



Faculty of Engineering
Department of Textile Engineering

Industrial Attachment
At
Millennium Textiles (Southern) Ltd.

(A concern of Renaissance group)

Bara Rangamatia, Ashulia, Savar, Dhaka-1341, Bangladesh

Course Title: Industrial Attachment
Course Code: TE-431

Submitted By

Said Alam Rafi **ID No: 113-23-2696**
Sujon Chandra Roy **ID No: 133-23-3716**

Supervised By

Engr. Mohammad Abdul Baset

Assistant Professor

Department of Textile Engineering
Daffodil International University

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 February 05, 2017 to April 04, 2018.

DECLARATION

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

Student name	ID No	Signature
1. Said Alam Rafi	113-23-2696
2. Sujon Chandra Roy	133-23-3716

Letter of Approval

April 08, 2018

To

The Head

Department of Textile Engineering

Daffodil International University

102, Shukrabad, Mirpur Road, Dhaka 1207

Subject: Approval of “Industrial Attachment” of B.Sc. in TE Program.

Dear Sir,

I am just writing to let you know that this Industrial Attachment in “Millennium Textiles (Southern) Ltd.” has been prepared by the student bearing ID 113-23-2696 and 133-23-3716 is completed for final evaluation. The whole report is prepared based on the proper investigation and information in “Millennium Textiles (Southern) Ltd.”. The student were directly involved in their industrial attachment report activities.

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

At first we would like to express our heart-felt thanks to almighty ALLAH for his kind blessing for complete of this internship report successfully.

We would like to thank our honorable course teacher & supervisor, **Engr. Mohammad Abdul Baset, Assistant Professor**, at Department of Textile Engineering, Daffodil International University for his guidance, help and encouragement throughout the progress of the internship report. We are very grateful for his kind advice and instructions.

We would to thank our honorable **Prof. Dr. Md. Mahbul Haque**, Prof. & Head, Dept. of textile Engineering, Daffodil International University.

We would like to thank the management of the “**Millennium Textiles (Southern) Ltd.**” for giving us the opportunity to do the industrial training successfully & also their valuable suggestions. Our deepest appreciation goes to ‘**Anik Ranjan Das Titu, Head of IE Section**’ without his permission to conduct our industrial training wasn’t possible. We would also like to thank executives, senior executives & other officials of Millennium Textiles (Southern) Ltd. for helping us to complete industrial training successfully. Our gratitude also goes to all the employees of Millennium Textiles (Southern) Ltd. for their sincere co-operation, support & valuable advices.

We would like to thank the Staffs who motivate me thoroughly and the other people, who have made a significant contribution to make this report successful. Their guidelines, suggestions & inspiration helped us a lot.

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Chapter -1

Executive Summary

1.1 EXECUTIVE SUMMARY

The Industrial Attachment is the most effective way for Textile Engineering student to be achieved the knowledge about the practical field of the Textile Manufacturing. It brings an opportunity for all the learners to enrich their academic knowledge by practicing with the experts in the practical field of textile.

It is our pleasure that we had the opportunity to complete our two month internship at **Millennium Textiles (Southern) Ltd.** which is one of the most modern industries of the country.

In this report, we have tried to give some information about Millennium Textiles (Southern) Ltd. and we have observed that Millennium Textiles (Southern) Ltd. produced high quality garment(Shirt) and fulfill the special requirements of the different types of buyers by according different activities.

Chapter -2
General Information about
Millennium Textiles (Southern) Ltd.



2.1 INTRODUCTION

Industrial attachment is an important and essential part of 4-year B.Sc. In Textile Engineering Course. Actually Industrial attachment is the practical experience for every Textile Engineer Which is needed to be familiar with not only the industry but also all over necessary job related to continue any industry. Textile Engineer is a technical course that is why industrial attachment is badly needed to be good at Textile Engineer. During student life one student need to complete many courses including the major subjects, but industrial environment is totally unknown. So by industrial attachment, it can know about industrial environment and activities. Though it is very helpful and lays the milestone for starting the carrier for fresh textile graduates. The **Millennium Textiles (Southern) Ltd.** is truly an excellent industry from our point of view. All types of modern technology are well arranged here. During our ©Daffodil International University

study period, which we study, there has similarity between theoretical and practical knowledge. But some things will change according to technical change. Every section helps us so much by giving information during our training period which was unbelievable. Especially the IA and IT Department maintains the Management Information System a vital function for the company's smooth operation and development. We are so much satisfied and lucky student to complete our attachment in **Millennium Textiles (Southern) Ltd.** Which is 100% Export Oriented (Shirt) Textile Industry. In **Millennium Textiles (Southern) Ltd.** there have a Prayer floor on top and management have permission to join a prayer during prayer time. Millennium Textiles (Southern) Ltd. is a woven garment and exporting company of Bangladesh. It produces Ladies, men's, school shirt. It has put highest emphasis on quality and credibility, which helped a lot in earning the buyer's confidence.

This garment produces over 550000pcs of high quality woven (Ladies, men's, school shirt) garments which are exported mostly in the UK, USA, Germany, Denmark, India, Russia, Canada.

For regular buyers, dedicated lines of production and nominated Merchandisers are there to customize the service and ensure successful execution of orders. They export their garment to buyer like H&M, M&S, Jules, Tema.

Fakir Knitwear's Limited is committed to provide fair wages and good employment opportunities to economically disadvantaged artisans and workers. We think this Industrial attachment will be helpful in my career life.

2.2 HISTORY OF THE FACTORY

Starting from the beginning, Millennium Textiles (Southern) Ltd. has put highest emphasis on quality and credibility, which helped a lot in earning the buyer's confidence.

Upholding a customer centered perspective, highly experienced professionals of Millennium Textiles (Southern) Ltd. is working constantly to ensure the best support to the valuable clients.

For regular buyers, dedicated lines of production and nominated merchandisers are there to customize the service and ensure successful execution of orders.

Millennium Textiles (Southern) Ltd. is a 100% export oriented garment industry, located at Mirpur, Dhaka, which was set up in the year of 2000.


It produces over 550000 pieces of high quality woven (Ladies, men's, school shirt) garments which are exported mostly in the UK, USA, Germany, Denmark, India, Russia, Canada. The company employed about 2400 employees.

2.3 FOUNDER & DIRECTORS

Founder: Md. Shariar Alam.

Director: Khondokar Younus Al Hossain and Md. Ashrafur Rahman (COO)

2.4 GENERAL INFORMATION ABOUT THE FACTORY

Name of the company	Millennium Textiles (Southern) Ltd.
Logo	
Type	100% Export Oriented Garment(Shirt) Industry
Factory address	Millennium Textiles (Southern) Ltd. Bara Rangamatia, Ashulia, Savar, Dhaka-1341
Contact No.	+880258957475
Fax	+880258956658
Web	www.renaissance.com.bd
Year Of Establishment	2000
Business	100% Export woven garment manufacturer & RMG exporter.
Products	Woven garment and exporting company
Production Capacity	Garments: 50,500 Pieces/day
No of Employees	2400
Legal Form of Company	Private Limited Company.

2.5 Location layout

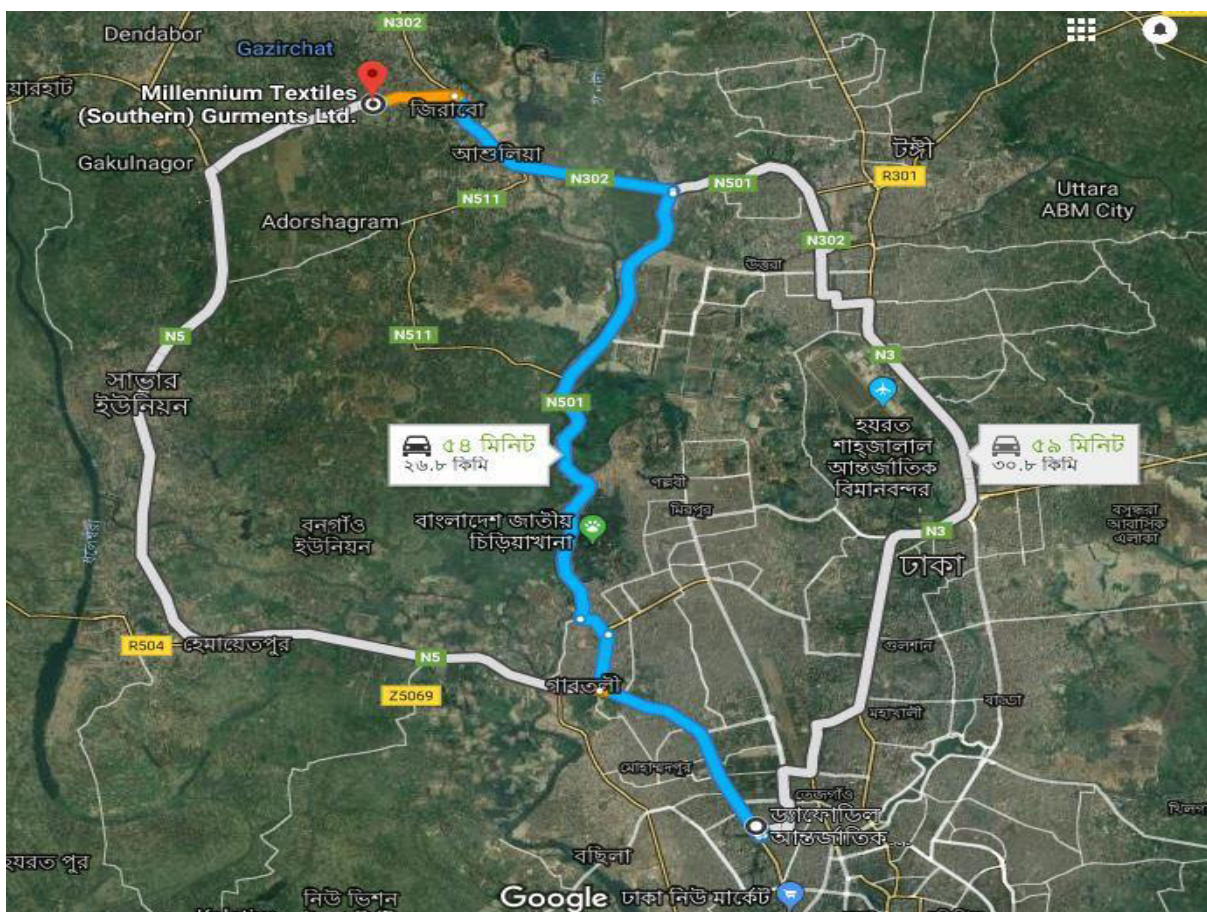
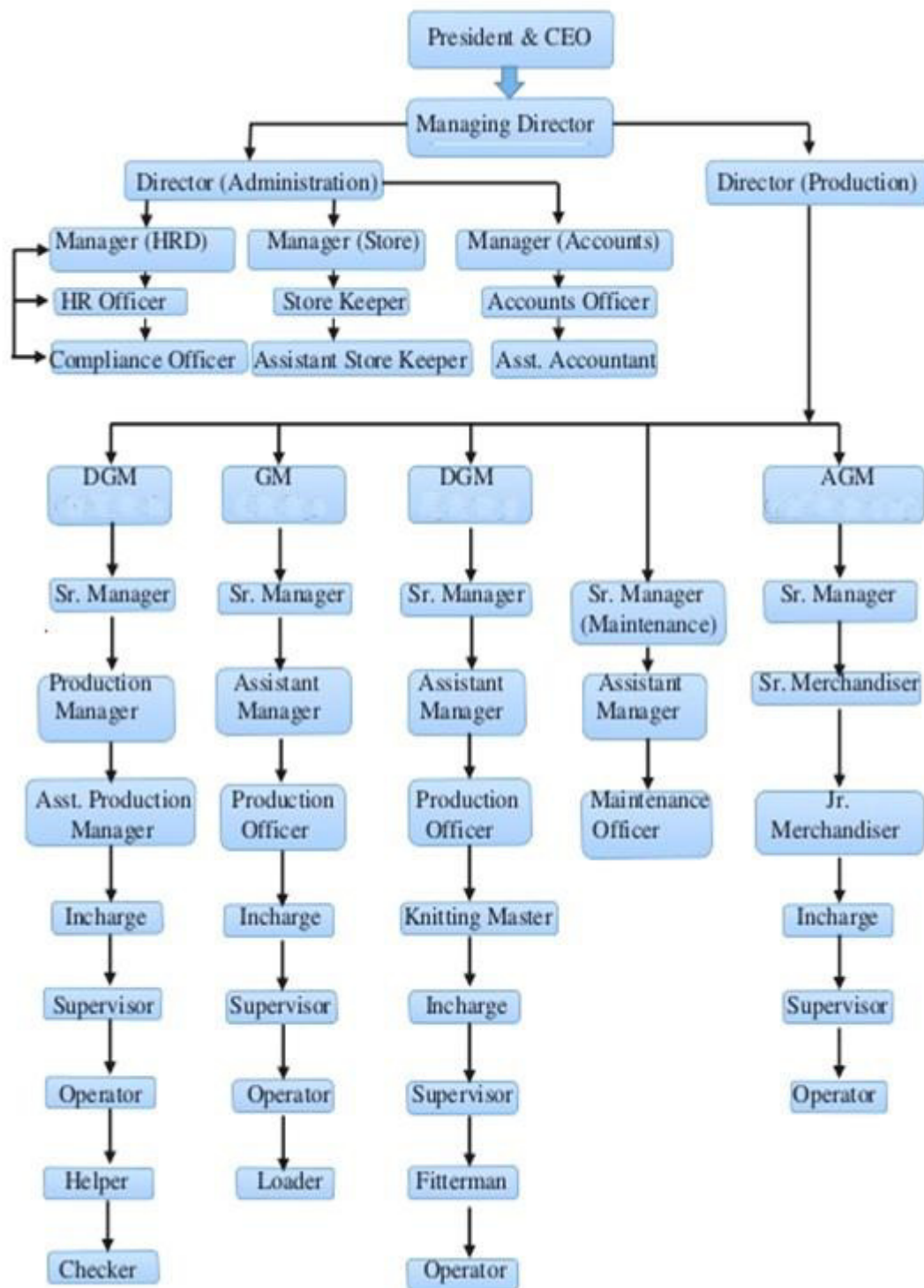


Figure: 2.1 Satellite View of Millennium textiles (southern) Ltd.

2.6 Organogram



2.7 Sister Concerns

- Renaissance Apparels Limited
- Renaissance Designs Ltd.
- Renaissance Barind Ltd.
- Barind Media Ltd.
- Anam Clothing Ltd.
- S F Cargo Ltd.
- Radio Dhol 94.0 FM

2.8 Export growth by graph

Annual Capacity: 7.5 m pcs

Annual Turnover: US\$ 25.0 Million (2017)

Production Lines: 22 Lines

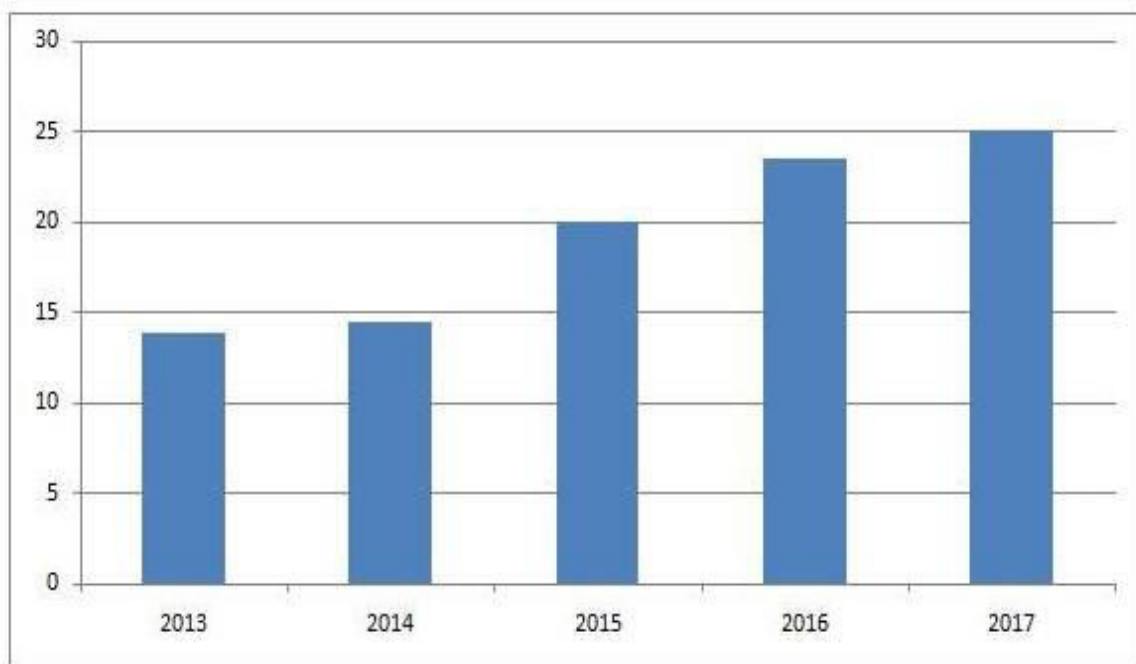


Figure: 2.8 Export Growth of Millennium Textiles (Southern) Ltd.

2.9 Product mix

All are woven product (Ladies, men's, school shirt).

Such as full sleeve shirt, half sleeve shirt, ladies T-shirt etc.

2.10 Brief Profile

a) Number of Manpower:

- Total Number of manpower: **2400**



c) Production Details:

- **Garments Division:**

Capacity: 50,500 pieces/day

Total Number of Machine: 1147.



2.11 Major buyers with their Logo

Buyer Name	Logo
H&M	
M&S	

<p>Jules</p>	
<p>George</p>	

2.12 Certification

Millennium Textiles (Southern) Ltd. is certified by Quality Management System, BSCI, Fair Trade, WRAP, SEDEX, Oko-Tex.

	<div data-bbox="884 1151 1321 1227">  <p>The Walt Disney Company Europe, Middle East & Africa FACILITY AND MERCHANDISE AUTHORIZATION</p> </div> <div data-bbox="884 1240 1406 1339"> <p>LICENSEE/VENDOR NAME: Pronatal SpA LICENSEE/VENDOR ADDRESS: Centro Colosini - Palazzo Poggio, Agrate Brianza, Milano 20041, Italy TELEPHONE NUMBER: 39 0 39 65 67 1 FAC NUMBER: 39 0 39 60 58043 CONTACT NAME, TITLE AND, IF AVAILABLE, E-MAIL ADDRESS: Elena Ghisoldi e.ghisoldi@pronatal.com</p> </div> <table border="1" data-bbox="884 1350 1422 1619"> <tr> <td data-bbox="884 1350 1166 1391"> <p>1. Manufacturing Facility Name (Place Where Merchandise is Produced): Millennium Textiles Southern Ltd (W833-2856-1)</p> </td> <td data-bbox="1166 1350 1422 1391"> <p>1e. List all other names by which the manufacturing facility is known (if applicable):</p> </td> </tr> <tr> <td data-bbox="884 1391 1166 1451"> <p>1a. Manufacturing Facility Address: Zhabo, Ashulia, Savar, Dhaka, Bangladesh</p> </td> <td data-bbox="1166 1391 1422 1451"> <p>1f. Is this manufacturing facility owned by the licensee/vendor? No</p> </td> </tr> <tr> <td data-bbox="884 1451 1166 1491"> <p>1b. Telephone Number: 88 02770 8187 / 279 2190 1c. Fax Number: 88 02779 1909</p> </td> <td data-bbox="1166 1451 1422 1491"> <p>1g. List all authorized merchandise produced in this facility (as listed on the Licensee/Vendor Agreement). Attach a separate sheet if necessary. As per current License Agreement.</p> </td> </tr> <tr> <td data-bbox="884 1491 1166 1532"> <p>1d. Contact Name and Title: SM Tanvir Siddiqui, Senior Merchandiser</p> </td> <td data-bbox="1166 1491 1422 1532"> <p>4. <input type="checkbox"/> Shipper <input type="checkbox"/> Importer of Record (check one). Provide Name and Address. They list if the Transporter of the Merchandise is other than Facility or Licensee/Vendor.</p> </td> </tr> <tr> <td data-bbox="884 1532 1166 1619"> <p>2. Products, Brand or Logo produced in this facility: As per current License Agreement.</p> <p>3. Territory Where Merchandise May Be Sold and/or Given Away: As per current License Agreement. If the Territory includes a country within the European Economic Area, the licensee may respond to unsolicited orders from customers located in other countries within the European Economic Area which are not included in the Territory.</p> </td> <td></td> </tr> </table> <div data-bbox="884 1630 1358 1697"> <p>Once signed on behalf of Disney Consumer Products EMEA, and/or its affiliates and/or its authorized subsidiaries ("Disney"), this document may be presented to the Customs authority at the port of export from the country specified above where the manufacturing facility is located and at the port of entry in the country specified as the territory where the Merchandise may be sold to confirm Disney's authorization of all shipments of the Merchandise identified above. This Authorization shall expire on the date set forth below: (1) the passage of 3 years from the date set forth below; (2) the expiration or termination of the applicable agreement between Licensee/Vendor and Disney; or (3) the termination of the Authorization by Disney.</p> </div> <div data-bbox="884 1704 1358 1816"> <p>Regards, Disney Consumer Products EMEA Milch Foreman Vice President, Finance Date: November 25, 2011</p> </div> <div data-bbox="932 1854 1289 1912"> <p>The Walt Disney Company Ltd. 2 Queen Caroline Street, Tottenham, London N15 2PP, United Kingdom Tel +44 (0) 20 8222 2000 Fax +44 (0) 20 8222 2600 The Walt Disney Company Limited, Registered Office: 2 Queen Caroline Street, Tottenham, London N15 2PP Registered in England and Wales. Registration No. 332022</p> </div>	<p>1. Manufacturing Facility Name (Place Where Merchandise is Produced): Millennium Textiles Southern Ltd (W833-2856-1)</p>	<p>1e. 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2.13 Other Facilities & Achievement

- **Staff canteen:** The canteen is capable to accommodate about 300 persons at a time.
- **Medical:** Available Facilities.
- **Emergency Electricity Supply:** During the electricity failure, available generators can fulfill requirements of the whole complex.
- **Cleanness:** The factory premise is kept clean, removing the dirt & refuges, cleaners sweep the floor at regular interval effective arrangement are made to dispose of the waste to the nearby dustbin.
- **Toilet:** Sufficient numbers of toilets are available for female & male workers as per requirements. Soaps are also supplied.
- **Water:** Sufficient water is supplied to all floors including toilet. Moreover, each floor provided with a tank for portable water.

2.14 Mission and Vision

Mission of the Company

1. Deliver innovative, reliable and cost effective solutions in advanced thermal power generation
2. Develop strategic relationships with customers, suppliers and partners.
3. Provide a challenging, rewarding and safe working environment.
4. Build a reputable enterprise and create value for our stakeholders.
5. Ensure customer satisfaction through assured quality and after sales.

Vision

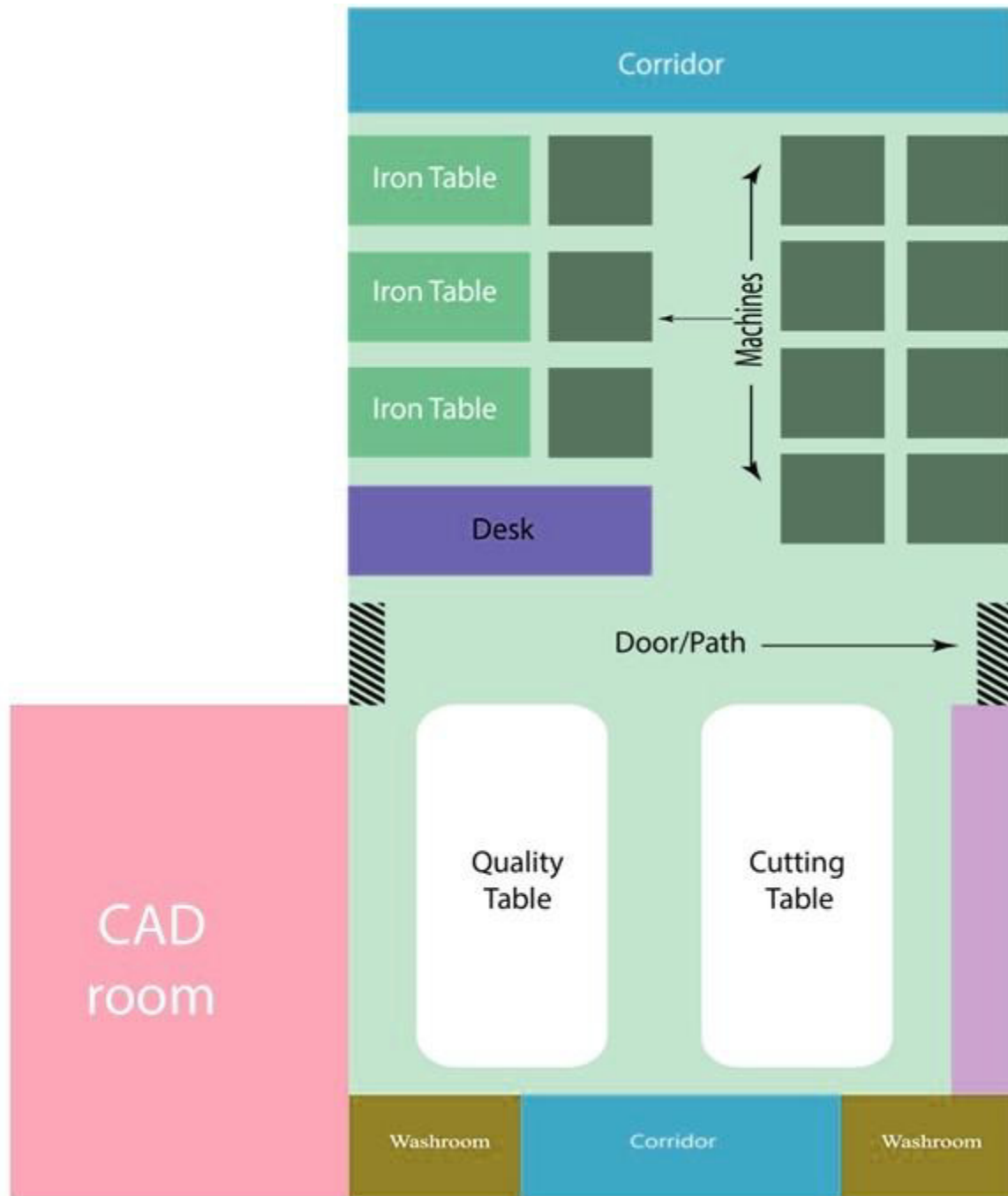
Towards continuous development to satisfy customers, consumers and workers by producing best quality products and provide timely shipment in an ideal working environment.

Chapter -3

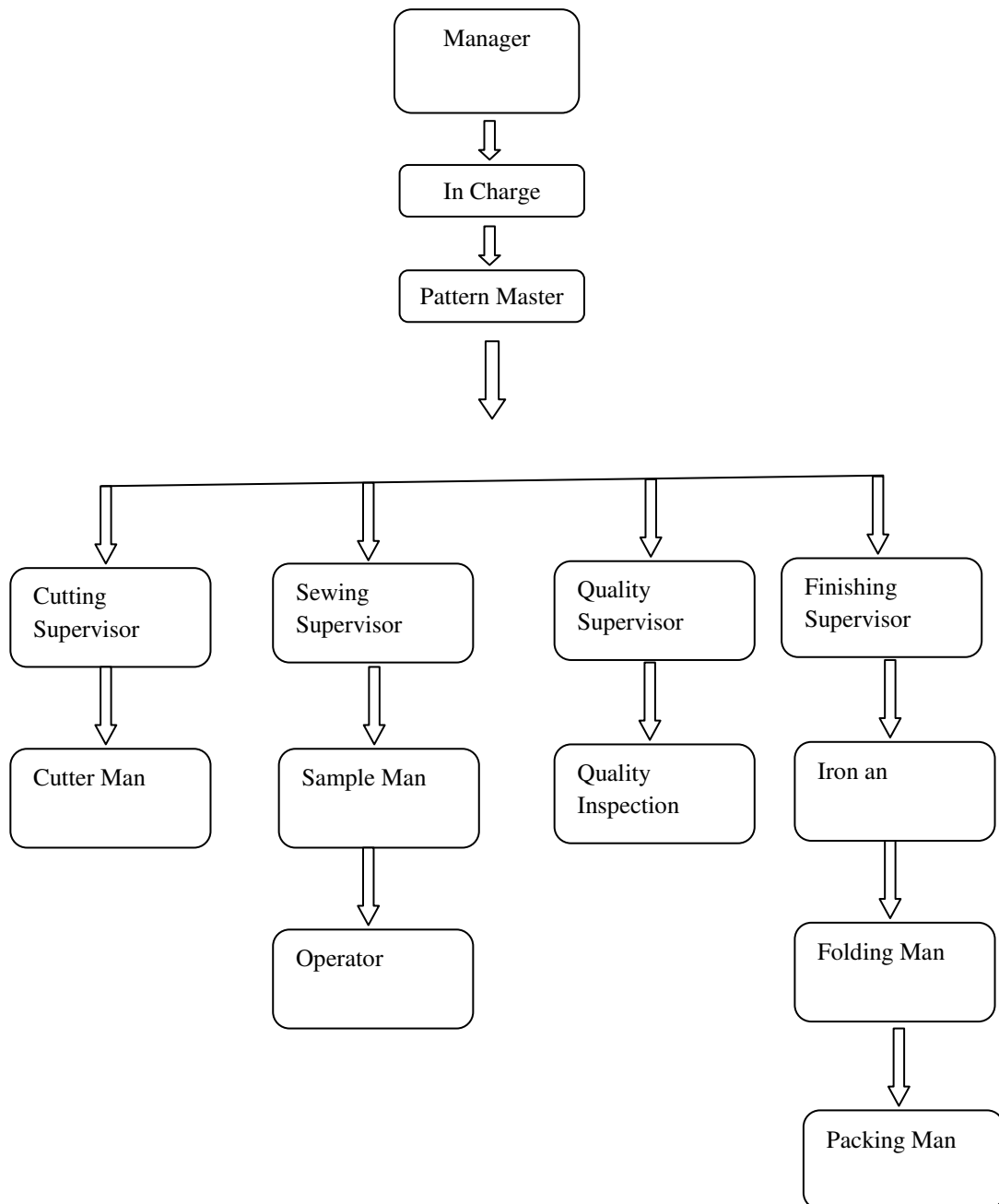
Details of the Attachment

3.1 Sample Section

3.1.1 Layout of Sample Section



3.1.2 Organogram of Sample Section



3.1.3 Sample Section

Millennium Textiles (Southern) Ltd. have a separate sample section which is located on the 5th floor in the main building. This is one of the most important departments in this industry. It plays a vital role to get the order. Several sections are included in this department such as pattern making, marker making. Besides by doing sampling only the exporter can optimize the processing parameters for mass production, which helps to avoid all kinds of bottlenecks.



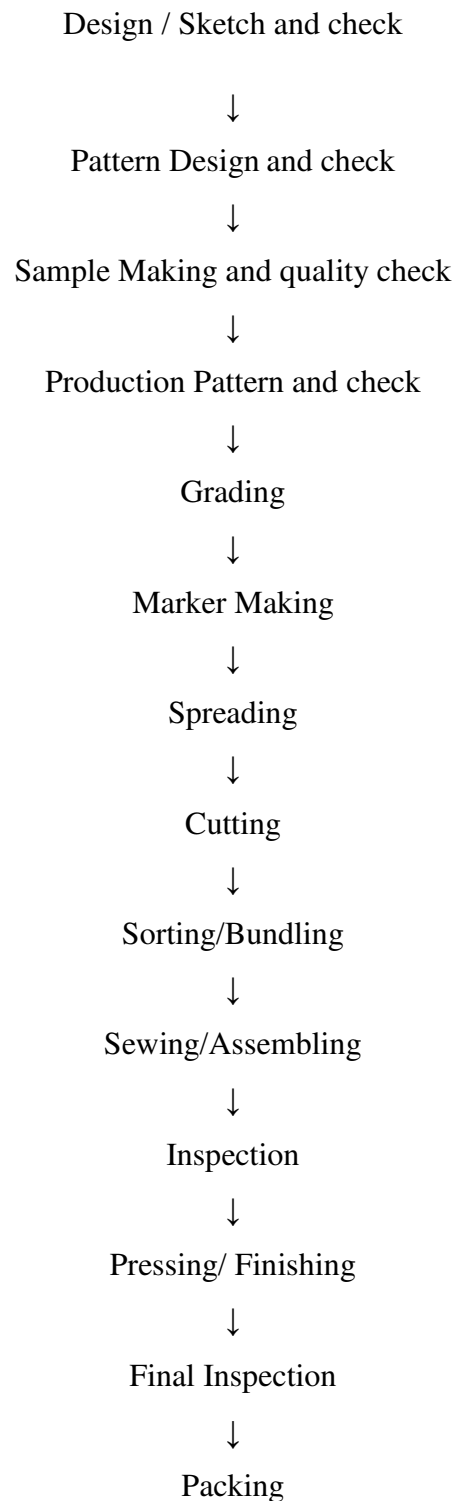
Figure: 3.1.3 Sample room

3.1.4 Types of sample & their uses

Millennium Textiles (Southern) Ltd. sends many samples to buyers. These are:

Serial no.	Sample	Use
01	Proto/ Development Sample.	To convert the pattern into actual garment.
02	Size set/ Grade/ Fitting Sample.	To fit the styling of the garment.
03	Additional Sample (White Only) Magazine. Photo shot) garment on the rack.	All these Samples are made to show the garment of the rack.
04	Contract Seal/ Seal Sample.	To gain approval before the bulk Production.
05	Pre Production (PP) sample.	To gain approval before the bulk Production.
06	Production Sample.	To gain approval for shipping the garment.
07	Sales Man Sample (SMS)	To gain approval for bulk production.
08	Rack Sample.	To show the garment on the rack.

3.1.5 Flow Chart of Sample Making



3.1.6 Machineries of Sample Room

Types of Machine	No. Of Machine
Plain M/C	14
Over Lock M/C	5
Flat Lock M/C	7
Button Hole M/C	1
Gathering M/C	1
Button Attaching M/C	1
Zigzag Plain M/C	1
Bar Tack M/C	1
Rib M/C	1
Total M/C	34

3.1.7 Pattern making

The Pattern is the one of important part of a design. In a garment industry there are two types of pattern uses based on their capability. Most big companies are using CAD (Computer aided design) as well as little companies' uses manual pattern. There are 4-6 high skilled pattern masters working here.

The Instructions to be sent to the Production Department by the Pattern Maker is called Production Pattern Instructions. Following instruction must be marked on apparel pattern, to enable the garment to be made up correctly.

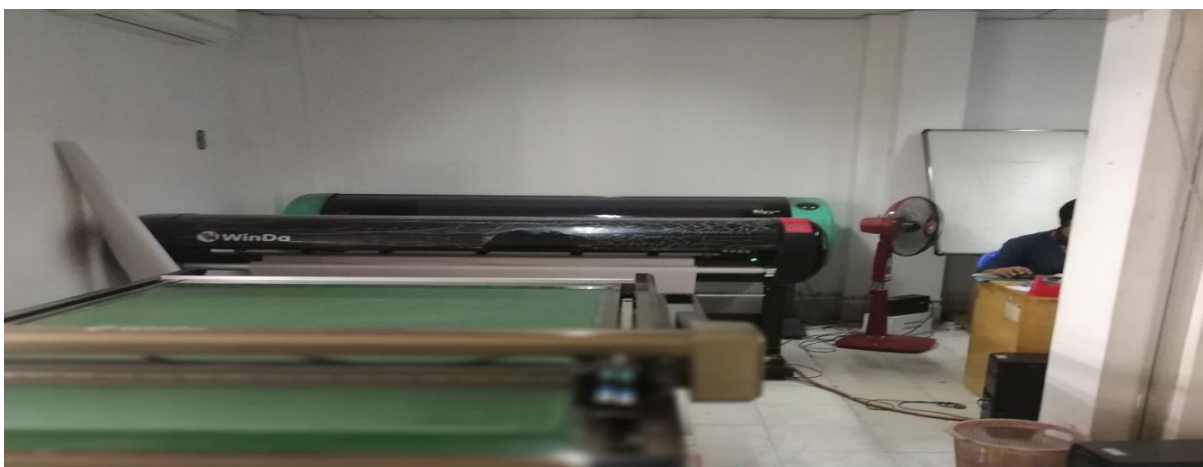


Figure: 3.1.2 Pattern room

3.1.8 Pattern & Marker Making Machinery

Name	Brand	Origin	Qty.
CAD Software	Winda Cad /Lectra	China/France	1
Plotter M/C	Lectra	France	1

3.1.9 Pattern grading

Pattern grading is an essential part of pattern making. Grading rules determine how patterns increase or decrease to create different sizes. Fabric type also influences the pattern grading standards. The cost of pattern grading is incomplete without considering marker making. IGL does graded by-

- Computerized grading

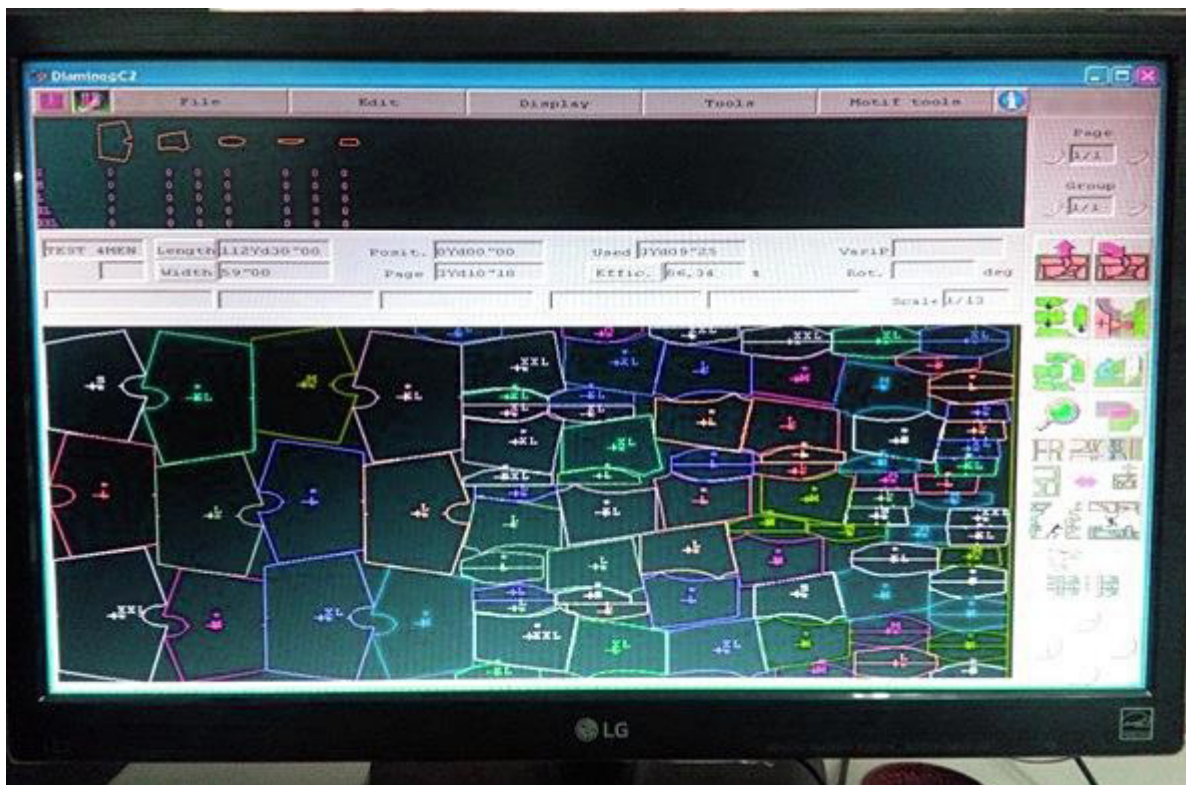


Figure: 3.1.9 Pattern Grading

3.1.10 Marker

After grading the samples the design is input into the marker software. This software specifies how to set the pattern in the actual fabric. By using the marker software efficiently, fabric can be saved. CCL uses Lectra Garment Technology (LGT) for marker making.

3.1.11 Marker Efficiency

The ratio of area for pattern pieces that are placed on the marker in the total area of the marker expressed as percentage is called marker efficiency.

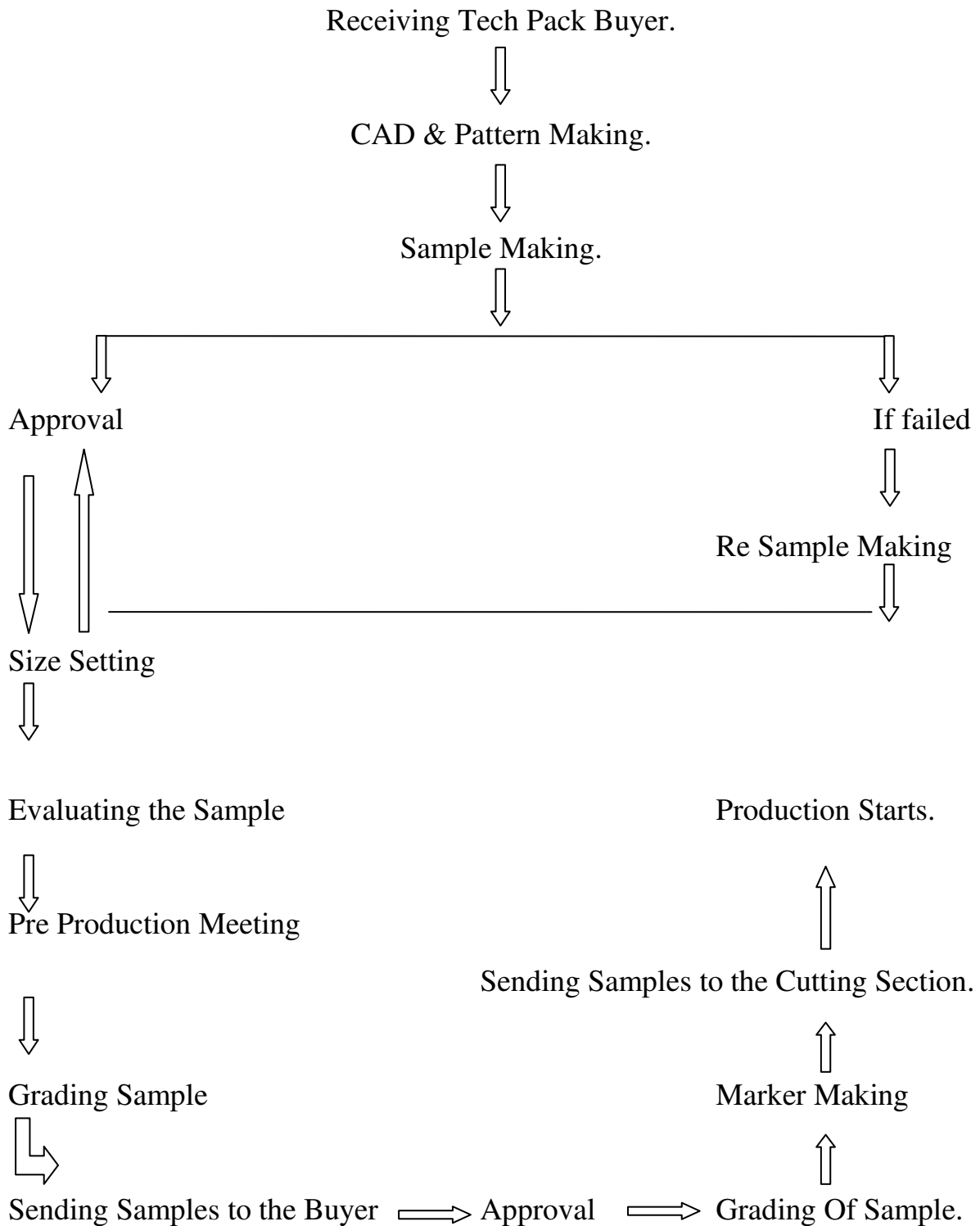
Marker efficiency is the important part of garment manufacturing. Direct cost of garments could be utilized by marker efficiency. Marker efficiency is calculated by two parameters:

1. Total area of the entire pattern in marker
2. Total area of the marker

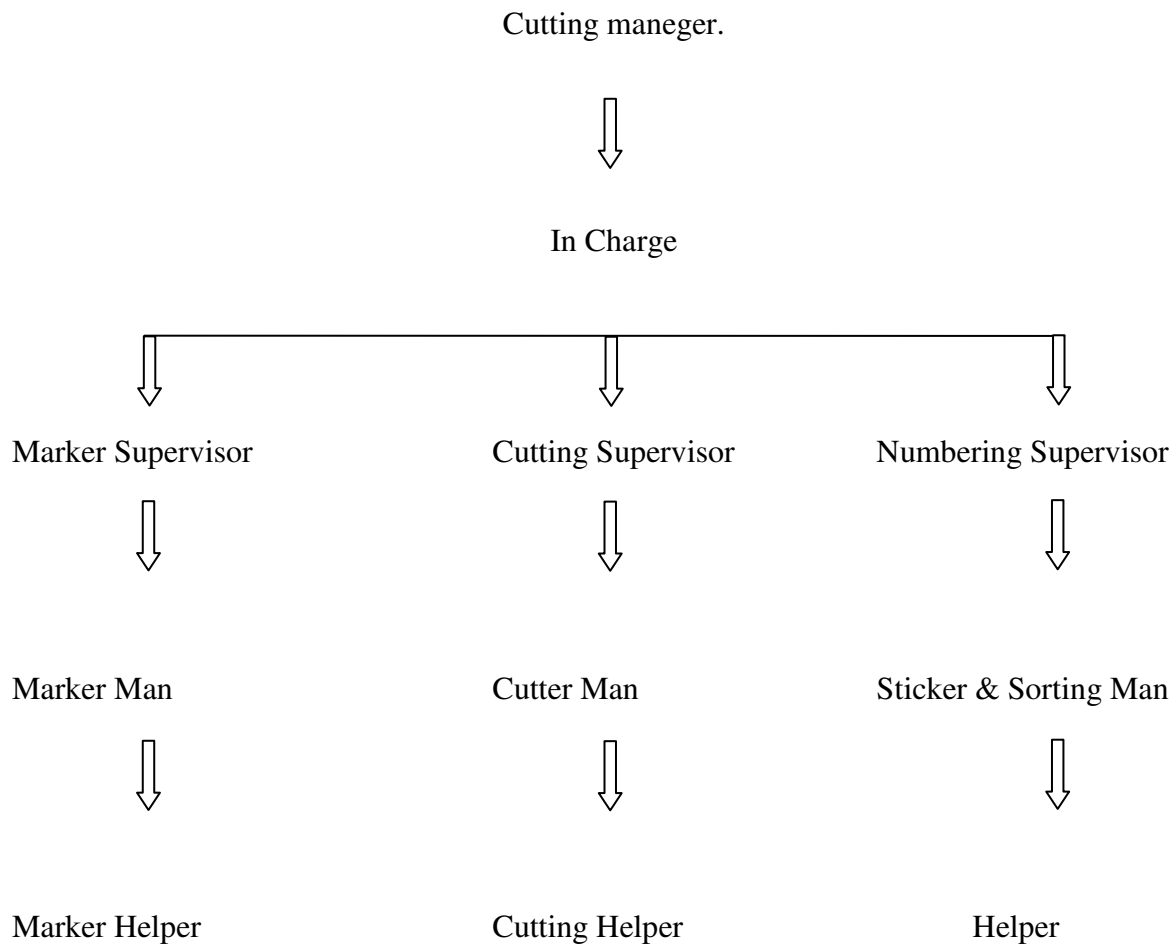
It is calculated in percentage. It can be defined by following this formula:

Marker efficiency = Area of the pattern in the marker / Area of the marker 100%

3.1.12 Sampling Requisition Flow Chart



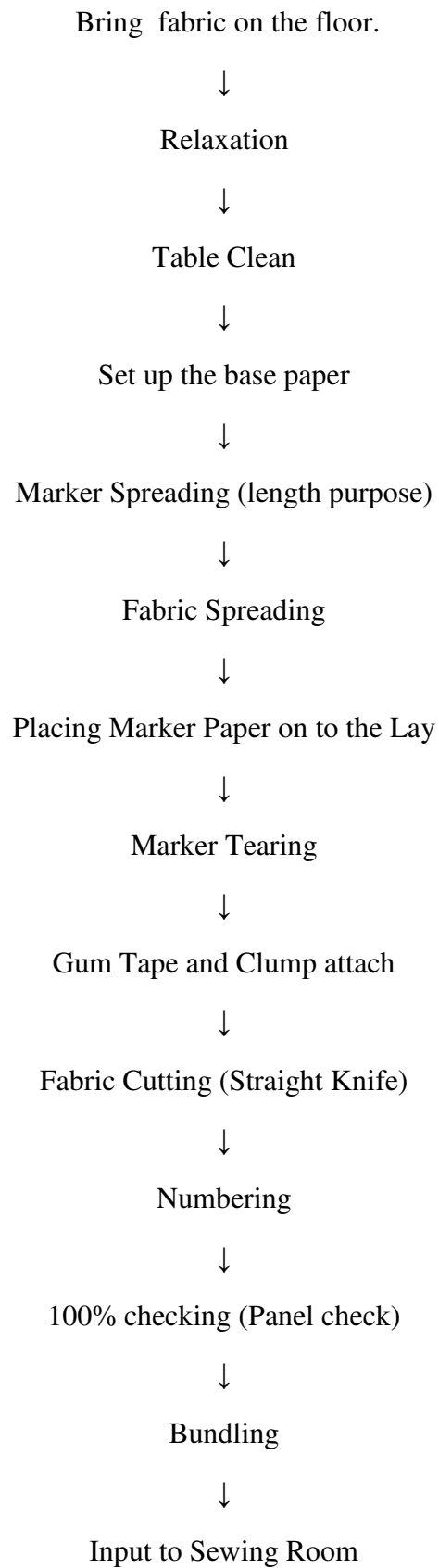
3.2.2 Organogram of Cutting Section



3.2.3 FABRIC CUTTING

Cutting is the major operation of the cutting room, when the spread fabric is cut into garment components. Of all the operations in the cutting room this is the most decisive, because once the fabric has been cut, very little can be done to rectify serious mistakes. Cutting can be done manually using powered knives or by computer-controlled system.

3.2.4 PROCESS SEQUENCE IN CUTTING ROOM



3.2.5 List of Machines

Name of Machine	No. of Machine
Straight Knife Cutting M/C	10
End Knife Cutter M/C	2
Bend Knife M/C	2
Marker Printer	1
Auto Pattern Cutter M/C	1
Digitized Board	1
Total M/C	17

3.2.6 Cutting Table Specification

- Length of the spreading table: 25 yards4”
- Width of the spreading table: 94”
- Table type: Wood table
- No. of manual cutting table: 02
- No. of operator: 02
- No. of helper: 08

3.2.7 Spreading

Spreading is a process by which plies of fabric is spread in order to get the required length and width as per marker dimension. This preparatory operation for cutting and consists of lying. In other words, spreading is the process of stacking of layers of fabric to allow simultaneous cutting. The marker is laid on the top most of the layers.

3.2.8 Methods of Fabric Spreading

Millennium textiles (southern) Ltd. has well developed spreading process. They have Manual.

3.2.8.1 Manual method:

In this method, the fabric is laid completely by hand. This method is widely used in our country. A roll of fabric is taken and its edge is fixed at one end of the table and then spread on the table without using any device, completely by hand. A large number of workers are required to carry out this process.



Figure: 3.2.8.1 Fabric spreading by manually

3.2.9 Description of Cutting Machine

1. Straight Knife Cutting Machine

This is designed with a low center of gravity for ease of handling and features the best power to gravity weight ratio in the industry. It is designed for maximum productivity and minimum fatigue. It is suitable for cutting most light to medium weight fabric.

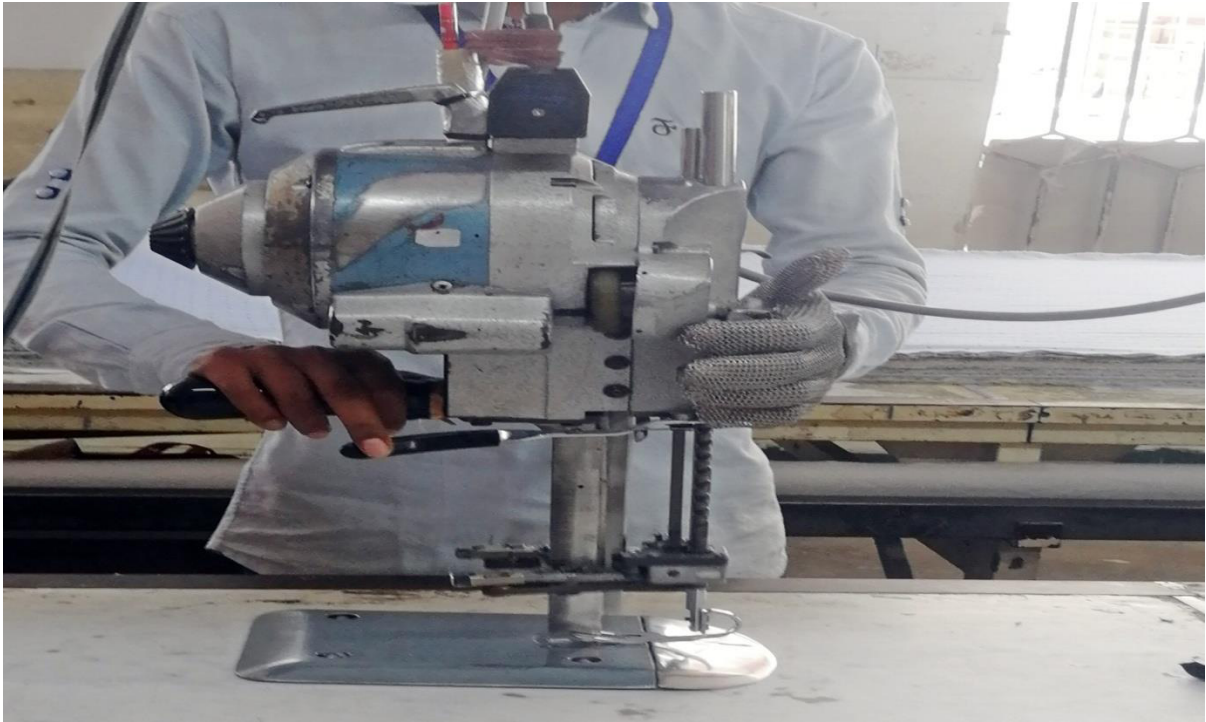


Figure: 3.2.9.1 Straight Knife Cutting Machine

Features of Straight Knife Cutting Machine

- Possible to cut pattern pieces directly from the fabric lies.
- Could be used to cut for higher depth of fabric.
- High cutting speed.
- Sharp and heavy corners can be cut.
- Blade could be sharpened by attached grinding facilities.
- Blade height 8 to 10".
- Blade Width 1.5-3 cm
- Blade Thickness ½ mm

Advantages of Straight Knife Cutting Machine

- Comparatively cheap and can be transferred easily from one place to another.
- Higher lay of height can be cut very easily.
- Round corners can be cut more precisely.
- Production speed is very good as up to 10 heights can be cut at a time.
- Fabric can be cut from any angle.

Disadvantages of Straight Knife Cutting Machine

- Sometimes deflection may occur due to the weight of the motor.
- Knife deflection is high in risk, when lay height is too high.
- Sometimes accident may happen.

3.2.10 Numbering

After cutting the fabric, cut pieces are sorted out size and shade wise. All the components of the same size are brought together and workers numbered with Numbering Machine. This is one of the most important operation in cutting section to prevent mixture.



Figure 3.2.10: Numbering

3.2.11 Quality Inspection and Replacement

After bundling, the cut pieces go to the quality inspection room. Cut pieces are 100 % checked here. Rejected pieces are replaced by a new one. This inspection is done by Quality Assurance. After inspecting these pieces, it goes to sewing floor. Some fabric faults are found in this section which is given below.

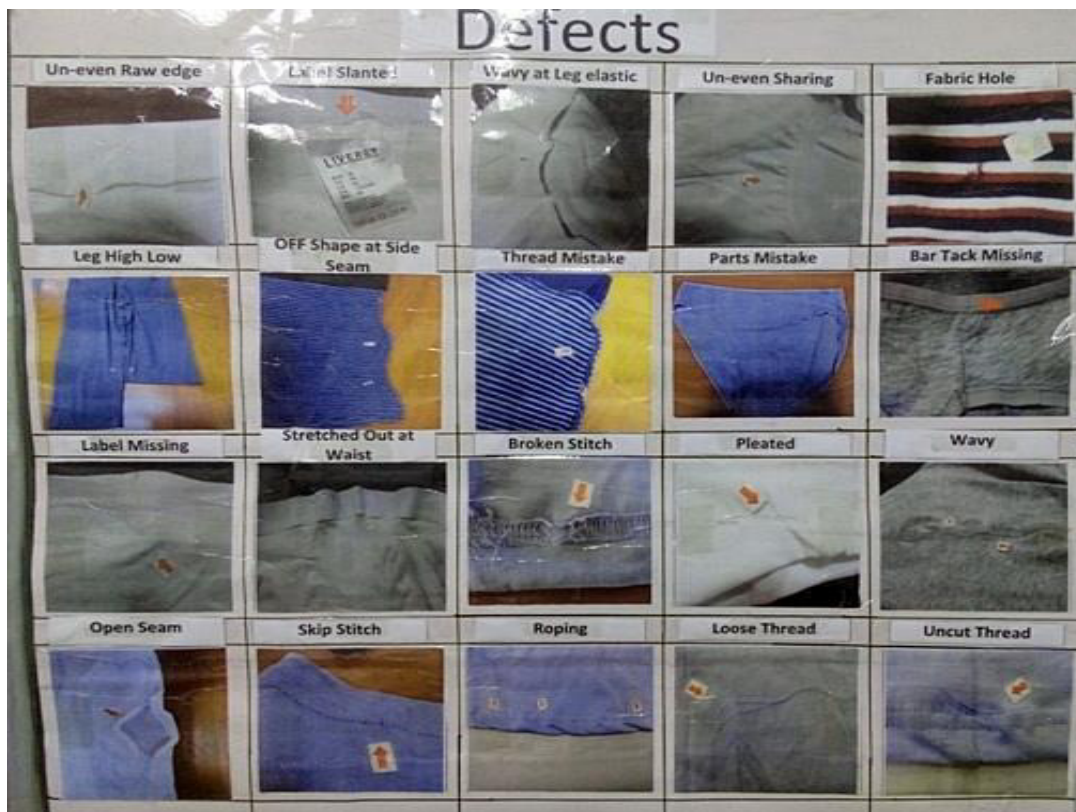


Figure 3.2.11: Fabric Defects

Common Defect List Name:

- Broken Stitch
- Part Missing
- Shading
- Uneven lob
- Pleated
- Skip Stitch
- Print Problem
- Uneven Shearing
- Side Seam Up-Down
- Stretch Out
- Puckering

- Needle Hole
- Fabric Hole
- Part Shading
- Wavy
- Tension tight
- Elastic reject
- Reject
- Open Seam

3.2.12 Bundling

The checked components of one styles and in one size are now clubbed and bundled using ties. The size of bundle depends upon the requirement of the production plant. Each bundle contains pieces of the same style and same size only.



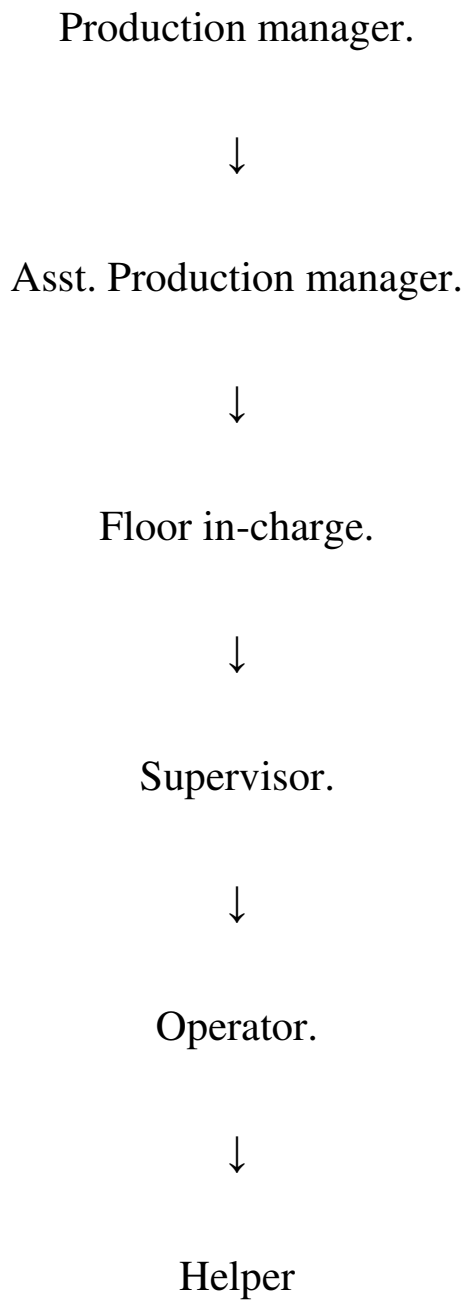
Figure: 3.2.12 Bundling

3.3 SEWING SECTION

3.3.1 Layout of sewing section



3.3.2 Organogram of Sewing Section



3.3.3 No. of Machines used in the sewing section:

Machine Name	Running	Out of order	Grand Total
Single Needle Plane Machine(Normal)	327	2	329
Single Needle Plane Machine(UBT)	277		277
Single Needle(Chain Stitch)	35	2	37
Double Needle fixed bar(Lock stitch)	18		18
Over lock(Four thread)	14	2	16
Over lock(Five thread)	67	7	74
Feed of the arm(FOA)	33	4	37
Kansai	27		27
Button Hole(BH)	40		40
Button Attach(BA)	45		45
Bartack	7		7
Single Needle Edge trimmer(Vertical)	29		29
Over lock(Three thread)	1		1
Collar Turning	6		6
Collar Notching	3		3
Thread Recon Machine	1		1
Sleeve placket fuse	3		3
Single Needle (Needle feed) P/M	17		17
Double Needle Chain Stitch	5		5
Snap button (Manual)		1	1
Flat Lock		1	1
Collar Bottom Cutting	3		3
Lable cutting machine	1		1
Thread Sucking machine	2		2
Vacuum iron table	51		51
Stream Iron	49		49
Spot Removal M/C	6		6
Heat Iron	1		1
Snap button (Compressor)	1		1
Sattle Stitch	1		1
Collar Forming	3		3
Cuff Forming	2		2
Armhole fuse	8		8
Box placket fusing	5		5
Compressor	2		2
Fusing machine (Cuff,Coll, Band.)	3		3
Side seam fuse	4		4
Collar bloking	1		1

3.3.4 Function of Sewing Machine in Knit Garments

Machine Name	Function
Plain Machine:	Placket rolling, placket join with body, placket top stitch, back neck top stitch.
Over Lock Machine:	Shoulder seam attach, sleeve joint, side seam attach, neck rib join with body that's must be over lock M/C.
Flat Lock Machine:	Neck piping, sleeve piping, and leg piping.
Bar Tack Machine:	In garments where more tension is done here bar tack stitch is required as per buyer requirement.
Kansai Machine:	Neck top Stitch only for rib fabrics.
Button Attaching Machine:	It's used for button attaching with garments.

3.3.5 WORKING PROCEDURE OF SEWING DEPARTMENT

The work flow of the sewing department of “**Millennium Textiles (Southern) Ltd.**” is given bellow.

Sewing is an operation by which the fabric cut panels are joined together by thread and gets the shape of a garment. The main responsibility of this department is to stitch fabric together in a standard way that it meets the needs of a buyer as a garment. As mentioned earlier, this garment industry contains 22 sewing lines. These production lines are equipped with sound sewing machines. All the lines are functional and executing the function of sewing.

3.3.6 Sewing Defects

Like open seams, wrong stitching techniques used, same color garment, but usage of different color threads on the garment, miss out of stitches in between, creasing of the garment, erroneous thread tension and raw edges are some sewing defects that could occur so should be taken care of.

Poor Trimming/Uncut Thread:

If one or more thread or loose thread on seam line, then this fault is called uncut thread.(9)



Figure: Uncut thread

Cause:

- Due to improper trimming or finishing.
- In sewing process extra thread allowance.

Remedies:

- Sewing thread use properly.
- Garments finishing should be checked properly.

Open Seam:

If seam line is open or loose the seam and missing the stitch after sewing process that called Open seam. It's a major sewing defect. (10)

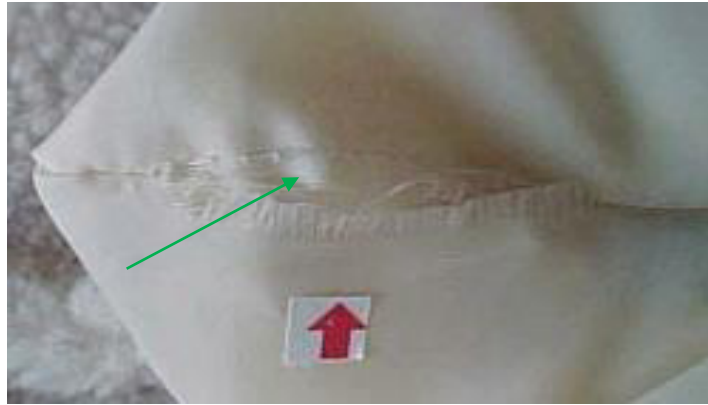


Figure: Open Seam

Cause:

- Improper handling of garments.
- Improper setting and timing between needle and looper .
- Failure of needle to enter the loop .

Remedies:

- Proper setting and timing between needle and looper
- Clear markings for stitch line
- Worker training

Skipped Stitch:

They occur when the bobbin or looped of the machine cannot pick up the loop in the needle thread.

Causes:

- Failure of hook or looper and needle to enter the loop at the correct time.
- Irregular thread tension on upper or lower loop.



Figure: Skipped Stitch

- Due to needle deflection.
- If needle thread loop size is too small.
- If sewing thread is unable to form loop.

Remedies

- Examine the setting and timing between needle and hook or looper.
- The needle should be changed.
- Needle size and thread should be adjusted.
- Thread should be changed.

Thread Breakage:

Needle and bobbin or looped threads break mainly due to metal surface being chipped or otherwise damaged and then causing damage to the thread.

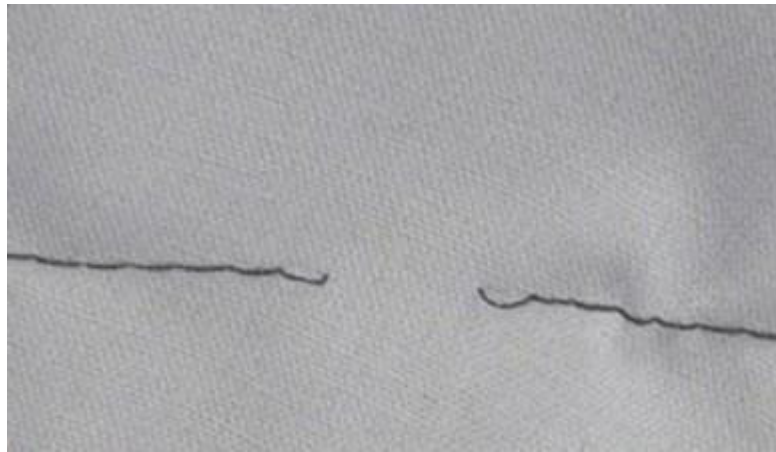


Figure: Thread Breakage

Discussion:

- Thread construction
- Uniformity of construction
- Twist level
- Fiber cohesion characteristics
- Thread finish (e.g., soft, bonded, glazed)

Remedies:

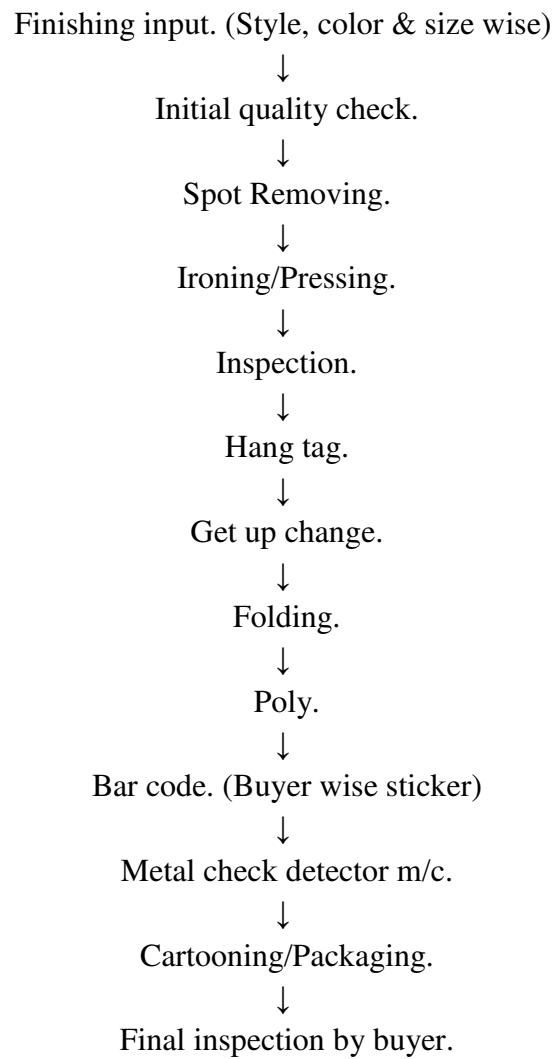
- Try sewing with thread from a different case or shipment.
- Make sure the correct thread type and size is being used.
- Check the needle & sewing pressure, change the needle.

3.4 Finishing Section

3.4.1 Layout of Finishing Section



3.4.2 Process Flow Chart of Garment Finishing



3.4.3 Work flow in the Finishing Section

As mentioned earlier, workflow in the Finishing Department is shown here for reference:

- Eliminate micro-dust and residual thread of the garment.
- Press/iron garments as specified by the buyer or as per requirements.
- Fold the garments as required by customer.
- Fix necessary tickets (Price tickets) or tags (hang tags), etc. to the garments at this stage.
- Insert garments into poly bags.
- Divide garments as per size and color (assortment)

3.4.4 Machine Description of finishing section

Machine	No of Machine
Steam iron	49
Metal detector	2
Thread sucker	2

3.4.5 Accessories used in garment finishing

- Neck board
- Backboard
- Collar stands
- Butterfly
- Tie placket support
- M-clip
- Metal clip
- Cuff link

- Cable ties
- Hang tag
- Tag pin
- Tissue paper
- Al pin
- Elastic clip
- Hanger
- Poly bag
- Size sticker
- Gun taps

3.4.6 Spot Removing

Spot removing is one of the special inspections which are done after initial quality check.



Figure 3.4.6 Spot Removing

3.4.7 Pressing

Pressing is a finishing process done with a cloth with heat and pressure with or without steam to remove creases and to impart a flat appearance to the cloth or garments. In garment industries pressing is also called ironing. After completing pressing the garments have to be folded.



Figure 3.4.7: Pressing Process

3.4.8 Folding

After completing pressing, the garments are folded with a predetermined area. Garments are folded according to the buyer's direction, requirements in a standard area.



Figure 3.4.8:Folding

3.4.9 Packing

After folding, garments are packing the size of polythene packet is permanent. Specially, it is needed to ensure the placement of sticker in proper place.

Specification of poly bag according to buyer



Figure 3.4.9 : Packing

3.4.10 Metal Check

Checking the metal type component into the garments or with its accessories like button, zipper etc. are called metal check.



Figure 3.4.10: Metal Check Machine

3.4.11 Cartooning

At last cartooning or packing the garments according to Buyer comment. The process of packing of inner boxes entered into the carton is called cartooning. The carton is properly warped by the scotch tape.



Figure 3.4.11:Cartoning

3.4.12 Final inspection

Final inspection is made by the buyer. He checks the garments according some rules like AQL.

3.5 COMPLIANCE

3.5.1 Definition

Compliance means conformity of a certain standard Company maintain a moderate working conditions for their employees. Though it is a well established project, there is some lacking of proper compliance issues.

3.5.2 List of Compliance issues

Here is the list of compliance in which some points are maintained fully and some are partially.

- Working hour policy
- Environment policy
- Security policy
- Compliance for holiday
- Leave with wages
- Time care

- Anti-discrimination policy
- Buyers code of conduct
- Canteen
- Health and safety committee
- Health register
- Overtime register
- Labor welfare
- Sexual harassment policy
- Child labor abolition policy
- Accident register
- Working register
- Equal remuneration
- National festival holiday

Fire Safety

- Fire certainly personal photo.
- Emergency exit.
- Sufficient fire extinguisher and active.
- Access area without hindrance.
- Fire signs in both languages.

Health

- Drinking water at least 4.5L/day/employee.
- Watercolor, heater available in canteen.
- Drinking water vassal cleans at once in a week.
- Cup availability.
- Drinking water supply.

Safety Guard

- Metal gloves on good condition
- First trained employees

- Motor/needle guard
- Doctor
- Rubber mats and ironers
- First aid box one
- Welfare officer.

Toilet

- Soap toilet
- Water tap
- Separate toilet for woman & men
- A seat with proper privacy and lock facility
- Effective water sewage system
- Toilet white washed one in every day.

Others

- Room temperature.
- Lighting facilities.

3.6 Utility Sections

Major Utilities used are:

1. Water
2. Electricity

3.6.1 Water

The major concern for any kind of wet process industry is 'Water'. Water quality generally varies in different areas, also depends on the level or height of water level beneath the ground.

3.6.2 ELECTRICITY/GENERATOR

- Total Generator: 02
- Types:
 - ❖ Gas Generator – WAVKESHA – Capacity – 900 KW
 - ❖ Diesel Generator – CAT (USA) – capacity – 1710 KW



Figure 3.9.2: Generator machine

- Gas Generator used.
- Pressure required for Gas generators – 222 kpa for 1100 kW& 145 kpa for 900 kW.
- Line Pressure – 13 to max 145 kpa
- Total Requirement – 2-2.5 MW/day (3500-4000 kAmp current)
- Total Output of Three Gas generators – 2100-2500 kw.

Chapter -4
IMCACT OF INTERNSHIP

4.1 SAMPLE SECTION

- Have known the working environment.
- To develop sample making procedure.
- Learned about the digitizing board in CAD room.
- Observed how skilled workers work in sample section.
- Learned the process of preparing a pattern for an individual size & design.

4.2 FABRIC CUTTING SECTION

- Learned different processes used in cutting section
- Observed the process of fabric cutting according to the marker.
- Understood different process of fabric lay.
- 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.
- Realized the use and importance of metal gloves for a fabric cutting process through different cutting machines.

4.3 SEWING SECTION

- Learned about different type of machines used in a sewing floor.
- Observed different sewing or joining process Garments
- Idea about work-culture of Sewing Section.
- Sewing faults & remedies.
- Learned about Standard Minute Value (SMV) of different sewing.
- To know about machine Acquainted.
- Breakdown of sewing procedure.
- Operation of Sewing Process.

4.4 IMPACT OF FINISHING SECTION

- Observed various types of finishing process after sewing.
- Observed different type of machines used in finishing section.
- Learned about different type of iron machines.
- Learned about various types of accessories used to attach to the garment.
- Observed the application of different chemicals for the removal of type of stain .
- Understood the basic difference between gross weight and net.

- Shade variation checking method
- Oil/other spot removal.
- Label attaching process.
- Ironing process.
- Folding and packing.
- Packaging process for different types of garments.

4.5 COMPLIANCE

- Different Compliance Issues.
- Idea about Maintenance Complained Issues.
- How to follow Compliance issues in a different section.
- Policies of Millennium textiles (southern) Ltd.

4.6 UTILITY & MAINTENANCE

- Acquainted with machine used in Utility & Maintenance section.
- Operation of Utility & Maintenance Process.

Chapter -5

Conclusion

5.1 Conclusion

We have completed our Industrial Training successfully by the grace of Allah. This Industrial Attachment sends us to the expected destiny of practical life. **Millennium textiles (southern) Ltd.** is one of the best factories in the textile field of Bangladesh. From this industrial attachment we got the details idea about the factory environment, inventory process, maintenance, utility etc.

Millennium textiles (southern) Ltd. is well equipped and the working environment is excellent. The relation between top management to bottom level is so nice. We are so lucky to get the opportunity of having training in this mill. The factory runs by a number of efficient Textile Engineers, Skilled technical & Nontechnical persons.