



Daffodil
International
University

Faculty of Engineering
Department of Textile Engineering

REPORT ON
Industrial Attachment
At
Abir Fashions.

Kutubail, Fatullah, Narayangonj
Course Title: Industrial Attachment

Course Code: TE-410

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

Advance in Apparel Manufacturing Technology
Duration: From May 20, 2015 to July 15, 2015

DECLARATION

We hereby declare that, this report has been done under the supervisor of Mr. **Md. Mominur Rahman, Senior Lecturer, Dept. of TE**, Daffodil International University. We also declare that neither this report nor any part of this report has been submitted elsewhere for award of any degree.

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LETTER OF APPROVAL

4 August 2015

To
The Head
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102 Sukrabad, Mirpur Road, Dhaka 1207

Subject: Approval of Internship Report of B.Sc. in TE program.

Dear Sir

I am just writing to let you know that, this internship report is prepared by **Md. Anamul Hasan (ID: 113-23-2675)** and **Md.Ali Arafath (ID: 113-23-2643)** after accomplishing their two months internship at **Abir Fashion**. The report is now completed for final evaluation. The whole report is prepared based on practical information, which were collected by the students during the tenure of internship. The students attentively worked in the industry with following the requirements and thus the report becomes vital to spark off much valuable information for the readers.

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

Yours Sincerely,



Md. Mominur Rahman
Senior Lecturer
Department of Textile Engineering
Faculty of Engineering
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We are grateful to almighty Allah. We are so happy that finally we are successful. We did not think that we will be able to make it.

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We thank the management of ABIR FASHIONS. for giving us the opportunity to undergo Industrial Training there.

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We dedicate our industrial attachment report to our family. A special feeling of gratitude to our loving parents, whose words of encouragement and push for tenacity ring in our teachers.

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CHAPTER-1

EXECUTIVE SUMMARY

The internationally recognized Buyers or clients are looking for those countries for producing their apparel products where different types of mills have established as a one stop source for the global apparel market, satisfy and meet customer's expectation by developing and providing products and services on time, which offer value in terms of Quality, Price, Safety & Environmental impact. And also assure complete compliance with international quality standards and also to provide the employees internationally acceptable working condition/standards. In Bangladesh, there are different types of Textile Industry those are producing high quality textile and apparel product. ABIR FASHIONS is one of them. ABIR FASHIONS is Garments Manufacturer & Exporter, having all state of the art facilities with annual turnover USD 50,000,001 – 100,000,000 They have Different types of Cutting, Sewing, and Finishing machines supplied by mostly Germany, Taiwan, U.K, USA, Singapore, etc. which are very latest. It has high production rate finished garments are produced per day. The production is controlled by skill persons. All of the decision makers of production sector in. ABIR FASHIONS are not textiles graduates. Finishing are well branded. They produce their product for their buyer and client those are coming from international market like U.K, Ireland, France, Germany, Belgium, Spain. They follow all the system for their machines maintenance so production cannot hamper.

In this report, I have tried to give some information about ABIR FASHIONS and I have observed that ABIR FASHIONS produce high quality garment and fulfill the special requirements from the different types of buyers by according different internationally recommended standard method.

CHAPTER-2
INFORMATION ABOUT FACTORY

2.1 Company Profile:

Name	:	Abir fashions
Type	:	100% Export Oriented Knit Industry
Year of establishment	:	2000
Location	:	Katherpul, Kutubail, Fatullah, Narayangong
Annual revenue	:	USD 50,000,001 – 100,000,000
Production capacity	:	3.61 million Pcs./Month
Total Manpower	:	Above 1000
Main Production	:	Basic T-Shirt, Tank top, Long sleeve T-shirt Polo Shirt, Shorts, Pajama, Set, Ladies, Vest Rugby shirt, Hood jacket, Trouser, Girls fancy, Long Pant, Night Gown, Kids Knitwear & all kinds of knit garments.
Fax Number	:	880-2-8021703
URL	:	<u>http://www.abirfashions.com</u>
Certification	:	WRAP Certificate, BSCI Certificate, Confidence in Textiles.

2.2 Garments fabrics are used:

- Single jersey with or without Lycra
- Polo Pique with or without Lycra
- Back Pique / Lacoste with or without Lycra
- Terry Fabrics-blended or 100 % cotton
- Three thread fleece
- Ribs- 1*1, 2*1, 2*2 plain or without Lycra
- Interlock plain or with needle drop
- Waffle or thermal fabrics
- Four track fancy design fabrics
- Stripes fabrics up to 5 cm repeats
- Slub jersey

2.3 Management team:

As a young and dynamic company with an edge in marketing, success achieved through a team of dedicated and experienced top management people and young professionals with firm commitment at midlevel management. The team is well placed to offer just what international market requires from a manufacturing partner. Most of the top management do have long experiences in marketing, production, quality control, logistics and system implementation.

2.4 Mission and vision:

They strive to provide the best quality garments to their buyers. They practice advanced technology in all aspect of our operation to attain excellence concerning quality dependability and commitment for apparel industry and society. They target is to be one best leading companies in Bangladesh and to build a true marketing lead enterprise with motive workforce, innovation mission and understanding global market.

2.5 Environmental commitment:

This company is committed to preserve a healthy and pollution free environment .It has a very efficient collection and disposal system.

2.6 Sources of information:

In order to make the report more meaningful, two sources of data have been collected.

Primary data source

- Face to face conversation with the respective officers and staffs of the Factory.
- Practical work experience from different department of the organization.

Secondary data source

- Previous documents of the organization.
- Various books, articles and manuals etc.
- Different web sites include the official website of Abir Fashions.

2.7 Organogram:

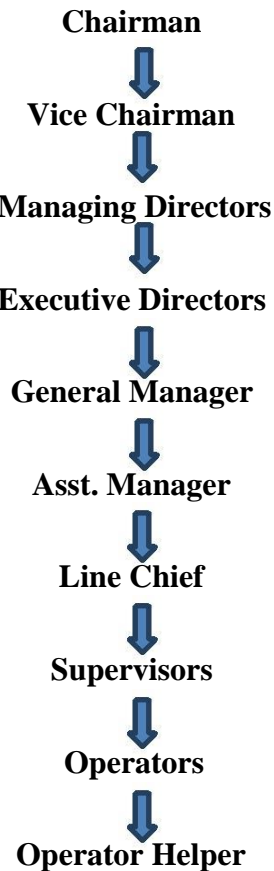
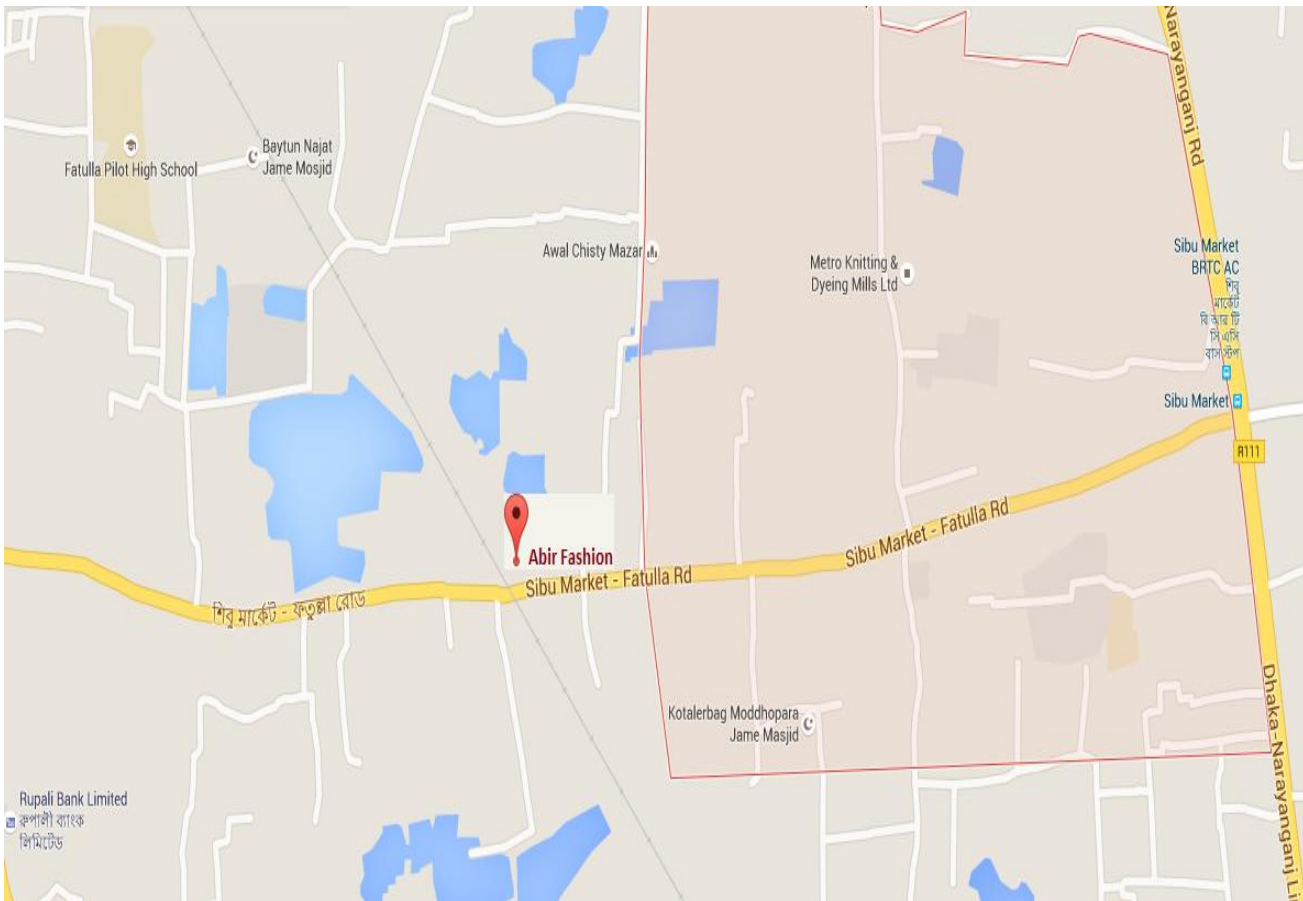


Fig: Organogram

2.8 Location of the Factory:



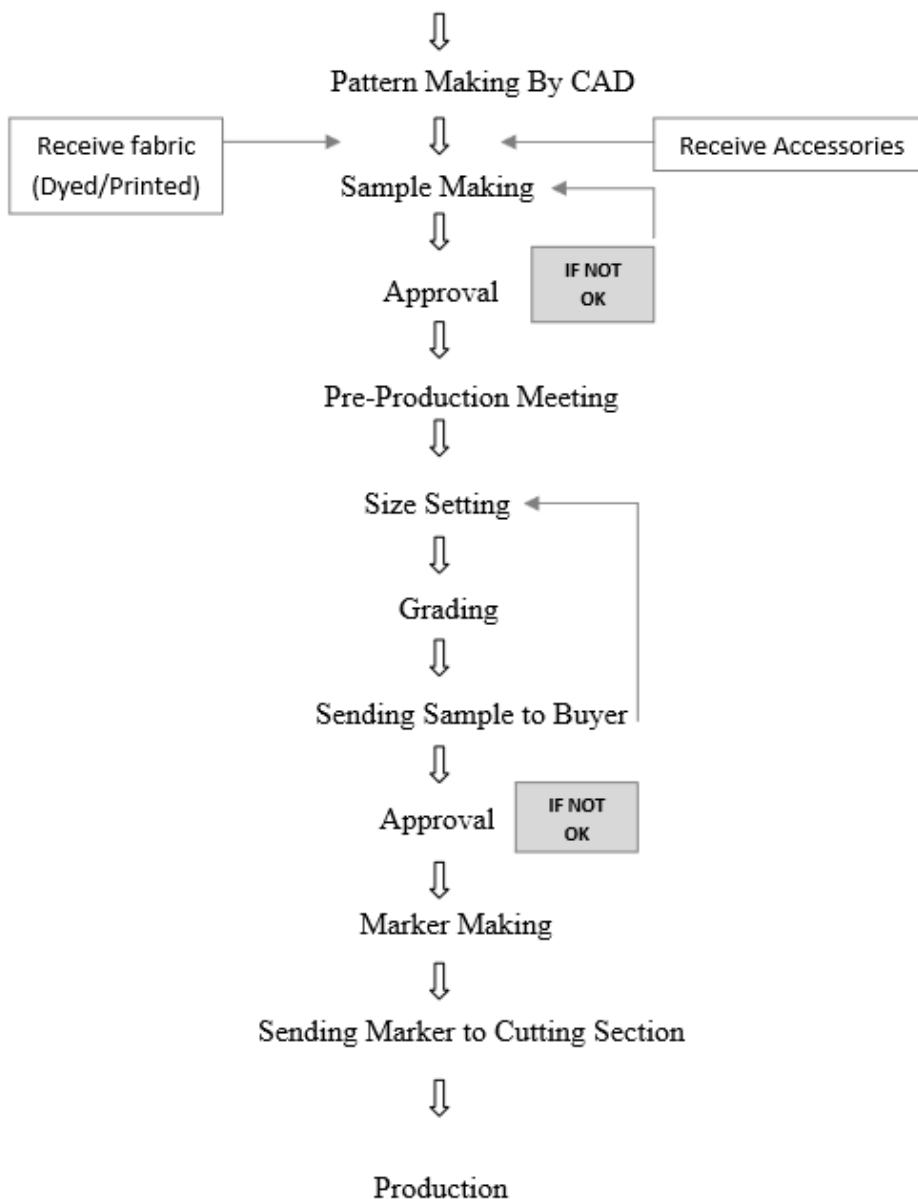
CHAPTER-3 DESCRIPTION ABOUT THE ATTACHMENT

3.1 Sample section:

Abir Fashions has separate sample section which is located in the 1st floor in the 6 stories building.

3.1.1 Operational flow of sample department:

Receive Specification & Measurement sheet from buyer (via merchandiser)



3.1.2 Types of sample:

- Proto or Development Sample
- Photo Sample
- Size set/ Grade/ Fitting Sample
- Additional sample
- Contract seal/ seal Sample
- Pre Production Sample
- Production Sample
- Sales Man Sample
- Rack Sample

3.1.3 Some information of sample section:

• No. of total worker	=	40
• No of pattern table	=	2
• No of sewing machine	=	30
• Vacuum iron table	=	1
• Inspection table	=	1
• Fault removing table	=	1
• Packing table	=	1



Fig : Sample Section

3.1.4 Pattern making tools (manual):

- Straight Pin
- Straight Pin Holder
- Pen & Pencil
 - Mechanical pencil
 - Red & Blue pencil to identify pattern changes
 - Black, Red, Green & Blue felt tip Pen for pattern information.
- Scissors
 - Paper Scissor
 - Fabric Scissor
- Ruler
 - ½ X 12 Inch (Very Accurate)
 - Tailors Squares (24X14 inch metal ruler with 2 arm forming 90° angel.)
 - Triangles
- Curve Ruler
 - French Curve , Design # 17
 - Hip Curve Rule
- Ringers (Hanger hook)
- Push Pin
- Magic Mend Scotch Tape
- Black Twill Tape
- Measurement Tape
- Tailors Chalk
- Metal Weight (Several)

3.1.5 Types of patterns:

- Working pattern: The pattern which is used to make sample garment that is called working or master pattern.
- Production pattern: The pattern which is used for bulk production that is called production pattern.

3.1.6 Pattern grading:

After developing pattern, pattern master decreases or increases master pattern stepwise, it is called pattern grading. Like this-

$$S \leftrightarrow M \leftrightarrow L \leftrightarrow XL$$

Before making a sample pattern making according to sketch and measurement or directly from sample is a very important. The construction of pattern is done by two methods like-

- Manual construction of pattern
- Computer aided construction of pattern

In Abir Fashions they use both methods of construction of pattern.

During manual or computer aided construction of pattern the pattern draft is developed by calculation based on the following instructions-

- Actual body size
- Size charts or sample
- Grading increment
- Easy allowances



Fig: Plotter pattern cutting

3.1.7 Marker making:

It gives special instructions for cutting. It can be done both manually & Computerized method. In *Abir Fashions* marker guideline is drawn in an A4 size paper by AUTOCAD. Then actual marker is drawn by hand following that miniature marker.

- Marker is made by following steps-

→Pattern are placed onto a large thin sheet →Then marked by pen around the pattern

→First place big part & small part are placed at the end position →Finally found a marker

- Marker is made of fulfill the following objects:
 - To get similarities among the apparel →To save times
 - To minimized fabric wastage →To reduce cost
- Marker is essential for cutting & bulk production. During making market the following poi should be considered-
 - 1) Grain direction(Length → Parallel)
 - 2) Fabric characteristics - Symmetric(Solid color)
Asymmetric(print, stripe, check)

3.1.8 Marker efficiency:

$$\text{Marker Efficiency} = 100 \times \frac{\text{Area of pattern in marker}}{\text{Total area of the marker plan}}$$

3.1.9 Procedure of CAD section:

- In CAD section at first the pattern put on the digitizer to take clear image of the pattern part inside the CPU.
- After making all required size patterns using the software pattern parts are aligned in the mini marker. Then it is sent to CPU of CAM section for approval and checking the length & width of marker and pattern parts alignment.
- After getting approval from CAM section then printer is used to print out the whole real marker then this marker as well as mini marker are provided to the CAM section for cutting the fabric



Fig: Plotter marker machine

3.2 Cutting section:

After checking fabric properly the next steps are to ensure markers according to consumption and spreading.

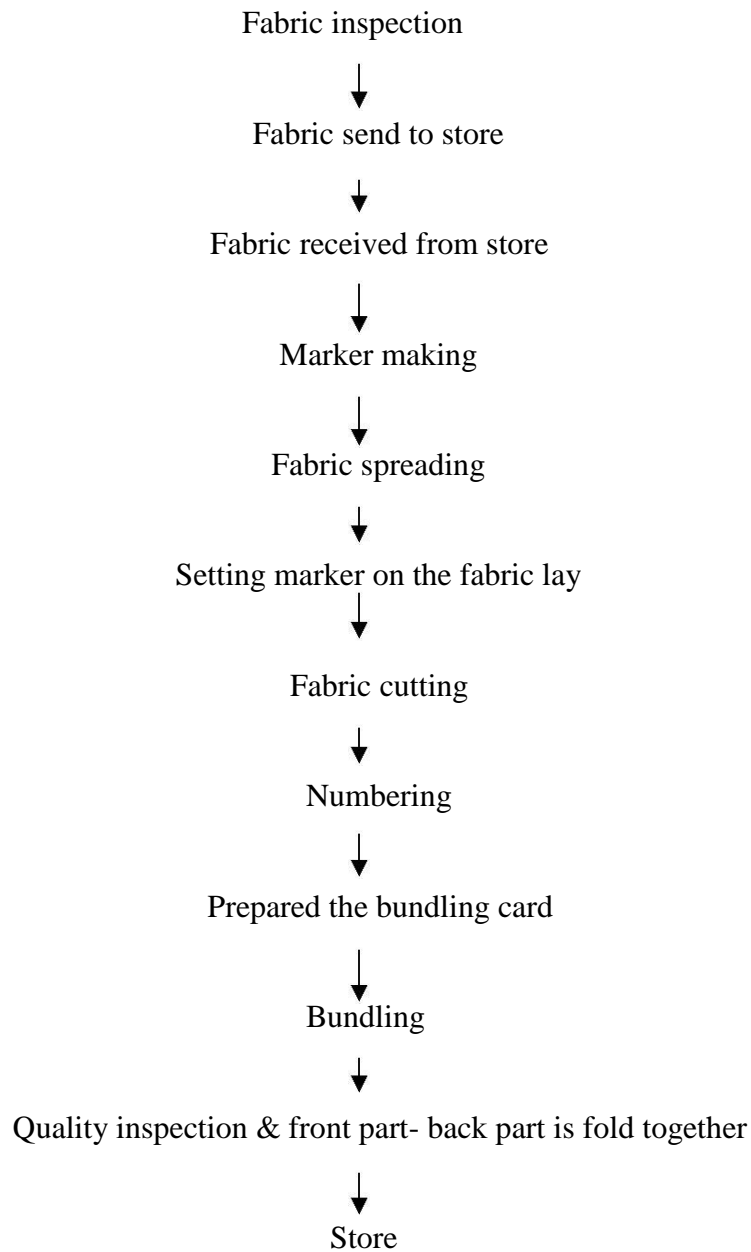
Cutting section is divided into three sections:

- Marker planning.
- Spreading.
- Cutting.

3.2.1: Layout of cutting Section



3.2.2:Flow sequence of cutting:



3.2.3 Fabric receiving:

Fabric requirement for an order is calculated according to the average consumption of the fabric from the marker. In case of multiple color order, color wise requirement is made. Fabric department issues fabric to cutting against the fabric requirement.

3.2.4 Fabric relaxation:

This process is optional. Specially used for knits fabric. During rolling of fabric it get stretched. So it is essential to bring the fabric on stable form otherwise garment would shrink after making. To relax the fabric roll or than is opened and spread and kept for about 24 hours. In real practice (Abir Fashions) fabric relaxation time is 5-6 hour.

3.2.5 Spreading:

Spreading refers smooth laying out of the fabric in superimposed layers of specific length. Cutting marker paper is laid in the top of the fabric layers. The maximum width of the cutting marker constrained by the usable width of fabric. The number of plies depends upon the thickness of fabric.



Fig: Fabric Spreading

3.2.6 Types of spreading:

- Flat spreading
- Stepped Spreading

3.2.7 Methods of spreading:

- **Manual Method**

By Hand By

Hook

Spreading Truck (with the help of operator)

3.2.8 Methods of cutting:

Basically Cutting Methods are of two types.

- Complete manual technique M/C

Used:

- Scissors

- Manually Operated power knife M/C

Used:

- Scissors
- Straight knife



Fig: Straight Knife cutting machine



Fig: Fabric Cutting

3.2.9 Numbering:

Separated garment components are numbered to ensure that in stitching all components from same layer are stitched together. It is important to avoid shade variation in a garment. Between the cutting and sewing processes cut components may be passed through other processes like printing and embroidery. There is maximum chance of mixing of the components. If there is layer number in each component then at the time of stitching only correct components will be stitched together.



Fig: Numbering machine

3.2.10 Sorting:

According to production system (Make through, progressive bundle or one piece flow system) cut components are sorted. In sorting all component of a garment placed together. Size wise sorting and in case multiple colors are cut in a single lay, color wise sorting will be required.

3.2.11 Bundling:

As per the production line requirement a certain number of pieces with all components are tied together. This process is known as bundling. Each bundle is marked with bundle number, style name, size number and quantity of pieces in that bundle. At this stage cutting are ready to send to production line for stitching.



Fig: Bundle Numbering

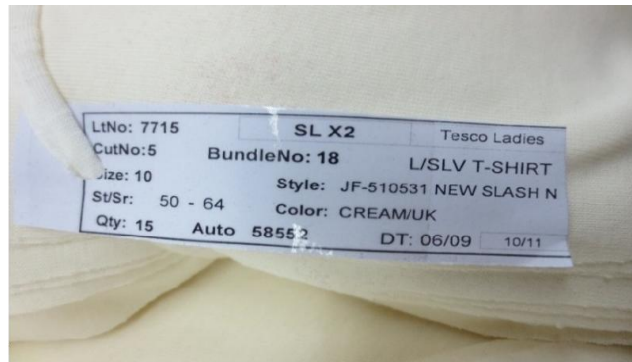


Fig: Bundling mistake

3.2.12 Cutting section defects:

- Bundling mistake
- Sticker mistake
- Wrong cut
- Fabric hole
- Numbering mistake, Etc.

Remedies:

- Remove the bundle sticker from cut pieces and again attached correctly.



Fig: Wrong cutting

Remedies:

- Cutting parts are rejected by this fault.



Fig: Numbering mistake

Remedies:

- Remove the size sticker from cut pieces and again attached correctly.

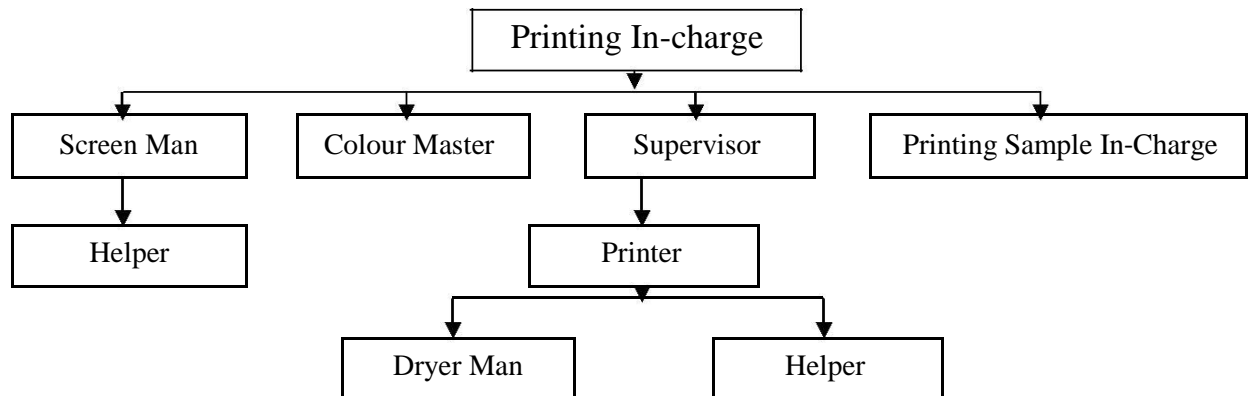
3.3 Printing Section:

Printing on fabric refers localized coloration. In dyeing, the full portion of fabric is colored but in printing only face side is colored.

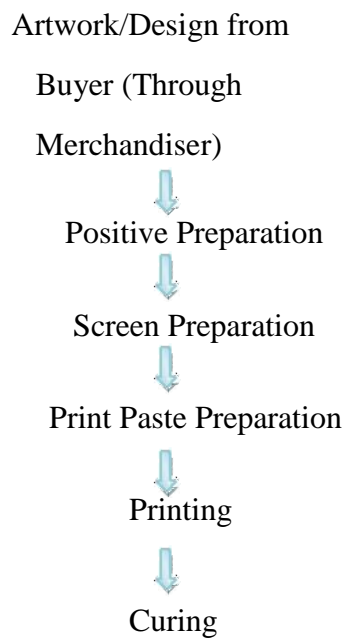
3.3.1: Layout of printing section



3.3.2 Organogram of printing section:



3.3.3 Sequence of printing process:



3.3.4 Machinery of Printing Section:

Abir Fashions		
Sl.No	Machine Name	Total No's
1	Auto Screen Printing Machine	5
2	Manual Revolving Printing Machine	10
3	Manual Flat bed Printing	10 Lines
4	Flock Machine	10 Lines
5	Dryer	10
6	Expose Machine	7
7	Heat Press Machine	2
8	Fusing Conveyer	8

3.3.5 Different types of Printing:

- Pigment Print
- Rubber print
- High Density Print
- Plastisol Print
- Puff print
- Glitter print
- Rainbow print
- Pearl scent
- Radium print
- Foil print
- Jell print
- Metallic print
- Flock Print
- Discharge print



Fig : Printing Section

3.3.5 Machine photos of printing section:



Fig: Conveyer Dryer machine



Fig Hydraulic press machine

3.3.6 Printing faults:

1. Print color shading	21. Wrong side
2. Print slarted	22. Color wrong
3. Color spot	23. Size mistake
4. Bleeding	24. Bunoledle card mistake
5. Print wrong	25.Fabric h
6. Print burn	26.Fabric shade
7. Air hole	27.Crease mark
8. Print bubble	28. Oil spot
9. Print missing	29. Fabric burn
10. Wrong place	30.Needle mark
11. Not properly attached	31. Cutting problem
12. Hand feels	32. Sticker wrong
13. Migration	33. Dye migration
14. Dirty mark	34.Yarn hole
15. Uneven shade	35. Yarn contamination
16. Shade variation	36. Fly yarn.
17. Print sticky	
18. Print not coverage	
19. Print gap	
20. Print over	

3.3.7 Faults with photo:



Fig: Blebbines

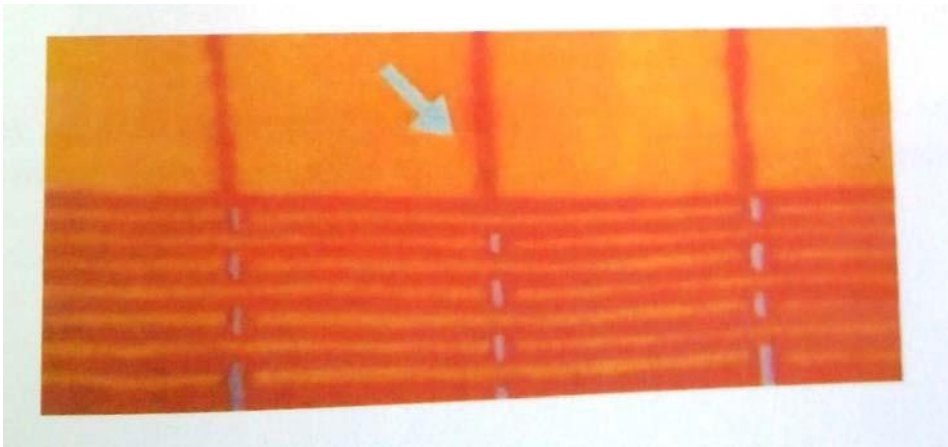


Fig: Bledding



Fig: Water mark

3.4 Sewing Section:

The process of joining fabric or seam is called Sewing.

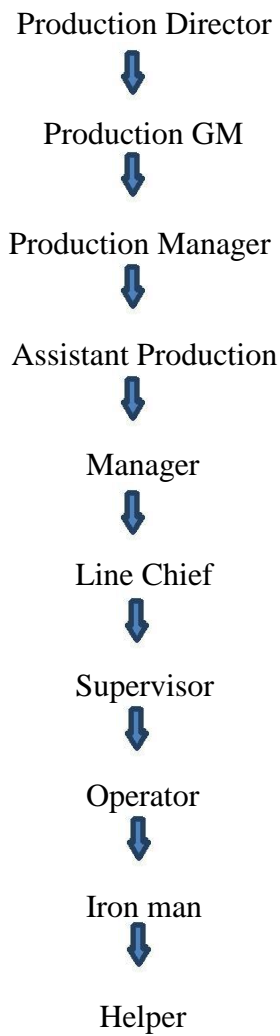
3.4.1 Layout of sewing section



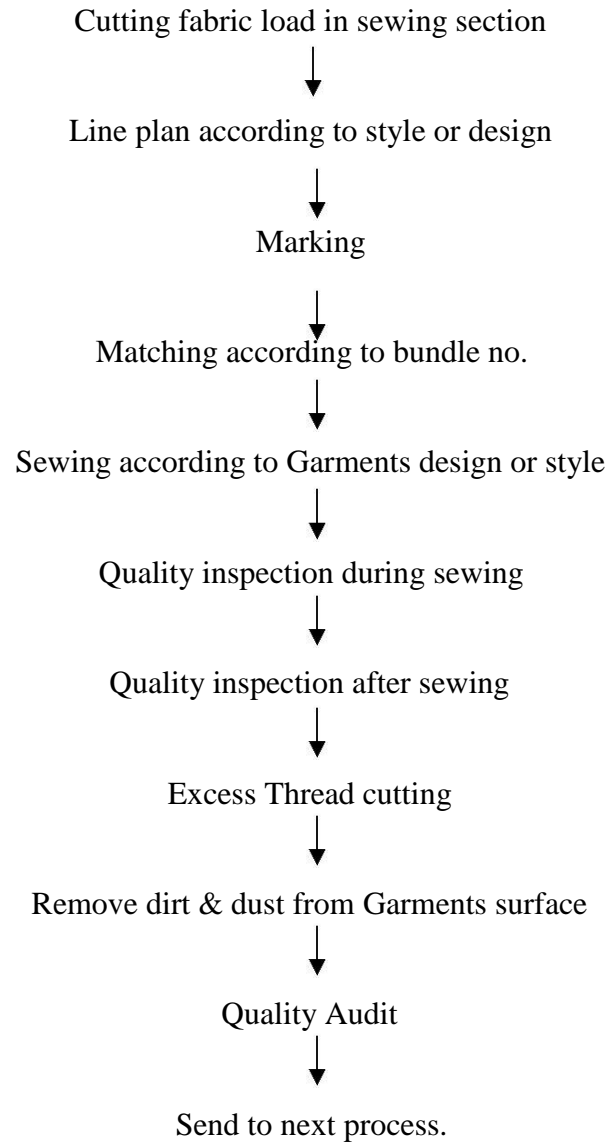
3.4.2 Elements of Sewing:

Sewing Thread, Needle
&
Sewing Machine

3.4.3 Sewing Department organogram:



3.4.4 Flow-Sequence of Sewing Section:



3.4.5 Machine type and Origin:

M/C TYPE	BRAND	AMOUNT	ORIGIN
Single Needle Lock Stitch	HIKARI	438	CHINA
Over Lock 4 thread	HIKARI	235	CHINA
Over Lock 4 thread top down	HIKARI	2	CHINA
Over Lock 4 thread back latch	HIKARI	10	CHINA
Over Lock 4 thread Cylinder Bed	HIKARI	5	CHINA
Over Lock 6 thread	HIKARI	5	CHINA
Cylinder Bed Flat Lock	SIRUBA	87	CHINA
Flat Bed Flat Lock	SIRUBA	38	CHINA
Button attaching	HIKARI	8	CHINA
Button Hole	HIKARI	12	CHINA
Button Stitch	HIKARI	12	CHINA
Bart ack	HIKARI	5	CHINA
Picoating	HIKARI	3	CHINA

3.4.6 Sewing Machine:



Fig: Bar tack Machine



Fig: Button Attaching Machine



Fig: Button Hole Machine



Fig: Flat lock Machine



Fig: Plain Machine



Fig: Over lock Machine

3.4.7 Needle:

Needle is used to sew the fabric by thread. Way of needle movement is related to _ o

Seam Strength

- o Seam Appearance
- o Seam Durability

3.4.8 Different type of sewing fault:

- Broken Stitch
- Raw Edge
- Skipped Stitch
- Shade Problem
- Seam Pucker
- Oil Spot
- Uneven Shoulder



Fig: Broken stitch

Cause:

- These types of fault are occurred because of low quality thread, high thread tension.

Remedies:

- To avoid this fault the seam area are opened and again sewing correctly.



Fig: Skipped stitch

Causes:

- Failure of needle to enter loop at correct time
- Needle deflection or bent needle

Remedies:

- Check needles is inserted and aligned correctly. Machine clearance and timings.
- Replace the needle



Fig: Raw edge

Remedies:

- The unexpected part is cut out precisely.

3.4.9 Sewing sequence of T-shirt:

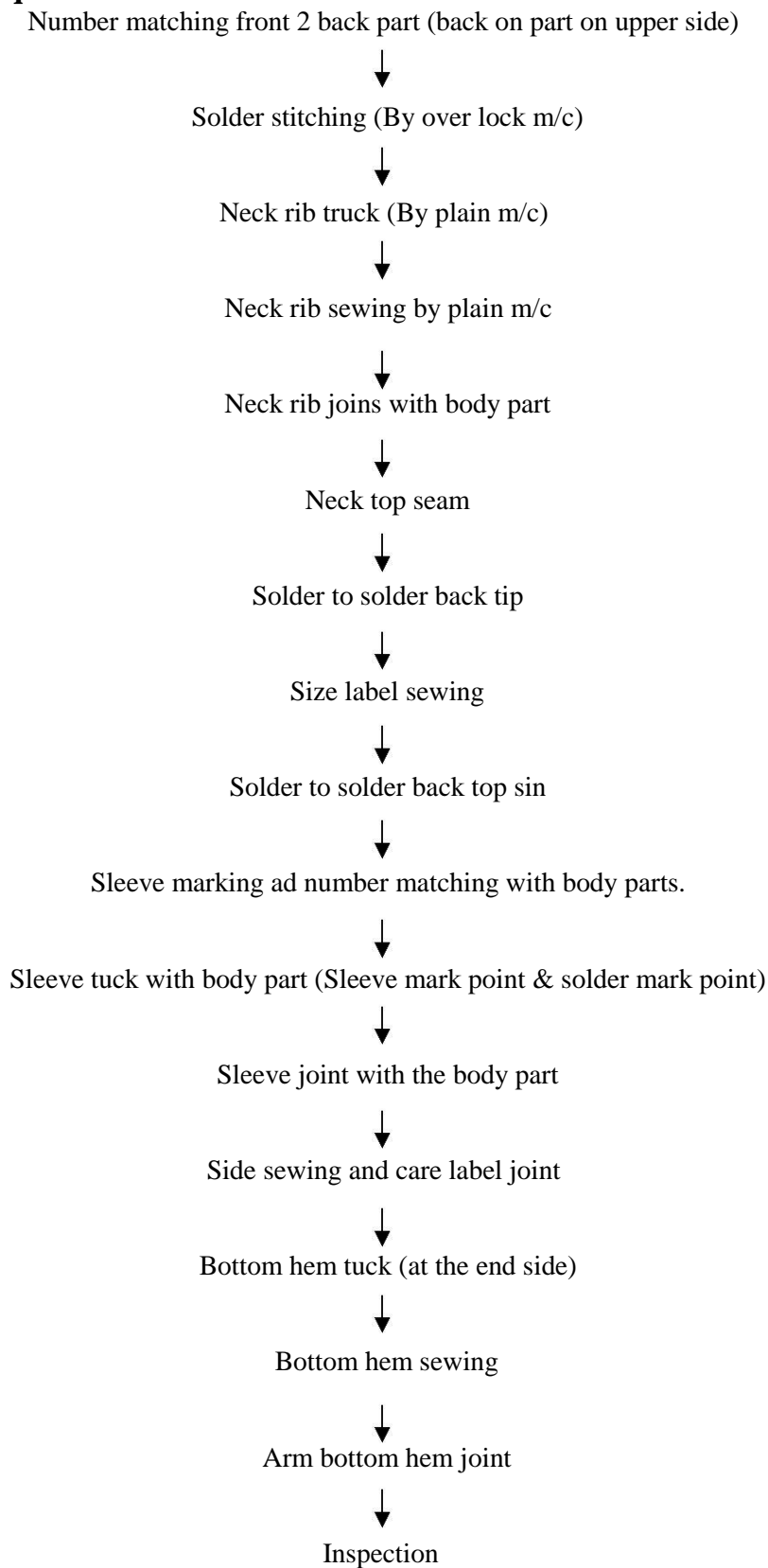




Fig: Sewing Section

3.5 Finishing section:

- Iron / press
- Folding
- Tagging /sticking
- Packing
- Carton / lot

3.5.1 Layout of Finishing section



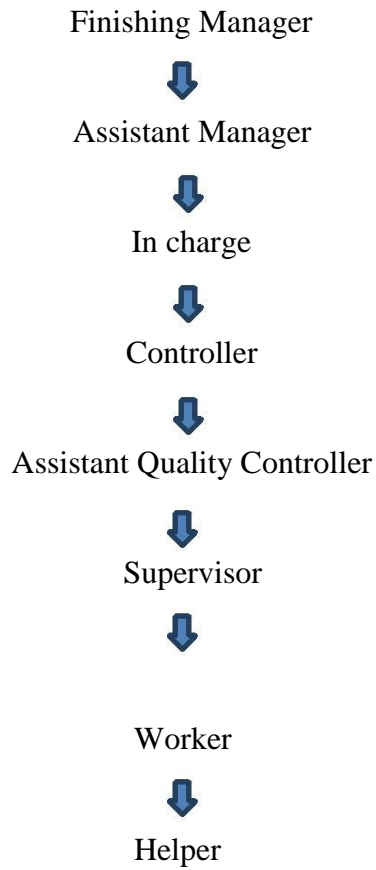
3.5.2 Iron:

- Sometimes they do not use pattern in pocket folding. That's why alter & reject % may be increased due to uneven pocket folding.
- Trained iron man may be required.
- Less pressure of steam.

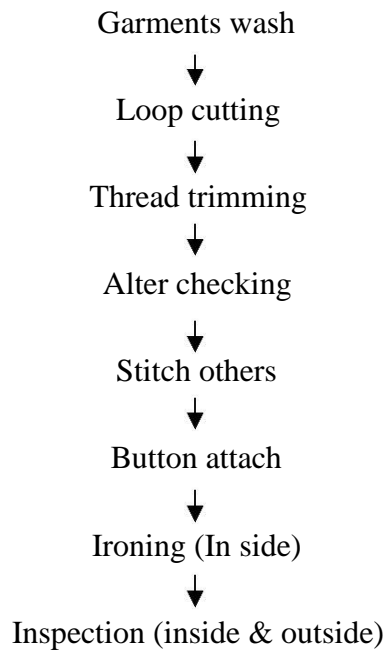


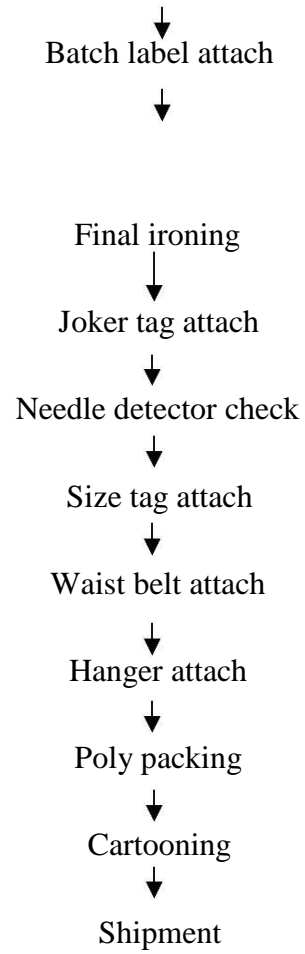
Fig:Ironing Section

3.5.3 Finishing Department organogram:



3.5.4 Finishing Lay Out:





3.5.5 Packing section:

Various types of packing accessories are available in store room such as polybag, packing board, tissue paper, hanger, scotch tape, gum tape, carton etc.



Fig: Poly Section

3.5.6 Flow sequence of packing section is given below:

Make shipping mark according to P/O, PDM sheet



Approve from buyer



Carton measurement confirm from Q.C dept.



Sample make (carton)



Re-approved from buyer



Ensure net and gross weight



Go to bulk production



Complete the carton with garment

3.5.7 Carton:

Cartons are made according to buyer instruction and length wise it contains the buyer name, widthwise it contain the measurement, net & gross weight. Carton contain the information are printed by screen print style.



Fig: Carton Section

3.5.8 Finishing Faults:

- **Shoulder up down:**



Fig: Shoulder up down

Causes:

- It's also the mistake of the worker.

Remedies:

- Should be placed correctly and ironing again.

- **Wrong Folding:**



Fig: Wrong folding

Causes:

- This type of problem occurs when packing operation is done quickly

Remedies:

- The garments are folded again.

Wrong packing:



Fig: Wrong packing

Causes:

- These types of fault occur because of quick operation and lack of concentration of worker.

Remedies:

- Packing opened and packed again correctly.

Size mistake:



Fig: Size mistake

Causes:

- It's a mistake or lack of concentration of worker.

Remedies:

- Opened the lock pin label and match the size correctly.

3.6 Quality Management System

3.6.1 Quality Assurance:

Quality assurance (QA) refers to the planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. This can be contrasted with *quality control*, which is focused on process outputs.

3.6.2 Objective of quality control:

- Research
- Selection of raw material
- Process control
- Process development
- Product testing
- Specification check

3.6.3 Quality Management system:

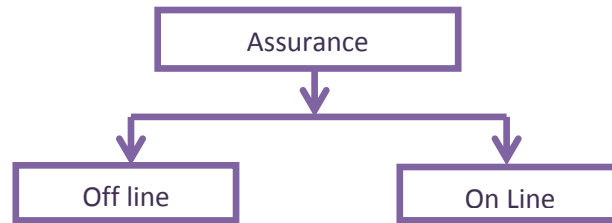


Table inspection:

To maintaining good quality - BGL & BDL make a inspection report from "sewing line finish garment";

1. Date/hourly production quantity, inspected quantity, rejected quantity & pass quantity
2. Identify defective & rectified quantity

3.6.4 Acceptable quality label (AQL) :

Before start finishing work - BGL & BDL follow AQL system through a format;

1. Buyer, item, style, purchase order, order quantity, audit time, lot quantity, sample quantity, measurement, total defects percent of defects. Pass/fail
2. Pass >> for start the finishing work
3. Fail >> full lot - 100% re-inspection

3.6.5 Online Quality assurance test:

The entire online QA test for finished fabric of BGL & BDL can be grouped as-

- Pattern measurement
- Marker making
- Fabric spreading
- Cutting check
 - Fabric fault
 - Shade variation
 - Size measurement
 - Cutting pieces matching
- Sewing inspection
- Packing & finishing

3.6.6 Offline Quality assurance test:

The entire offline QA test for finished fabric of BGL & BDL can be grouped as-

- **Physical test**
- **Chemical test**

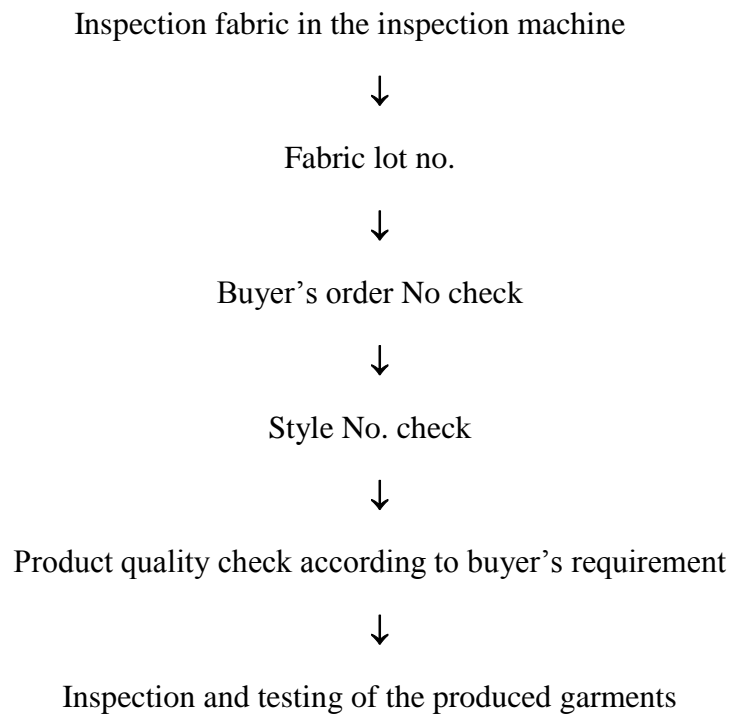
The detail of all application QA test for finished fabric are discussed in bellow-

- **Physical test:**

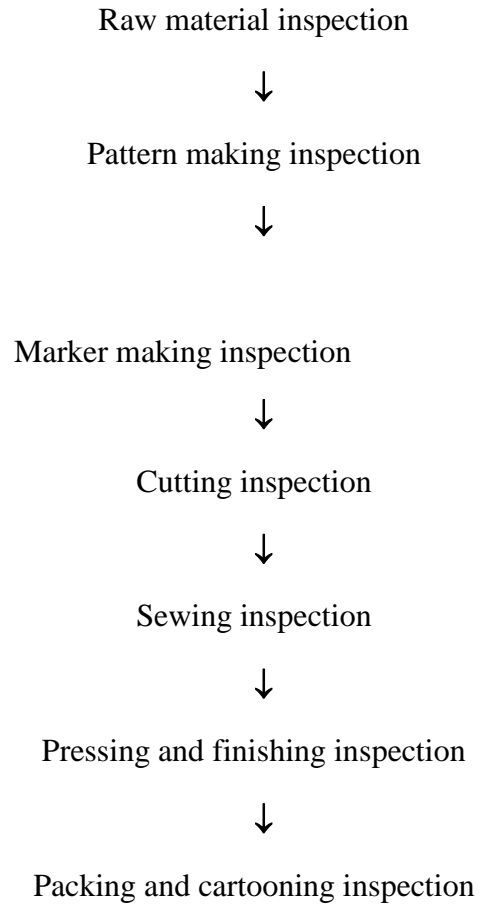
The applicable QA physical test for finished fabric is as follows-

- Tensile strength test
- Tear strength test
- Abrasion resistance test
- Pilling resistance test
- Crease resistance test

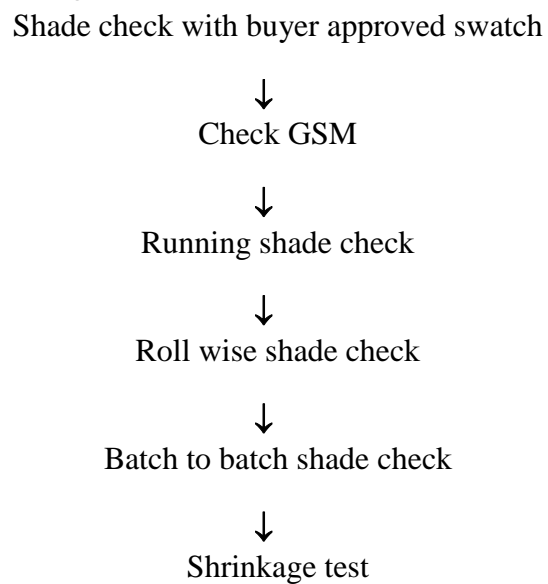
3.6.7 Flow diagram of Off-line quality control for each production:

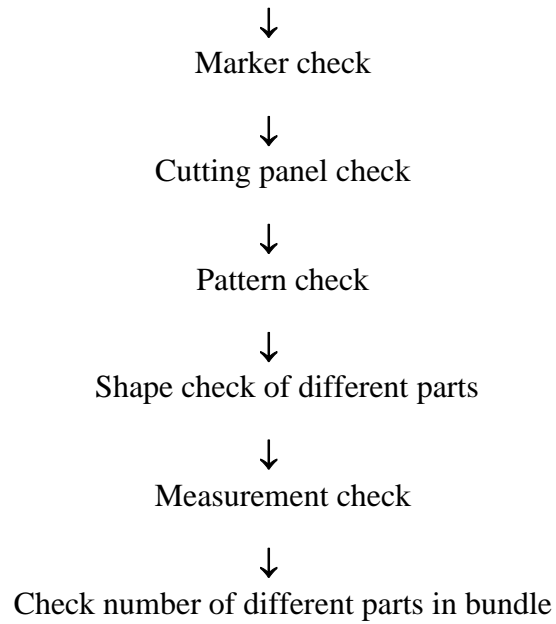


3.6.8 Flow diagram of On-line quality control:

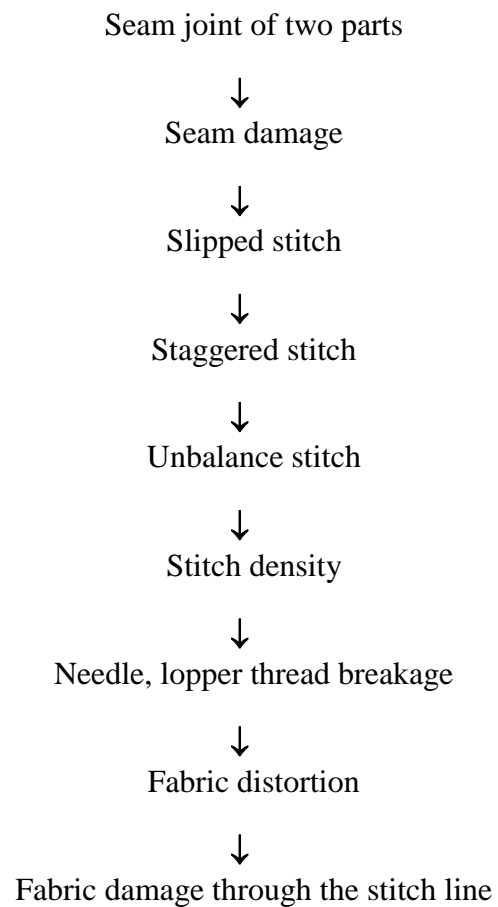


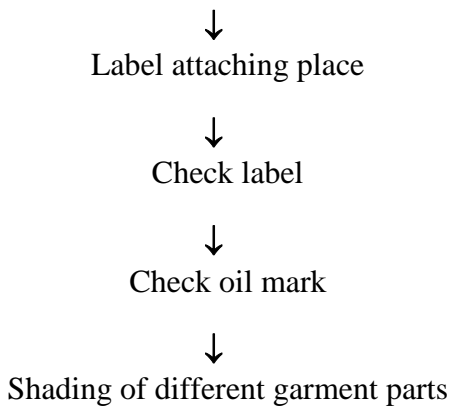
3.6.9 In process QC in cutting section:



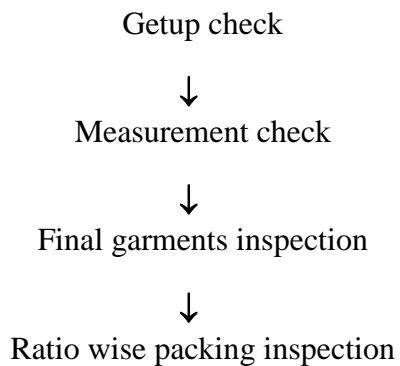


3.6.10 In process QC in sewing section:





3.6.11 In process QC in finishing section:



3.7 Store Section

Process Sequence of Store Section:

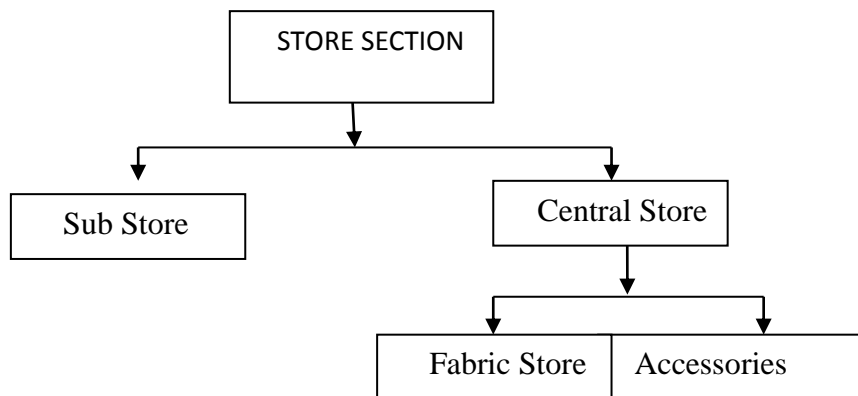
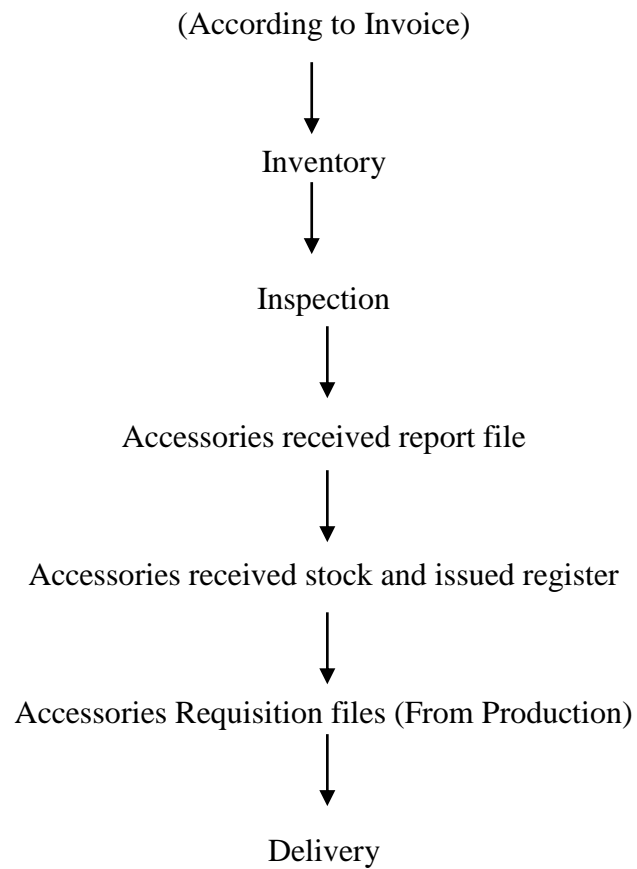




Fig: Store Section

3.7.1 Working Process of Accessories Store:

Receive accessories



3.7.2 Accessories list of Abir fashion Group:

1. Main Label
2. Care Label
3. Size Label
4. Price Label
5. Composition Label
6. Barcode Label
7. Barcode Sticker
8. Button
9. Butter fly
10. Back board
11. Collar Bone
12. Collar Stand
13. Carton Sticker
14. Carton
15. Dimension Loop
16. Zipper
17. Plastic Clip
18. Flat Clip
19. Metal Clip
20. Tie Clip
21. Tie
22. Thread
23. Tissue Paper
24. Tag Pin
25. Poly Bag
26. Printed Tissue Paper
27. Poly Sticker
28. Pin
29. Hang Tag
30. Gum Tap
31. Hanger Sticker (for tie set)
32. Hanger
33. Neck Board
34. Elastic Ribbon/Lace/Twill Tap
35. Size Sticker

3.7.3 Accessories Inspection:

At first 10% accessories are inspected by QC inspector. If the defectives amounts cross over 1% then the accessories will fail. In the situation according to suggestion of QA & QC manager these accessories send to the merchandiser and buyer representatives finally to work according to their decision.



3.7.4 Accessories are inspection 100% for some defects such as-

1. Missing of composition
2. Size mistake
3. Barcode mistake
4. Style mistake in the hang tag
5. Metal item inspection such as magnet test. Nickel test, Rust test, ferrous test etc.

3.7.5 Activities of fabric store section:

- Fabric Received
 - Fabric inspection
 - Fabric inventory
 - Shrinkage test of fabric
 - Shade grouping of fabric
 - Color continuity card
 - Fabric assessment with light
 - Swatch card maintain
-
- Fabric Received: According to buyer requisition or industries requisition or industries requisition fabric received from the fabric supplier
 - Fabric inspection: It is a critical and lengthy process. Briefly describe about this in the next page.
 - Fabric Inventory: After inspection acceptable fabric are stored for next process such as cutting, sewing, finishing, over all final production.
 - Shrinkage test of fabric: After washing fabric may be increased or decreased
 - Shad grouping of fabric: According to different shade (acceptable) of fabric rolls are arranged that those rolls.

For example: 30 fabrics rolls

After assessment shade group are-

Group A	→	Roll 1, 2, 3, 10, 9, 26
Group B	→	Roll 20, 22, 4, 5, 11, 12
Group C	→	Roll 21, 7, 8, 19, 25, 28
Group D	→	Roll 24, 30, 23, 29, 16
Group E	→	Roll 6, 13, 14, 15, 17, 18

I. Color continuity card: Different types of fabric roll samples to arrange according to gradual number sample size 6' ' ×6' ' .

II. Fabric assessment with light box:

- D65 → Artificial day light (e.g. verified F20 T 12/D65 BS 950 Pt1)
- TL 84 → Store light
- F → Tungsten filament (Illuminant A) (e.g. GE 40w opal)
- Grey scale → 1-3 = Failed
3.5-5= Passed

3.7.6 Fabric inspections are three types:

- Such as -
- a) Four point system
 - b) Ten point system
 - c) Graniteville system/78 method

In the Babylon Group fabric inspection is done according to **four point** system.

Defects length for

Wrap and weft way	point
Up to 3 □ →	1
3 □ - 6 □ →	2
6 □ - 9 □ →	3
Above 6 □ →	4

- ❖ For one yard faulty fabric highest point is 4.
- ❖ Slab, Spot, Sundry faults, Foreign yarn, Naps for each 1 point.
- ❖ Weft bar, Shade bar, Hole, Check missing for 4 point.
- ❖ Missing yarn, Thick yarn for each 2/3/4 point.

3.7.7 Fabric Inspection Formula:

$$\text{Per 100 square yards} = \frac{\text{Counted point}}{\text{Inspectional fabric length}} \times \frac{36}{\text{Fabric width}} \times 100$$

Less than 28 points/100 square yards → Fabric acceptable

Above 28 points/ 100 square yards → Fabric rejects.

- At first 10% fabrics inspection according to different color or roll. If more faulty fabric is found out then 15% fabrics inspection is done.
- If any fabric rolls cross over 40 points then the fabric roll directly is rejected

3.8 Maintenance Section

Maintenance:

Maintenance is a process by which equipment is looked after in such a way that trouble free. Services and increased machine life can be ensured and specific product quality required by the customers is sustained.

Objectives of Maintenance:

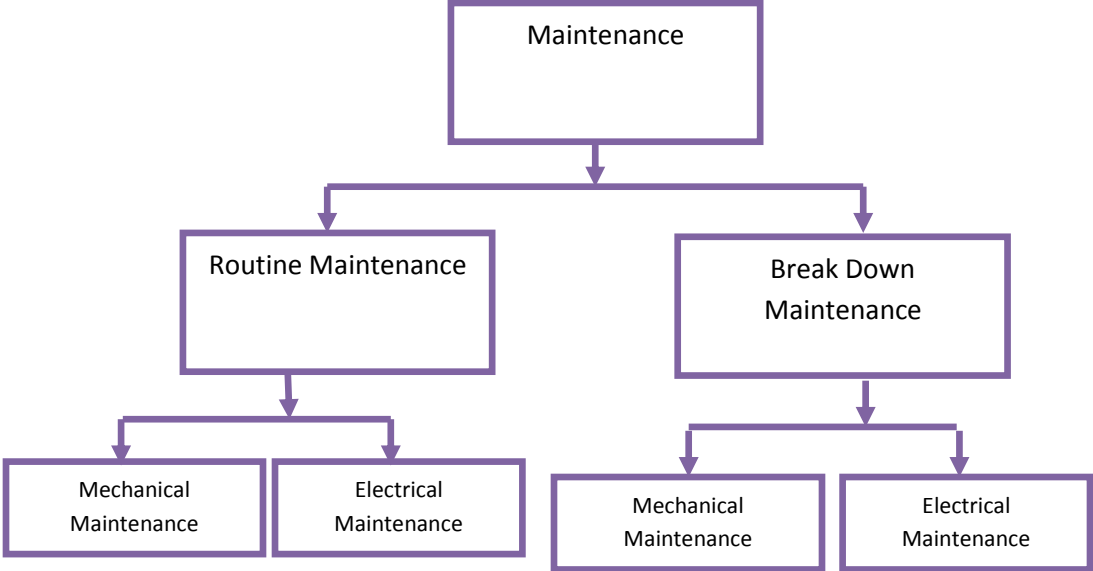
- ✓ To keep the factory plants, equipment's, machine tools in an optimum working condition.
- ✓ To ensure specified accuracy to product and time schedule of delivery to customer.
- ✓ To keep the downtime of machines to the minimum thus to have control over the production program.
- ✓ To keep the production cycle within the stipulated range.
- ✓ To modify the machine tools to meet the need for production
- ✓ To improve productivity of existing machines and to avoid sinking of additional capital
- ✓ To reduce the maintenance cost as far as possible thereby leading to reduction in factory overhead
- ✓ To prolong the useful life of the factory plant and machinery by retaining their acceptable level of accuracy of performance.

3.8.1 Maintenance of Machinery:

Maintenance of machinery is very essential mechanical effort for achieving smooth running of different machines. Maintenance is a process by which equipment is looked after in such a way that trouble free. Services and increased machine life can be ensured and specific

product quality required by the customers is sustained. On time maintenance increase m/c lifetime & ensures trouble free services.

BGL & BDL is followed below this maintenance-



Break down Maintenance:

Break down maintenance is done instantly when problem arises in machine. In this case, srepairs are made after the equipment is out of order and it cannot perform its normal functions.

Routine Maintenance:

After a particular little the machines are cleaned &reordered, that is routine or schedule maintenance. PPC does it once in a month. Schedule maintenance varies, time in time & also depends on situation according to types of machines, because maintenance is directly related to production.

2.	Pipe Spanner	For pipe fitting
3.	Spanner	Fixed Spanner for nut & bolts fitting
4.	Socket spanner	Handle system for nut & bolt fitting
5.	Hammer	To apply load where required
6.	Screw driver	To release any screw
7.	Punch	Used to fit any worn out shaft
8.	Lock opener	To open the clip of bearing
9.	Hack saw	To cut any metallic thing
10.	Outside calipers	To measure outside dia
11.	Inside calipers	To measure inside dia
12.	Slide calipers	To measure very small dia
13.	Venire scale	To measure very small dia
14.	Chain ton	To lift heavy load
15.	Welding machine	To join metallic parts
16.	Grinding machine	To make the smooth fabrics
17.	Tester	To test electric circuit
18.	Pliers	To grip anything & cut anything
19.	Avometer/Voltmeter	To measure voltage
20.	Steel tape	To measure length, width & height
21.	Chisel	To cut any metal
22.	File	To smooth the rough surface

CHAPTER-4

IMPACT OF INTERNSHIP

4.1 Sample Section:

- Observed how skilled workers work in sample section
- Learned the process of preparing a pattern for an individual size & design
- Cleared the conception about different types of sample required to produce a garment
- Learned about the digitizing board in CAD room

4.2 Cutting Section:

- Learned about different type of cutting machines (i.e. Straight knife cutting machine, Round knife cutting machine, Band knife cutting machine etc.)
- Learned the process of fabric spreading
- Observed the process of fabric cutting according to the marker
- Understood different process of fabric lay
- Understood how numbering and bundling is done

4.3 Printing Section:

- Learned about screen or print paste preparation
- Cleared the conception about different type of printing method
- Learned about different types of printing machine

4.4 Sewing Section:

- Learned about different type of machines used in a sewing floor (i.e. Single or double needle lock stitch machine , Multi needle chain stitch machine, Over lock machine, Feed of the arm machine etc.)
- Cleared the conception about production of a sewing floor (line by line and total floor)
- Observed and realized the importance of final inspection at the end of every sewing line
- Got experienced in making production study of an operator for an individual process for a definite time interval

4.5 Finishing Section:

- Observed various type of finishing process after sewing
- Observed different type of machines used in finishing section (i.e. Neck press machine, Metal detector machine etc.)
- Learned about different type of iron machines
- Learned about various type of accessories used to attach to the garment (i.e. Security alarm, Hang tag, Price tag, Barcode label etc.)
- Observed the application of different chemicals for the removal of various type of stain
- Cleared the conception about different packing type and packing ratio
- Understood the basic difference between gross weight and net weight

4.6 Quality Management System

- It is the systematic measurement, comparison with a standard, monitoring of processes.
- This can be contrasted with *quality control*, which is focused on process outputs.
- Process control.
- Process development.
- Product testing.

4.7 Store Section

- Understood the necessity & process of inventory
- Learned how an order is confirmed via merchandiser
- Realized the role of PI (Pro-forma Invoice)
- Had cleared the conception about fabric inspection method
- Learned how to examine AQL in a fabric lot

CHAPTER-5

CONCLUSION

Industrial attachment is an important and essential part of any apparel industry. We learn all the implementations of the processes which we have studied theoretically. It gives us an opportunity to compare the theoretical knowledge with practical facts and thus develop our knowledge and skills. This project also gives us an opportunity to enlarge our knowledge of textile administration, production planning, procurement system, production process, and machineries and teach us to adjust with the industrial life.