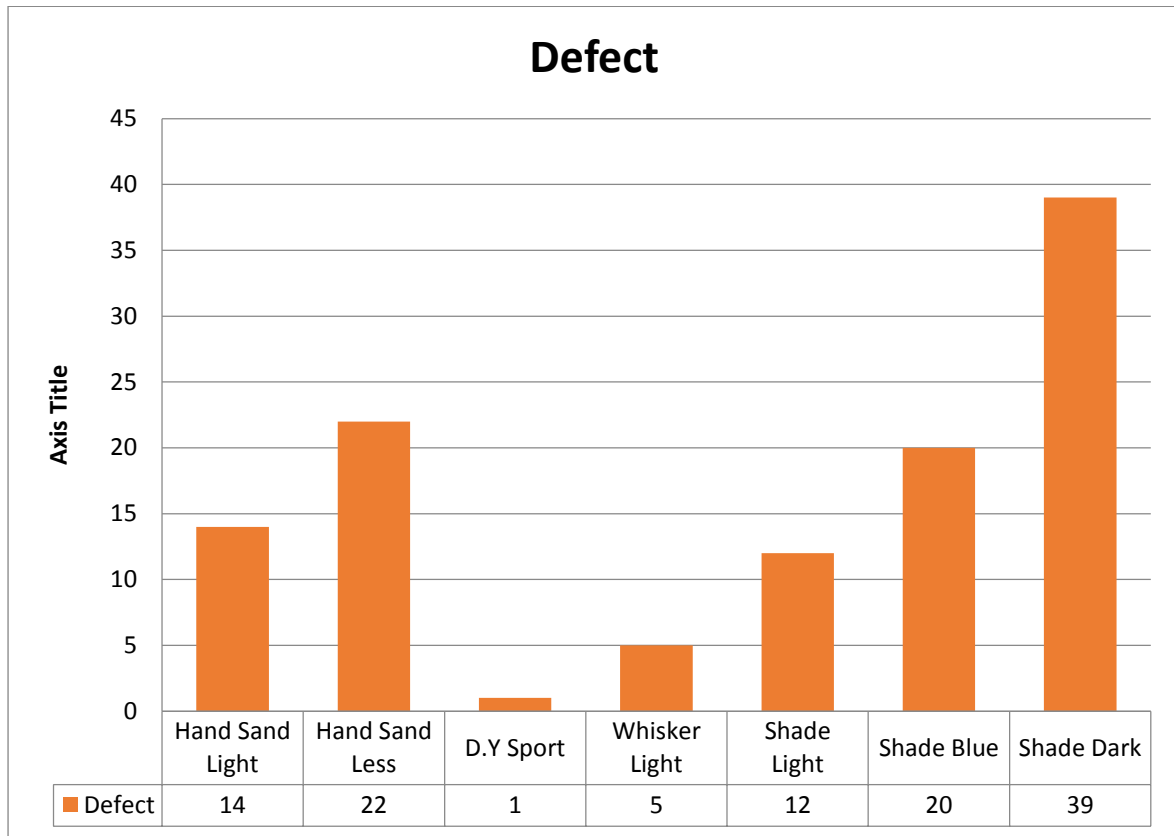


**FIG 4.3: Pie chart of different types goods.**

#### **Description:**

In this pie chart Total check quality is 663 pieces. After bleach wash complete goods we get 540 pieces good garments and 123 pieces are not okay that are some defect take place, rework number of goods 111. This is confidence industries LTD report this report we are created pie chart percentage.

### 4.3.1 Analysis of Defect Quantity from Chart 3.3:

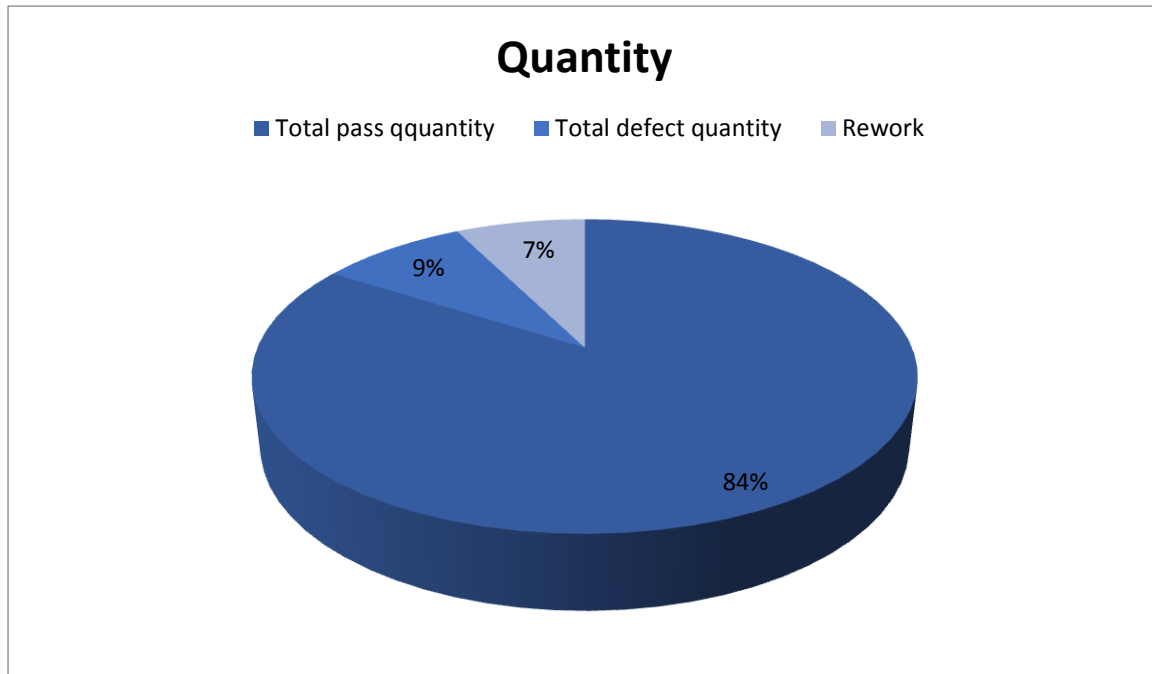


**FIG 4.3.1 Bar chart of defect number.**

#### **Description:**

This chart shows the defect quantity. Here, we see the highest no. of defect shade dark 39 pieces then second highest position is hand sand less 22 pieces, shade blue 20 pieces 3<sup>rd</sup> position, hand sand light 14 pieces, shade light 12 pieces, whisker light 5 pieces, spot 1 pieces. This is total defect quantity.

#### 4.4 Analysis of Quality Report from 3.4:



**FIG 4.4: Pie chart of different types goods.**

#### **Description:**

In this pie chart Total check quality is 1476 pieces. After bleach wash complete goods we get 1340 pieces good garments and 136 pieces are not okay that are some defect take place, rework number of goods 120. This is confidence industries LTD report this report we are created pie chart percentage.



#### 4.4.1 Analysis of Defect Quantity from Chart 3.4:

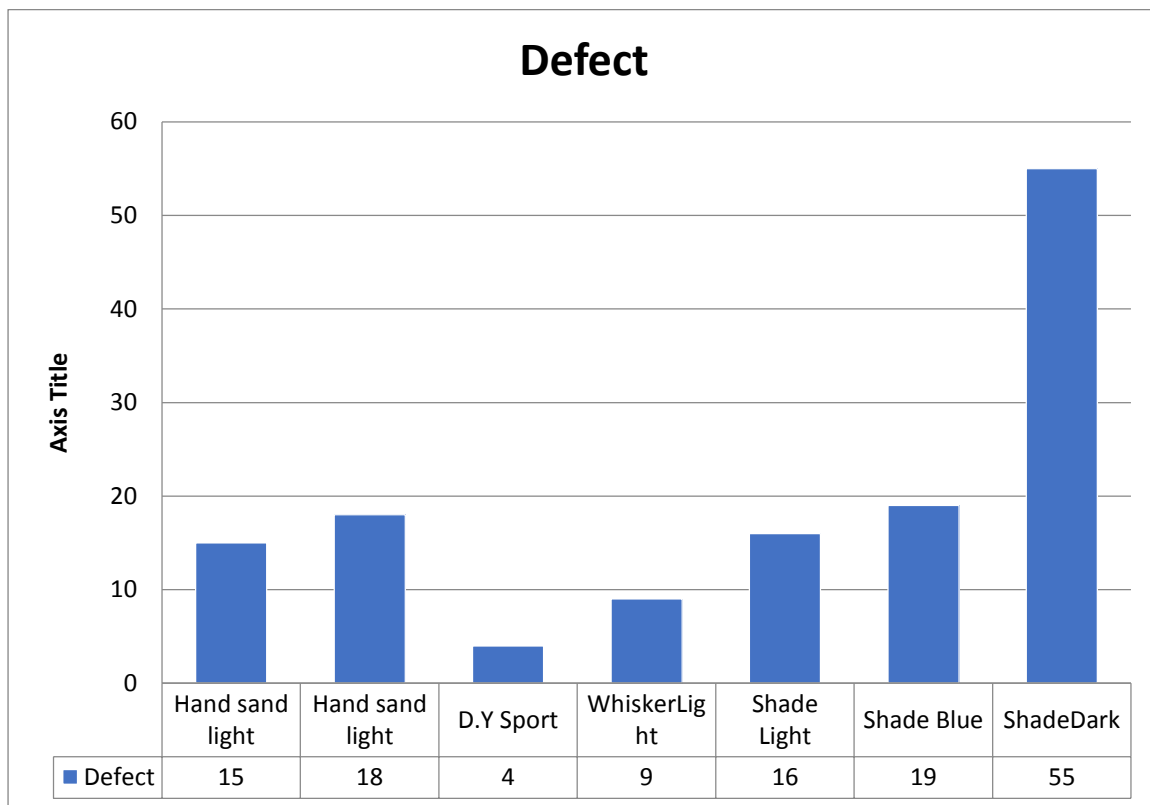
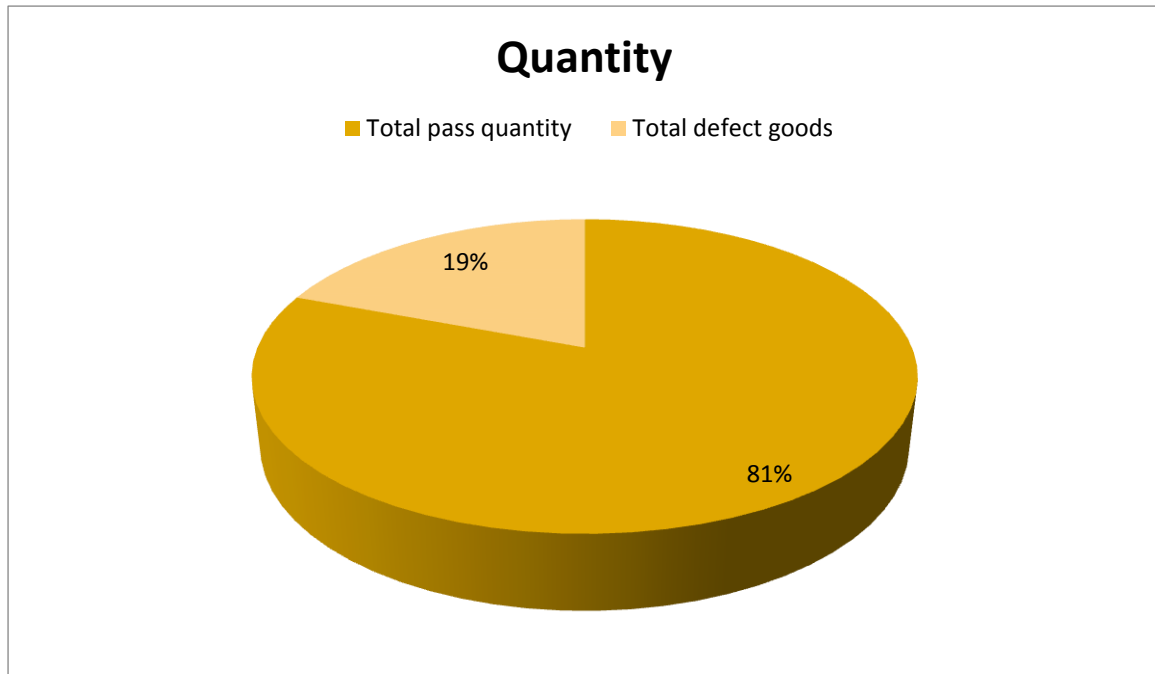


FIG 4.4.1 Bar chart of defect number.

#### Description:

This chart shows the defect quantity. This chart we are collect in confidence industries LTD Here, we see the defect number highest position shade dark 55 pieces then second highest position is shade blue 19 pieces, hand sand light 18 pieces 3<sup>rd</sup> position, shade light 16 pieces, hand sand light 15 pieces, whisker light 9 pieces, spot 4 pieces. This is total defect quantity this report.

#### 4.5 Analysis of Quality Report Summary from 3.5:



**FIG 4.5: Pie chart of different type goods summary.**

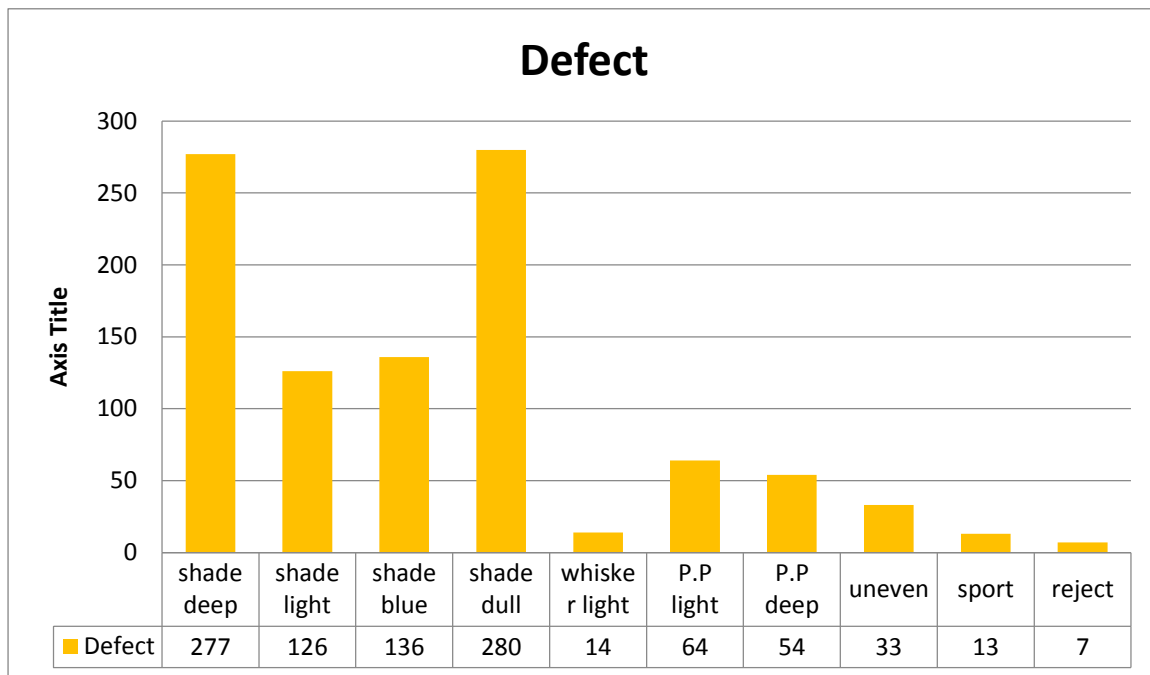
#### **Description:**

In this pie chart Total check quality summary is 5209 pieces. After bleach and enzyme wash complete goods we get 4195 pieces good garments and 1004 pieces are not okay that are some defect take place. This is confidence industries LTD and orix washing project report this report we are created pie chart percentage summary.





#### 4.5 Analysis of Defect Quantity Summary from Chart 3.5:



**FIG 4.5.1 Bar chart of defect number summary.**

#### **Description:**

This report total quantity some defect percentage summary.

Shade Deep: 5.32%

Shade Light: 2.42%

Shade Blue: 2.61%

Shade Dull: 5.38%

Spot: 0.24%

Uneven: 0.63%

P.P Light: 1.22%

P.P Deep: 1.03%

Reject: 0.13%

Whisker Light: 0.26%



# **CHAPTER-05**

# **CONCLUSION:**



## 5. Conclusion:

Amid this theory report we had attempted to our best to carried out our responsibility. In the entire report we have featured the parameter changes because of washing on denim texture. It is totally another experience about washing surrenders. We visited wet wash area, dry procedure segment, dryer segment, test checking segment, compound store and we have found out about hardware, conditions, working procedure, etc however basically we work by the last quality segment and proposition by Investigation on the imperfections found in after wash Quality checking and their Remedies of Denim Garments. In our all out proposal work we have discovered that abandons % is P.P light (1.22%) P.P profound (1.03%), Shade Dark (5.38%),Shade Light (2.42%),shade profound (5.32%), shade blue (2.61%), spot (0.24%), uneven (0.63%), dismiss (0.13%) Whisker (0.26%) We additionally found out about the procedure of how we can take solutions for expel this issues by any means. We truly have endeavored to finish this postulation well ahead. In this period we understood that down to earth experience is increasingly important for administration life. The interest of denim is expanding step by step. To meet this enormous necessity of denim new completes procedures is created, which is monetary and natural and our material industry pursues every one of those procedures. There are a lots of advantages are in garment washing. The demand of washed garment is increasing day by day because of its stability, flexible design, and popularity. We should use the latest technology on the garment washing and should have to implement the research works and experiment on washed garment industry.



## REFERENCE

<http://www.garmentsmerchandising.com/flow-chart-of-denim-washing-process/>

<http://www.garmentsmerchandising.com/types-of-chemical-used-in-garment-washing/>