



Daffodil
International
University

Faculty of Engineering
Department of Textile Engineering

REPORT ON

Industrial Attachment
At

Magpie Composite Textile Ltd

Course Title: Industrial Attachment

Course Code: TE-410

Submitted By

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Supervised By

Mohammad Abdul Baset
Assistant Professor

This Report presented in partial fulfillment of the Requirement for the Degree of Bachelor of
Science in Textile Engineering.

Advance in Apparel Manufacturing Technology
Duration: 20th January to 20th March, 2018



DECLARATION

I hereby declare that the work which is being presented in this report entitled, “**Industrial Attachment**” at “**Magpie Composite Textile Ltd**” Is done by me, has not been presented for a degree of any other university and all the resources of collected information for this report have been duly acknowledged.

Submitted By

A handwritten signature in black ink on a light gray background, reading "Manoranjan Singha".

Manoranjan Singha ID: 152-23-4385

A handwritten signature in black ink on a light gray background, reading "farid".

Forid Uddin Forid ID: 152-23-4405

Department of Textile Engineering
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LETTER OF APPROVAL

It is herewith certified that Manoranjan Singha, bearing ID:152-23-4385 And Farid Uddin ID: 152-23-4405 Department of Textile Engineering, Daffodil International University, Dhaka, Bangladesh, has carried out her Industrial attachment entitled **Industrial Attachment At Magpie Composite Textile Ltd."** under my direct supervision. He has successfully carried out her internship and ready to present her report, which is required in partial fulfillment of her B.Sc. degree.

I have gone through the final draft of the report and recommend its submission for the degree of Bachelor of Science in Textile Engineering.

.....

Supervisor

Mohammad Abdul Baset
Assistant Professor
Department of Textile Engineering
Faculty of Engineering
Daffodil International University



ACKNOWLEDGEMENT

At First, I would like to thanks almighty God for giving me sound mind &health to accomplish **Industrial Attachment** at **Magpie Composite Textile Ltd** successfully.

I am grateful to my supervisor Mohammad Abdul Baset, Assistant Professor, Department of Textile Engineering, Faculty of Engineering, Daffodil international University. Her endless patience, scholarly guidance, continual encouragement, energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting these at all stages have made it possible to complete this project.

I would like to give special thanks to supervisors, technicians, operators and all other staffs of **Magpie Composite Textile Ltd**, who were most cordial and helpful to us during internship.

I am also thankful to our all teachers, lab assistant, register sir, coordinators and all the employees of Daffodil International University. I am highly delighted to express I regards & gratitude to honorable Head **Prof. Dr. Md. Mahbubul Haque** for providing his best support to me.



DEDICATION

My beloved Parents



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Chapter-1

EXECUTIVE SUMMARY



1.1 Executive Summary

This report presents a conception of Textile sector especially of a knit composite industry and tries to clarify the overall processes required to complete a garment. Magpie Composite Textile Ltd in where I try to gather information about all the departments. The factory has a nice system for the internship students that are the training schedule provided by the authority. There are several departments in Magpie Composite Textile Ltd among them Knitting, Dyeing and Garments are the major ones. There are also other departments those act as supporting of them. It describes about the activities of each departments and the relation among the departments. Training schedule is prepared in such a way that helps a learner to know that to produce a garment which department works first and correspondingly which works at last. This paper includes from where order is received and to where it is supplied and how a large scale of products is produced within a very short period of time. Different types of order are running on the same time on a same floor with different types of garments from several buyers. But there is no miss match of any product except some cases which are removed by inspection. This paper concludes by identifying some important information about different department that help the factory to grow up quickly with large amount of profit with environment friendly technologies. This report may be a guideline for other small industries to become large in size and for students or other people to learn a little about a knit composite industry without visiting. We have started our 2 months internship in 20th January 2018 and have successfully completed in 20th march 2018. Two months long training is not enough to capture all the Information related to but it is possible to overview of all the departments.



Chapter-2
**INFORMATION ABOUT
FACTORY**



2.1 Basic Information

2.1.1 Company Name &Address:

Magpie Composite Textile Ltd.

832/833, Dewan Edris Road Amtala, Kathgara, Savar, Dhaka, Bangladesh

2.1.2 Head Office Address:

House #25 (5th Floor) Rabindra Swarani Road, Sector #03, Uttara,1230.

2.1.3 Date of Establishment:

18 February 2008

2.1.4 Founder and Directors:

Majumder Arifur Rahman

2.1.5 History of the Group

Magpie Group of Industries, one of the promising RMG manufacturers has been operating its activities to provide excellent products and services since 1994. The company is moving forwards to extend its ventures from one after another. In many aspects Magpie Composite Textile LTD is the model of Garments industries in Bangladesh.

2.1.6 Compliance Certifications

Magpie Composite Textile Ltd realizes the importance of adapting to changes in external environment and keeping the workplace safe and enjoyable for employees to be motivated and productive. Compliance certifications including:

BSCI

WRAP

OEKO-TEX

SEDEX

2.1.7 Sister Concerns

- ❖ Magpie Knit Wear Ltd.
- ❖ Creative Woolwear Ltd
- ❖ Labib Zipper (ind.) ltd.



❖ Abs high-tech Seater Ltd.

2.1.8 Export growth

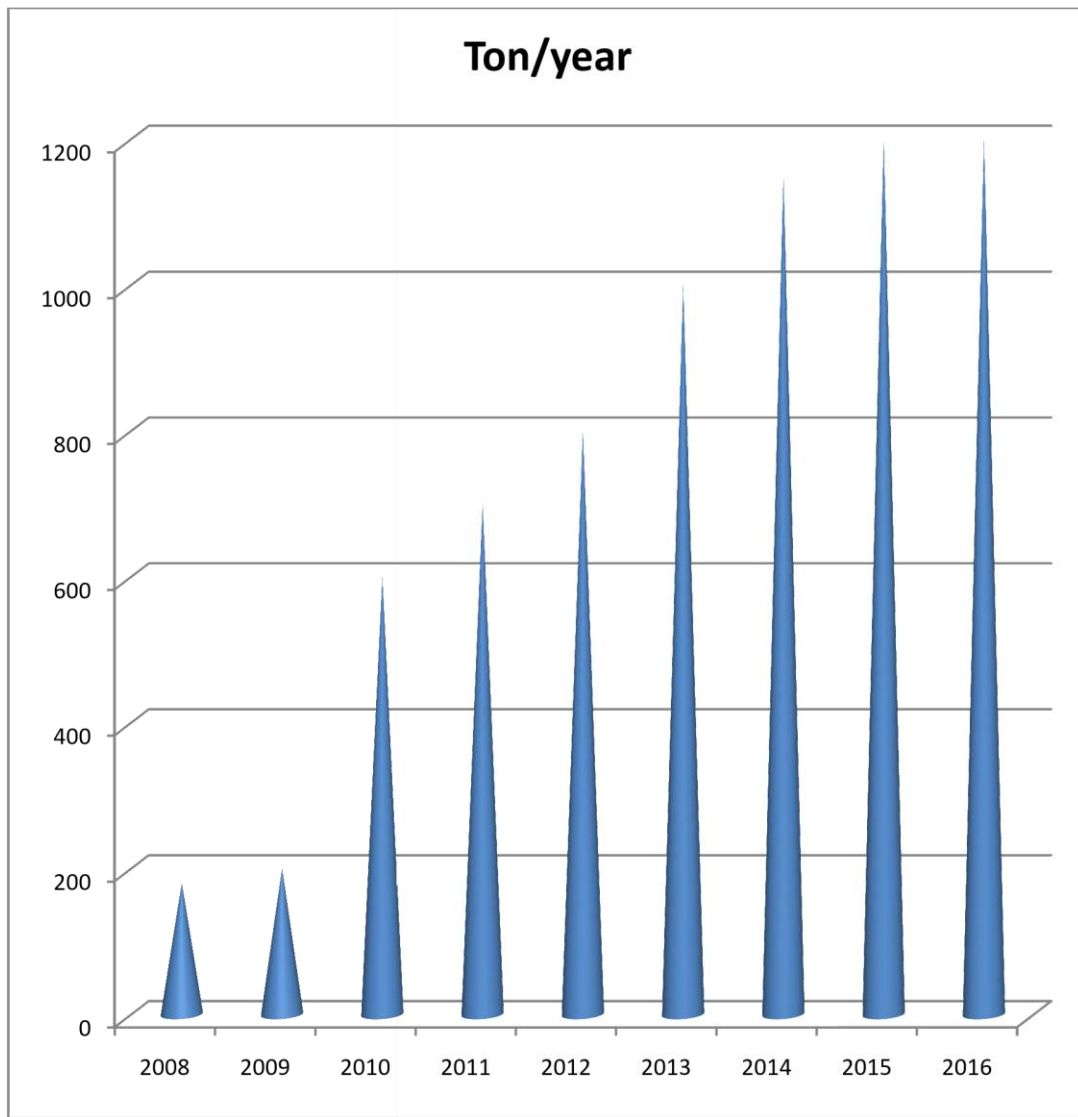


Figure: 2.2 Export growth graph

2.2 General Information

2.2.1 Layout

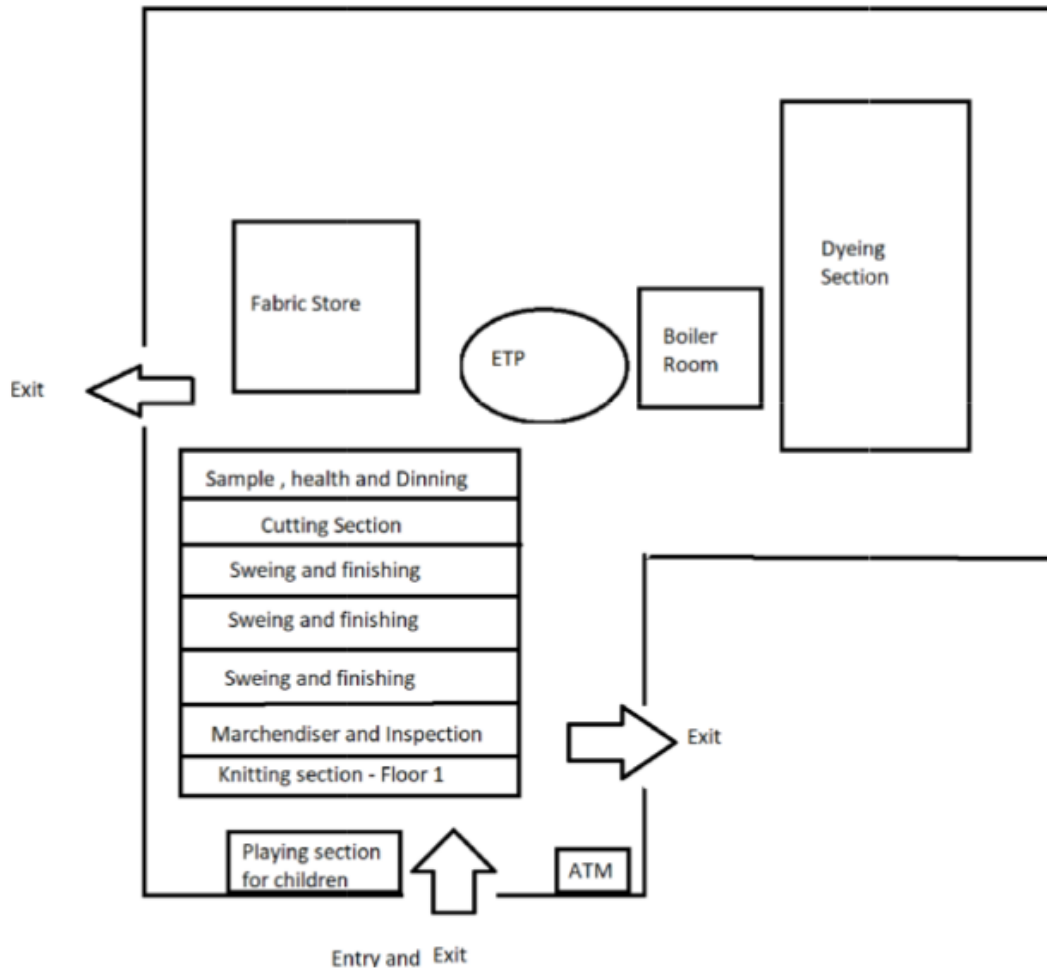


Figure: 2.2.1 Factory layout

2.2.2 Total Area: 9, 65000 sq. feet

2.2.3 Total Building: 3

2.2.4 Total shade: 3

2.2.5 Production capacity

- ❖ Knitting: 550 tons/month (average)
- ❖ Dyeing: 750 tons/month (average)
- ❖ Sewing: 15000pieces/day (average)



2.2.6 Major Buyers

- New wave
- Gemo
- Hiraki
- Kc-TEX
- Tex-EBO
- Lamisa
- Lonsdale

2.2.7 Transport Facility

- Office Staff: Bus, Car
- Product: Cargo van



2.3 Human Resource & Organization Structure

2.3.1 Organogram

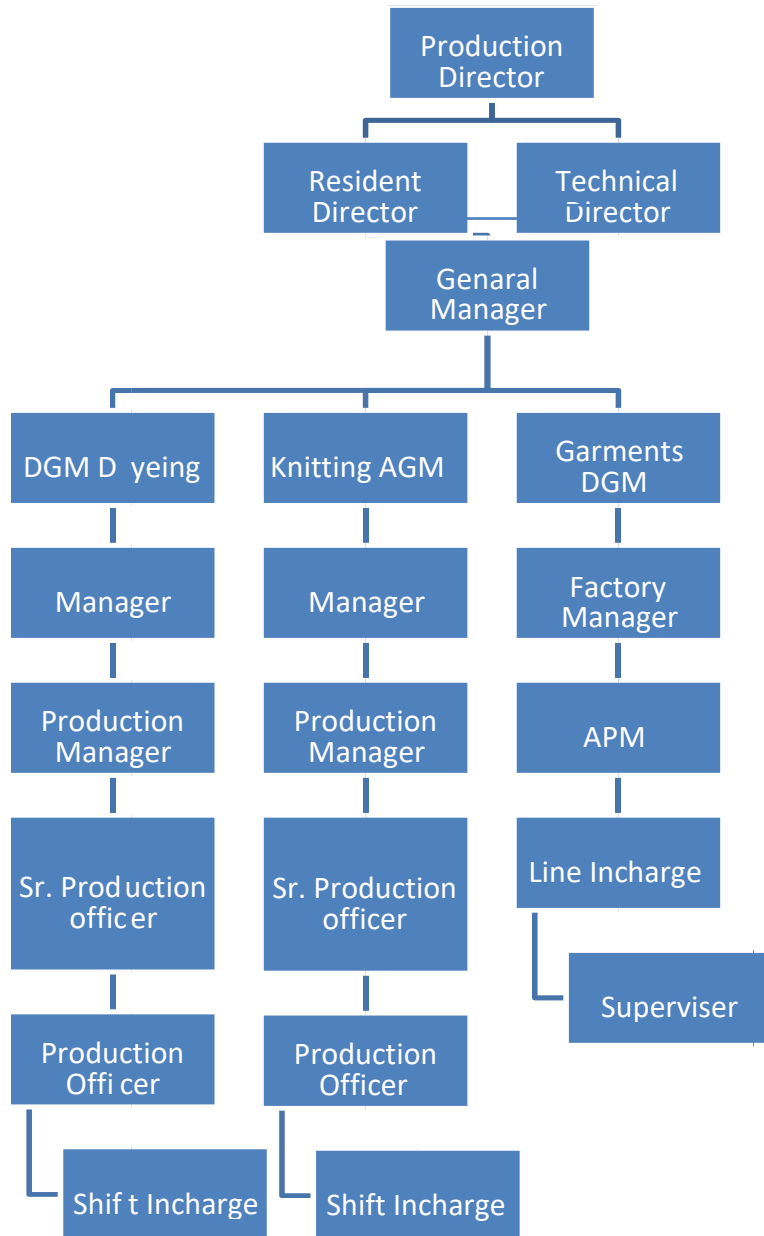


Figure: 2.4 Factory organogram

2.3.2 Total no. of Departments: 08

2.3.3 Name of Department:

1. Knitting section



Knitting

Inspection

2. Dyeing Section

Dyeing

Finishing

Quality

3. Garments section

Sample

Cutting Section

Sewing Section

Finishing Section

Merchandising

4. Maintenance section

5. Utility section

Electricity

Gas

Boiler

6. Store Section

7. Administration Section

8. Security Section

2.3.4 Main production

Knitting, dyeing & printing

J/S, Fleece, Interlock, Rib, Lacoste, Pk etc

Garments

All types of knit items for women, kids such as T-shirt, pant, Sweater etc.

2.3.5 Total no. of employee

Almost 2000



2.3.6 Total salary: 35 million taka

2.3.7 Vision and Mission

Vision

To become a truly global supplier that provides sustainable growth opportunities for its customer, county and its employees, whilst achieving its goal of becoming the number one value fashion supplier across the world.

Mission

- ✘ Be a market leader in the field of value global supplier of RMG.
- ✘ Deliver quality fashionable products at affordable prices.
- ✘ Be innovative, cost effective and globally competitive.
- ✘ Outstrip our customer's expectations.
- ✘ Provide opportunities for growth for our employees.



Chapter-3

DETAILS OF THE ATTACHMENT



3.1 KNITTING SECTION

3.1 Knitting Section



Figure: 3.1 Knitting Section



3.1.1 Organogram of the Knitting Section

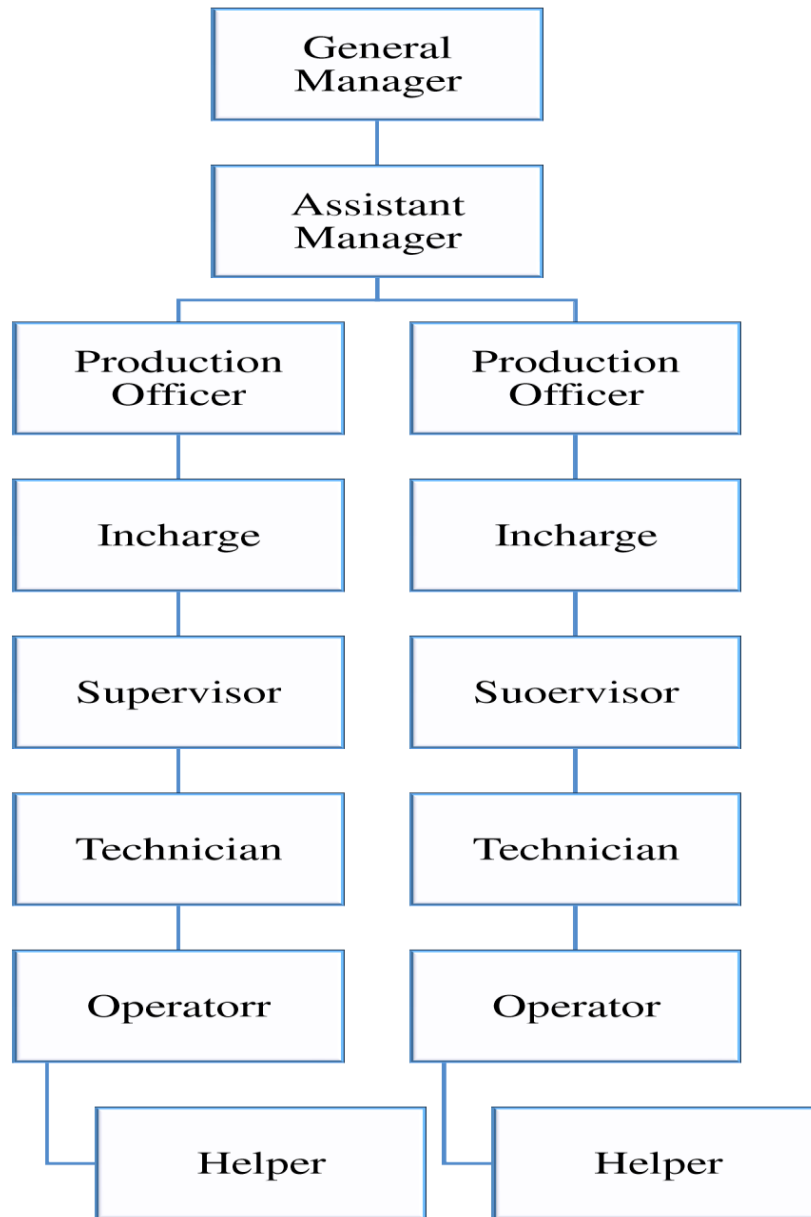


Figure: 3.2 Organogram of knitting

3.1.2 Layout of the Knitting Floor:



Figure: Knitting Section Layout

3.1.3 Machines of the knitting Floor:

Types of Machine	Total Number Of Machine	
S/J Circular knitting Machine	10	Single Jersey , Lycra S/J
Rib Circular Knitting Machine	2	Rib 1x1, Lycra Rib 2x1 , Fleece etc

Flat Knitting Machine	6	Collar, Cuff
Fabric Inspection Machine	1	Fault Inspection

Table: 3.1.3 machine List of Knitting Section



Figure: 3.1.2 S/J Circular Knitting Machine



1	Mottor	When the motor on then motor give the motion and machine control
2	Fan	Fan works to remove the dust from the machine
3	Upper Light	Upper light works to see the yarns
4	Lower Light	Lower light works to see the fabrics
5	Auto	When stover give on/off signal then machine will be automatic around
6	Inchi	This key helps to slow around
7	Start	Machine always running



8	Stop	Machine is totally off ,, if we try to machine will be run no never
9	On / Off	The on / off button is machine stop totally
10	Reading total counter time	Every shift a roll how much around
11	Roll counter	Roll counter works as a stop automatically roll
12	Oil signal	In machine have oil or not
13	RPM	RPM up and down
14	Set up	Roll counter set up
15	Number up	Roll number up
16	Number Down	Roll number down
17	RPM	How much have rpm in settings
18	Reset	When roller counter will be full than we do reset counters
19	Clear	When machine will be fulfill in dust then automatically air will be open
20		When leycra cut of then light will be done signal
21		When yarn cut then light signal
22		When fabric would be cut off then light will be done signal
23	Break	When machine will be fulfill in dust then will be automatically off
24	Oil	When oil will be blank then light will be done signal
25		When air gun have no air then will be start signals

26	Counter	Running roll counter indicators.
27	Gate	When machine gate would be on / off then light will be done signals
28	Fuge	When fuge will not be able then power will not be come



Figure: 3.1.2 Rib Circular Knitting Machine



Figure: 3.1.2 Flat Knitting Machine





Figure: Fabric Inspection Machine

3.1.4 Definition:

Knitting is the interlocking of one or more yarns through a series of loops. The length wise columns of stitches, corresponding to the warp in woven cloth, are called Wales; the cross wise rows of stitches, corresponding to the filling in woven cloth, are called Courses, Filling Knits (Weft Knits) are those fabrics in which the course are composed of a single strand of yarn, while warp knits are those in which the Wales are composed of single strand of yarn. Gauge corresponds to the yarn in a woven fabric, and is defined as the number of needles of yarns in half inches of cloth. The higher the gauge, the more compact and finer is the cloth.

3.1.5 Basic Knitting Element

- Needle
- Sinker
- Cam

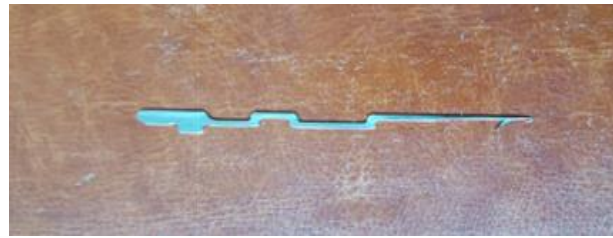


Figure: 3.1.4 Needle

3.1.6 Working Process in Knitting Section

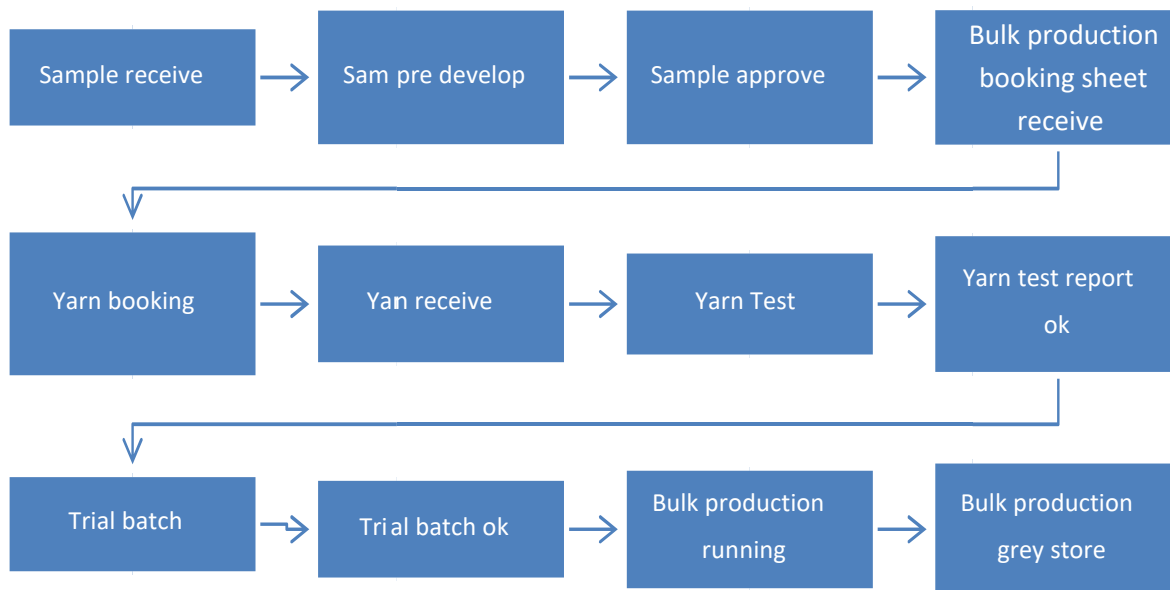


Figure: 3.1.3 Working Process in Knitting Section

3.1.7 Description of Production Process:

In knit fabric production maintained the following sequence. It is also followed in this mill where we were in industrial attachment. The process sequences are in list below:

1. First of all knitting managers took a production sheet from the merchandiser as consumer's demands and after that he informed to the production officer about it.
2. Technical in charge got information from production officer who knows about machine and the production will be running through this.



3. For taking decision about machine for analyzing machine condition, production capacity, maintenance and complexity technical in charge call for leader of mechanical fitter troops.
4. To getting required stitch length & grey GSM for required final GSM, production officer with expert mechanical fitter adjusted all.
5. Production regularity and making operators conscious about finishing tin due time supervisor checks daily.
6. If there were not faults in fabrics then operators will operate machine with higher attention. If any fault found in production operator calls the mechanical fitter in duty.
7. Completion of required production & final inspection by 4 point system it is goes to next procedure dyeing for dyeing section.

3.1.8 Fabric Inspection Process

In the fabric inspection process we find the fault in the fabrics. In the inspection time we get hole, needle mark, yarn miss, lecrea miss, etc. We can see different fault in different fabric types.

A-shift Production
Total → 0.05.0kg.

Mugpie Composite Textile Ltd.
Plot - 832/833, Dewan Edris Road, Amtola, Kalchoga, Savar, Dhaka, Bangladesh.

KNITTING QC NAME: MD: NOVAFIOP
IN HOUSE/OUT SIDE: MAQPIE
SHIFT: A
DATE: 02.01.18

DAILY GREY FABRIC INSPECTION REPORT

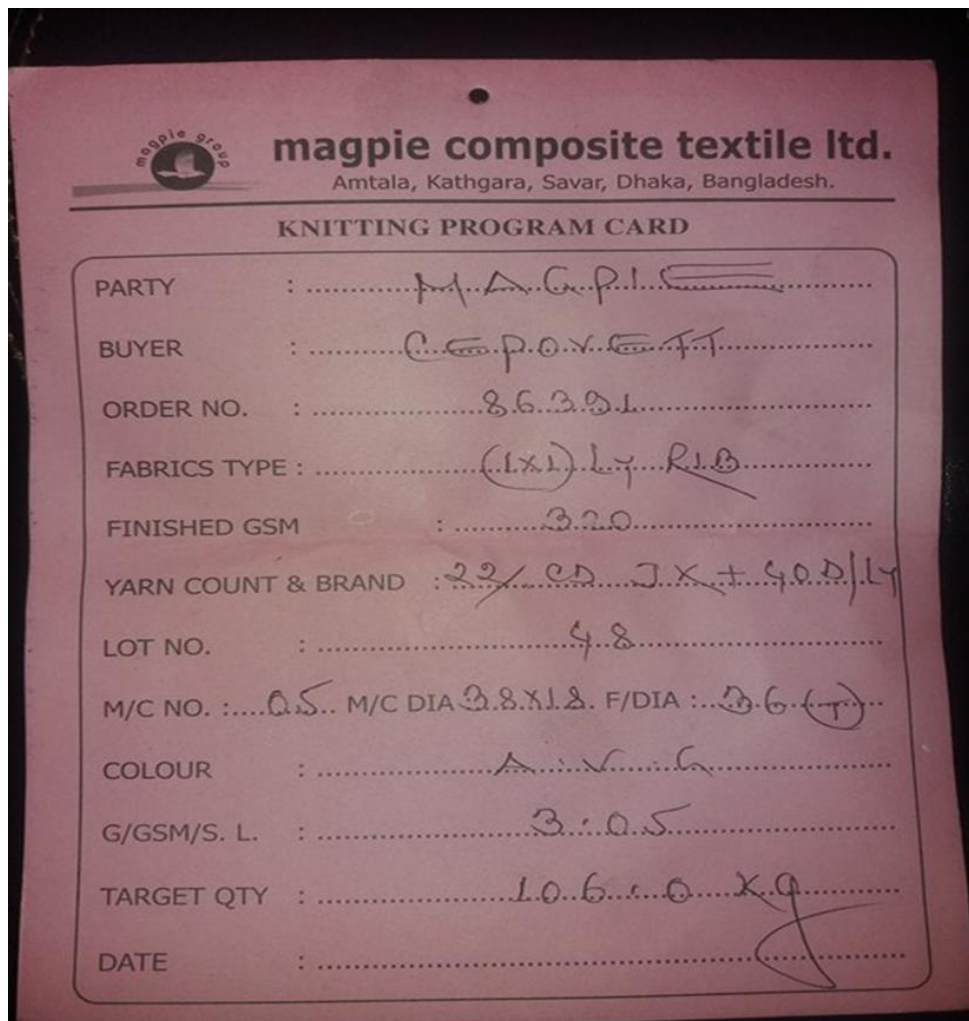
BUYER	ORDER	YARN TYPE	F TYPE	MOCHA	FDA	SA	F GSM	COLOUR	ENO	FLWT	HOLL	LOOP	STAR	N.MARK	S.MARK	O.MARK	O.SPOT	PATTA	LYC.CUT	LYC.DROP	NTBROKEN	REMARKS	SIGNATURE										
1. ZEMO		S/A 25/2T L-212	K	K	K	K	S/M	BLUE	1	1													ok										
									2																								
									3																								
									4																								
									5																								
2. ZEMO		S/A 25/2T L-2411	K	K	K	K	S/M	BLUE	1	0													ok										
									2	2																							
									3	1																							
									4	3																							
									5	1																							
3. ZEMO		S/A 25/2T L-2111	K	K	K	K	S/M	ASH	1														ok										
									2																								
									3																								
									4																								
									5																								
6. ZEMO		S/A 25/2T L-2411	K	K	K	K	S/M	AYG	1														ok										
									2	1																							
									3	1																							
									4																								
									5	1																							

K-MASTER
GM-KNITTING
EXECUTIVE DIRECTOR

3.1.9 Knitting Program Card

In knitting section knit card is used to indicate Information about running product at any machine:

- Party
- Buyer name
- Order no
- Fabric type
- Color
- GSM
- Date



magpie composite textile ltd.
Amtala, Kathgara, Savar, Dhaka, Bangladesh.

KNITTING PROGRAM CARD

PARTY : MAGPIE

BUYER : CEPOVEFI

ORDER NO. : 86231

FABRICS TYPE : (1x1) Ly R10

FINISHED GSM : 320

YARN COUNT & BRAND : 22/CO JX+40D/LY

LOT NO. : 48

M/C NO. : 05 M/C DIA 3.8x1.2 F/DIA : 3.6(T)

COLOUR : A.V.G

G/GSM/S. L. : 3.05

TARGET QTY : 1060 X 9

DATE : (signature)

Fig: 3.1.10 Knitting Program Card

3.1.10 Types of Yarn Used

- ✓ 100% cotton
- ✓ Mélange



- ✓ PC
- ✓ CVC
- ✓ Polyester Spandex etc.

3.1.11 Flat Knitting Production (Collar & cuff)

Collar design

- Solid colour
- Tiffin collar
- Ambush collar
- Two pack collar
- Buttom collar
- 2*1 rib fabric (GSM Need)
- 2*2 rib fabric (GSM Need)
- 2*2 rib fabric (GSM Need)

Collar per hour production – 30 pes

Cuff per hour production –50 pes

Every one pes collar to make produced needed 28 gm yarn

Every one pes cuff to make produced needed 15 gm yarn



MAGPIE COMPOSITE TEXTILE LTD
AMTALA, KATHGARA, SAVAR, DHAKA

DATE: 21-01-18

DAILY PRODUCTION REPORT (COLLAR & CUFF)

mchno	Party	Buyer	Order no	Y count	Ori/Qty	Collar size	Cuff size	Shift-A		Shift-B		Shift-C		Total pcs	Rate	Amount	Kgs	Mtl Broken			
								collar	cuff	collar	cuff	collar	cuff								
1	MAGPIE	MERKENT	BANK	24V10	Tipping	43x9		154		150		160		464	4.00	1856	19	06			
2	"	N.O	418516	24V10	Solid	41x9		169		160		179		508	2.50	1270	14	07			
3	"	"	BANK	24V10	Tipping	43x9		158		150		166		474	4.00	1896	14	08			
4	"	HIRANT	17001883	24V10	Solid	38x9		162		160		165		487	2.50	1217	13	05			
5	"	"	BANK	24V10	Tipping		37x35		313		300		327	940	2.00	1880	12	04			
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
Total														2873	=	8119	=	67	kg	=	3


 Collar Incharge

Sr.pro Officer

Incharge knitting


 GM knitting

GM Admin&com

Director

3.1.12 Precaution

In production time dust are so much in knitting sections, so we need take must mask and air plug to save from dust.





3.1.12 Sample Fabric and Yarn and Lecra Attachment

Some fabric and yarn and lecra sample those are used for produced in the Magpie Textile Composite ltd

2*2 Rib	1*1 Rib	S/J
P/Interlock	26/s Combed Yarn	26/1 CTN
22/s CTN	30/s CTN	30/s Carded



34/s Carded

24/1 Ne

20D Lecra

40D Lecra



3.2 Dyeing Section

3.2 Dyeing Section



Figure: 3.2 Dyeing Section

3.2.1 Organogram

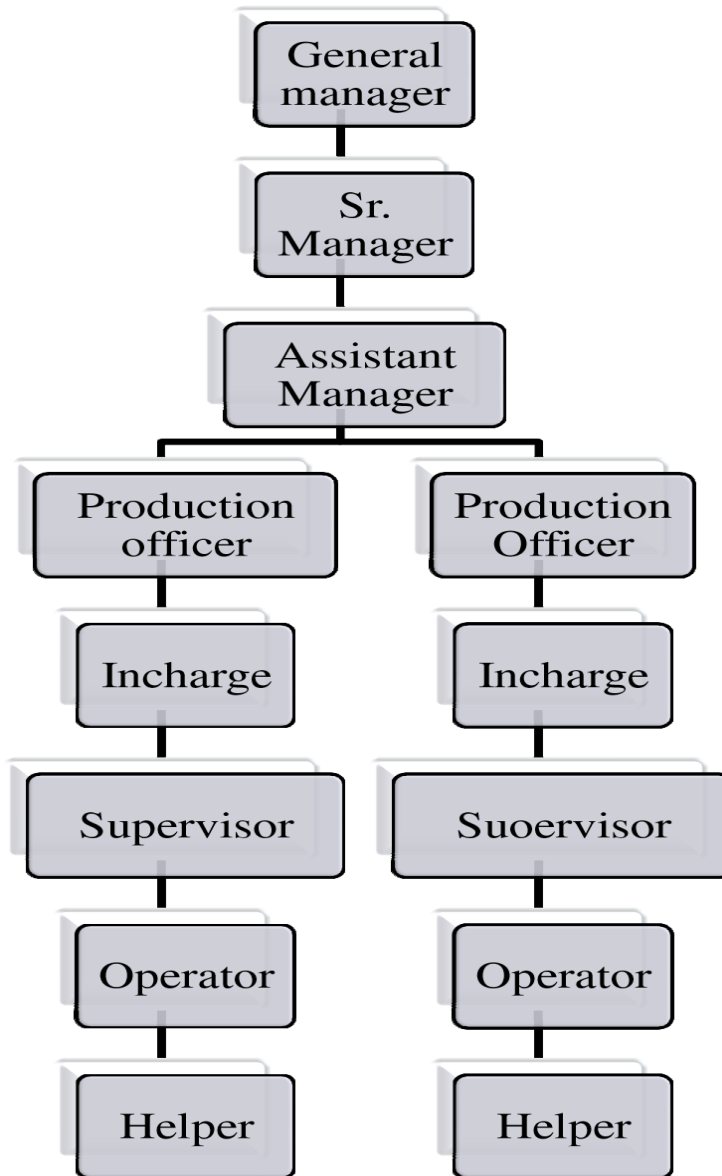


Figure: 3.2.1 Organogram of Dyeing Section

3.2.2 Dyeing Layout



Figure: 3.2.2 Layout

3.2.3 Lab

In lab section testing are done by two types at the Magpie Textile Composite ltd.

- i. Physical Test
- ii. Color Test

3.2.4 Physical Test Equipment & Their Functions

Washing machine:



Sample are wash with standard washing chemical to the dimensional stability of the sample

Crock meter:

Its main purpose to test of rubbing in the color fastness of fabric

GSM cutter:

It's used to cut the GSM of fabric

Tumble dryer:

Used to dry the sample

Rota wash:

Here check the color fastness to wash.

Mechanical shaker machine:

This machine are use P^H test in fabric.

Shrinkage test:

Sample whose shrinkage test is to be done is placed on the table.

PH meter:

Used to determine the PH of a solution

3.2.5 Color Test Equipment & Their Functions

Auto disperse machine

Used for making a solution of dyes and chemical in accurate amount.

Data color Spectrophotometer



- Here seeing the Color matching
- Measuring difference of color

Sample dyeing machine

The samples are dyeing for the laboratory .

Water Hardness Tester

Here measure the hardness of water

Light box Function:

Checking the color difference under in different light source as like D65, TL84, UV

3.2.6 Process Dyeing and Finishing

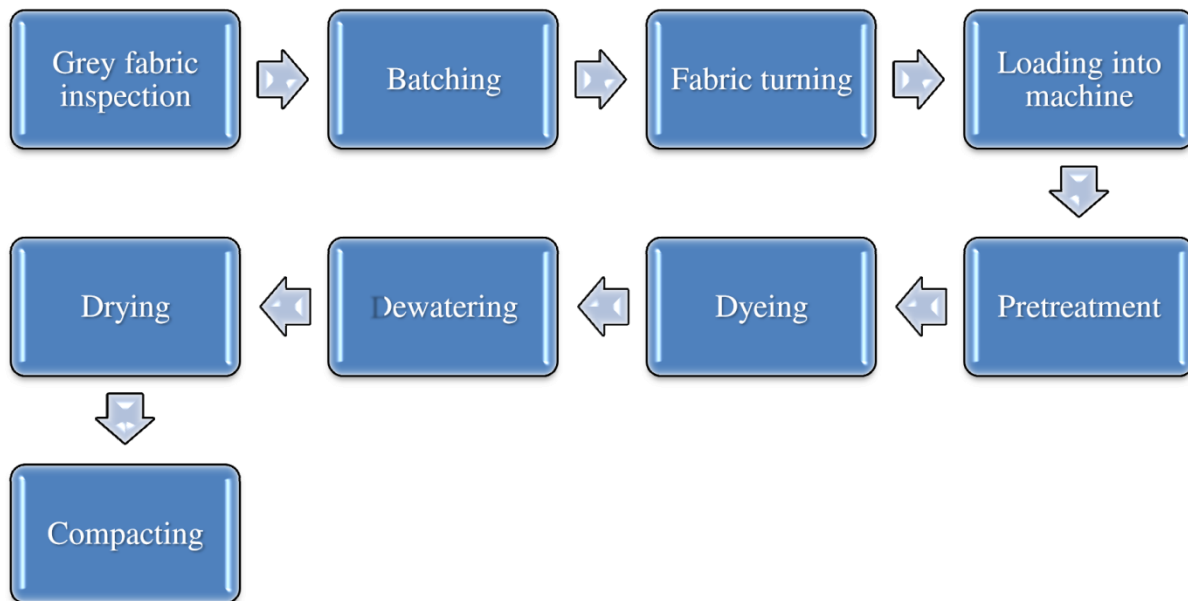


Figure: 3.2.5 Process of dyeing and finishing

3.2.7 Batch section

The batching are ready for dyeing of fabrics which come from are knitting sections. After dyeing dyed fabrics will be particular colour , particular batch , particular order , particular lot. In the batching section, batch quantity of fabric is according to the ratio of body fabric and rib is calculated.

The batching ratio formula Wise batch (kg)
 $= (\text{Dia Quantity} * \text{Batch. Quantity}) / \text{Total quantity}$

3.2.8 Fabric Turning Machine

When fabrics are made by tube form, then turning machine are used. It is used for back side to front side turning of fabrics prepared before dye.

Function: Back face side make



Figure: 3.2.7 Fabric Turning Machine

3.2.9 Dyeing process Flow Chart:

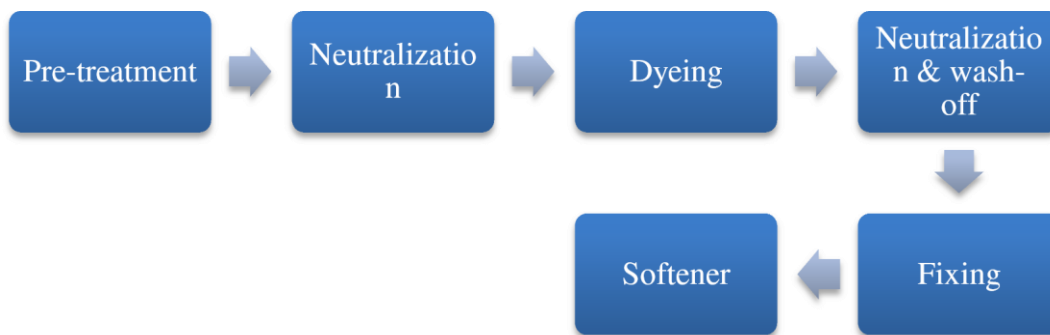


Fig: 3.2.9 Dyeing process

3.2.10 Chemical used in different process and their function

Process	Chemical	Function
	Detergent	Detergent work as a wetting agent and work with impurities to do remove
	Sequestering agent	Its work as a remove of water hardness.
	Ant creasing agent	In the dyeing process reducing crease effect



Pre- treatment	Antifoaming agent	It is used for resist foam formation when doing pretreatment and dyeing.
	Stabilizer	Increase the Hydrogen peroxide rate
	Alkali	Remove dust and dead fiber by alkali..
	Bleaching agent	Increase whiteness the fiber.
Neutralization	Peroxide killer	To remove the peroxide in material
	Acid	P ^H control in fabrics
	Enzyme	Hairiness remove of fabric
Dyes & chemical	Leveling agent	Used for uniform dyeing.
	Dye	Coloration in fabric
	Salt	The dyeing process exhaustion ratio increase
	Soda	The ratio control of reaction between cellulosic material and reactive dye
Neutralization & Wash off	Acid	Control P ^H
	Wash off	Unfixed dye remove from fabrics

Fixing	Fixing agent	Fix the dyestuff and also remove unfixed dyes.
Softener	Softener	Hand feel Soft of the fabric.
	Acid	P ^H control

Table: 3.2.10 Chemical used in different process and their function

3.2.11 Dyeing Recipe Book

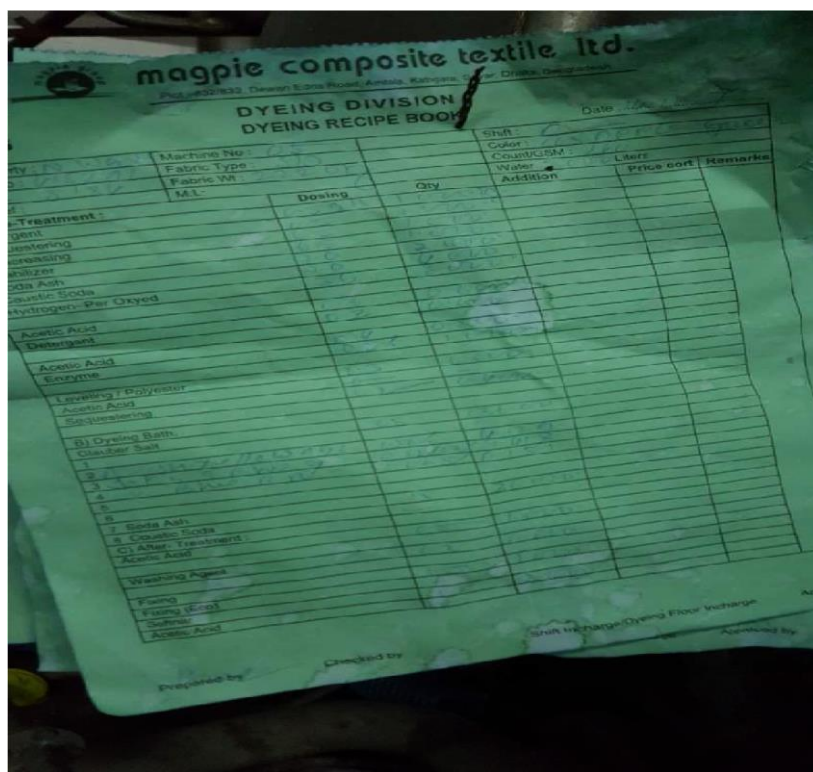


Figure: 3.2.11 Dyeing Recipe Book

3.2.12 Slitting Machine

Object of slitting machine

To open tube fabric according to specific needle mark



Figure: 3.2.12 Slitting Machine

3.2.13 Compactor Machine

Function of Compactor machine

- i. Control GSM
- ii. Control shrinkage
- iii. Control fabric Dia.
- iv. Increase smoothness of fabric



Fig: 3.2.13 Compactor Machine

3.2.14 Back Sewing Machine

A machine which is used to sewn to part of fabric.



Figure: 3.2.12 Back Sewing Machine

@Daffodil International University@

3.2.15 Tensionless Drying Machine

A machine which is used to dry fabric without any tension



Fig 3.2.15 Tensionless Drying Machine

3.2.16 Squeezing Machine

A machine which is used to remove excess water from fabric is called squeezing machine.



Fig: 3.2.16 Squeezing Machine

3.2.17 Sample Dyeing Machine



Figure: 3.2.17 Sample Dyeing machine



3.3 GARMENTS SECTION

3.3.1 Layout of Garments Section

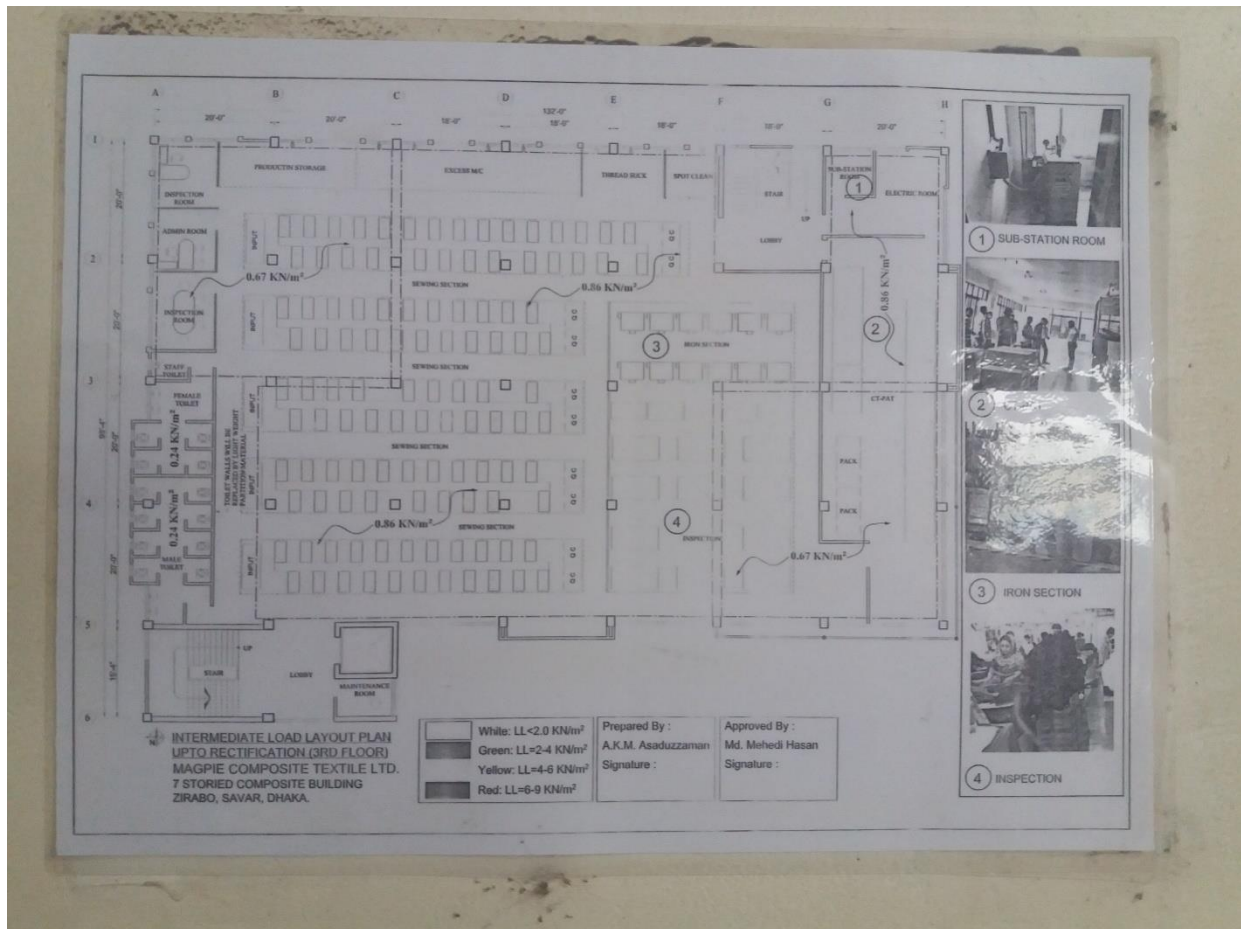


Figure: 3.3.1 Layout of garments section



3.3.2 Organogram of the Garments Floor:

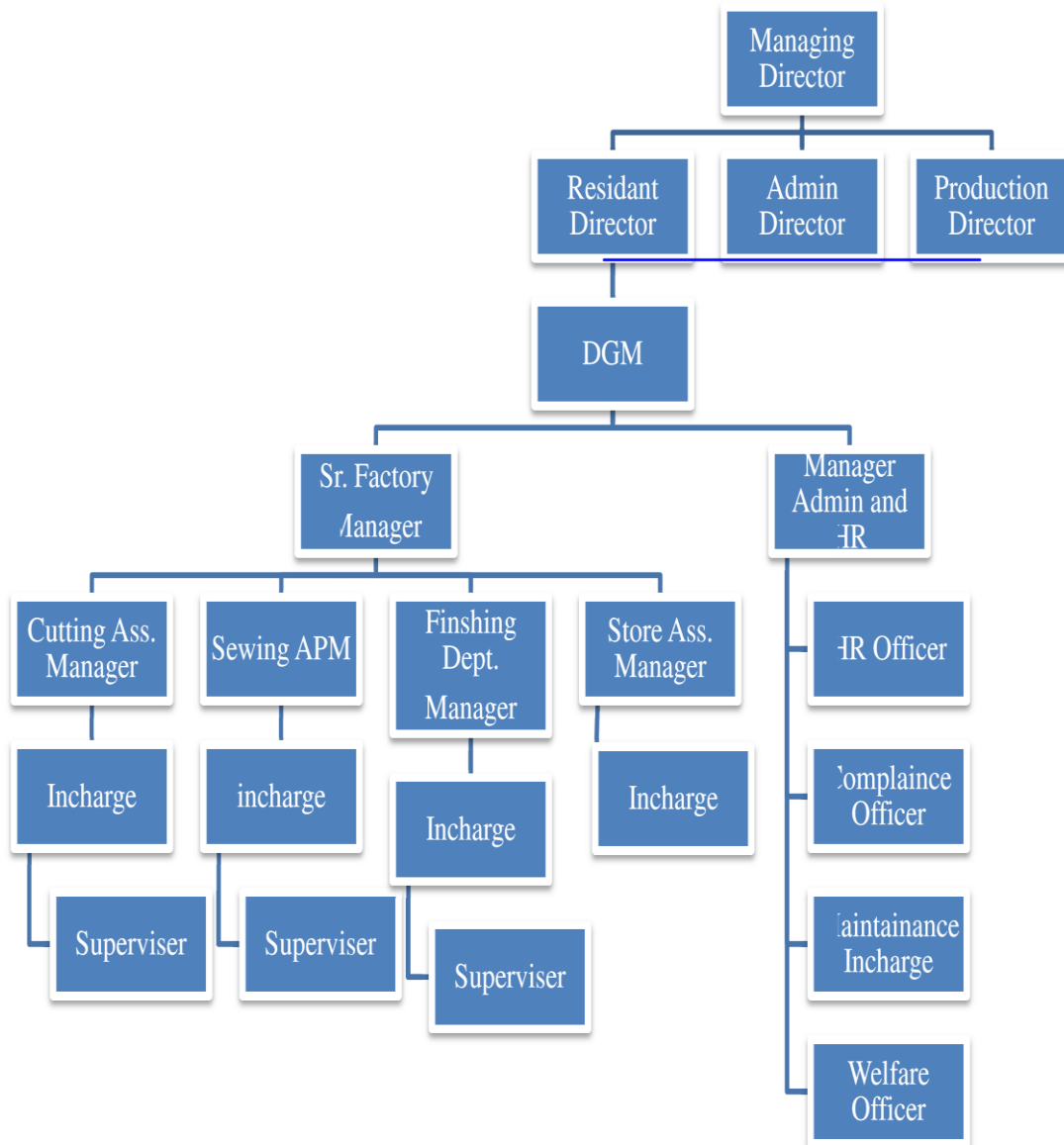


Figure: 3.3.2 Organogram of garments section



3.3.3 Machine Description

Section	Name of the Machine	Number of Machine
Store	Fabric inspection machine	1 pc
Lab	Snap machine	1 pc
	Washing M/c	1 pc
Cutting	Lay Cutter M/c	4 pcs
	Cutting M/c	5 pcs
Sewing	Plain m/c 1 needle	90 pcs
	Plain m/c 2 needle	8 Pcs
	Over lock 4 thread	94 Pcs
	Flat bed	15 Pcs
	Flat lock cylinder bed	26 Pcs
	Flat lock small cylinder	13 Pcs
	Flat lock raw edge cutter	5 Pcs
	Feed of the arm	3 Pcs
	Button hole	4 Pcs
	Bar tack	4 Pcs
	Button stitch	4 Pcs
	PMD kanchi	5 Pcs
	Snap button	4 Pcs
	Rib cutter	4 Pcs
	Fusing machine	1 pc
	Heat transfer trace	8 Pcs
Finishing	Needle detector machine	1 pc
	Spot remover	1 pc
	Thread soaking	2 pcs

	Iron become	20 pcs
--	-------------	--------

Table: 3.3.3 Machine Description

3.3.4 CAD Section

Functions of CAD room:

- Producing pattern
- Marker making
- Calculate marker consumption



Figure: 3.3.4 CAD section

Marker machine specification

Brand : HP - TKTB

Manufacturer: HP

Weight: 145 KG

Origin: CATALONIA

Marker width 72"

Marker efficiency should be minimum 85%.

Marker efficiency depend on wastage during cutting

Software

3.3.5 Sample Section



Figure: 3.3.5 Sample section

Function of sample section

- Make a pattern to do working
- When we make sample garments then needs Pattern. Working pattern used as a base for manipulation when generating design pattern.
- Sample making must be set size.

Machine in sample room

- Plain m/c
- Overlock m/c
- Flatlock m/c
- Button hole m/c

3.3.6 Store Section

Functions

- The material are being done store for order
- When production unit start the materials are supply and issue
- The report will be prepare to inventory.



Figure: 3.3.6 Fabric store

- When we get the fabric for the different order of each order then we done numbering of different shade in the fabrics role with different shade.
- The store room collected fabrics in different ways .
- In India from we do mostly fabric imported
- Ly s/j , Terry, S/j , spandex etc types of fabric are stored in the store room.



Figure: 3.3.6 Accessories store

3.3.7 Different Types of Accessories:

There are following types of accessories are used in the Magpie Textile Composite Ltd.

1. Thread
2. Cartoon
3. Size label
4. Poly
5. Tissue paper
6. Price sticker
7. Hanger
8. Snap button
9. Hanger loop
10. Rope
11. Twill tape Hanger
12. Elastic
13. Zipper
14. Hit seal label
15. Care label
16. Main label
17. Poly sticker
18. Button
19. Garment Marking Chalk
20. Lock pin
21. Eyelet
22. Gum tape



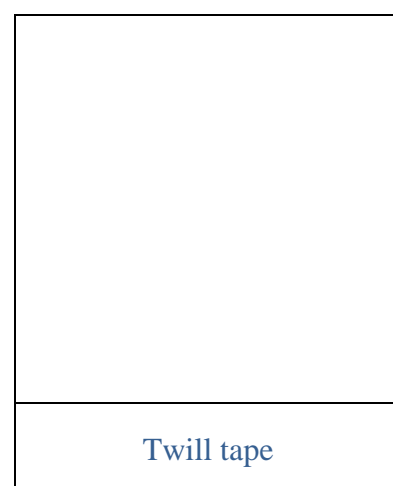
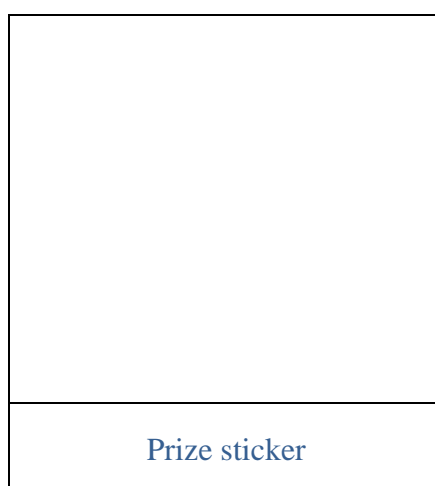
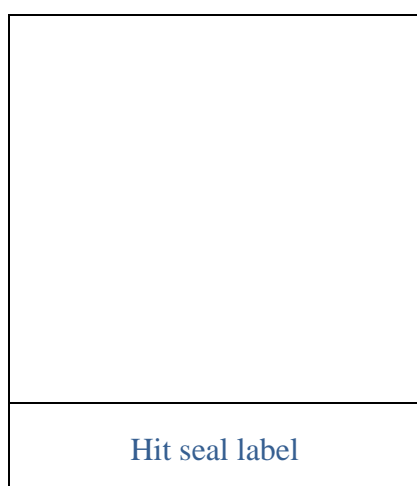
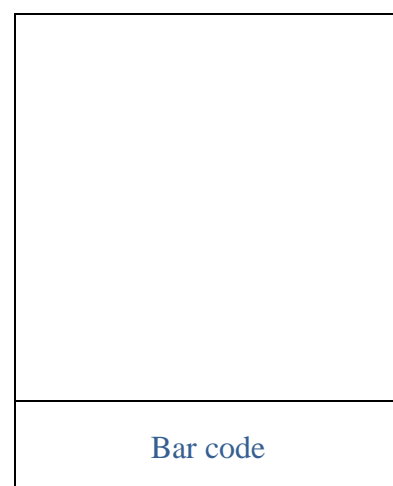
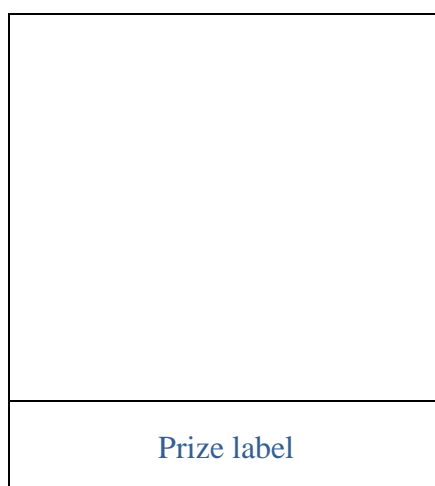
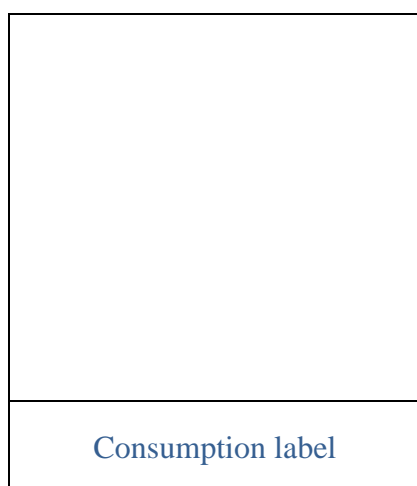
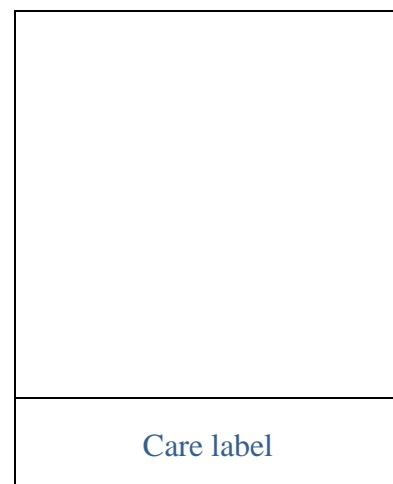
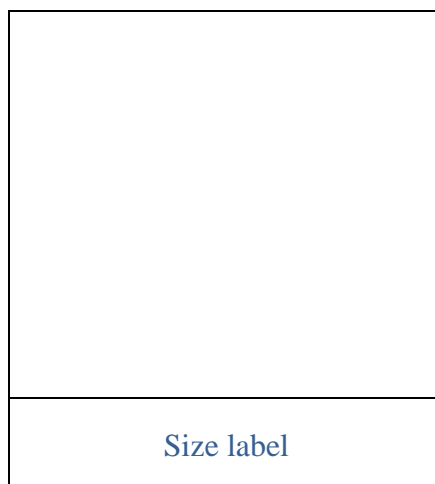
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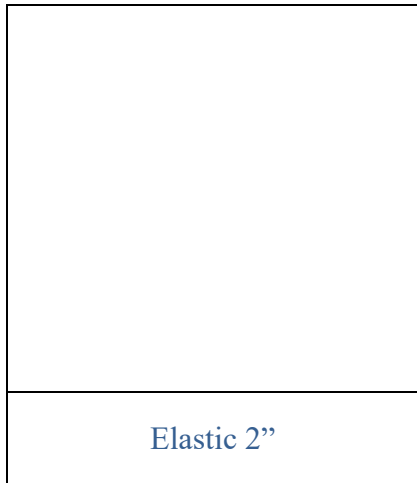
23. Hang tag



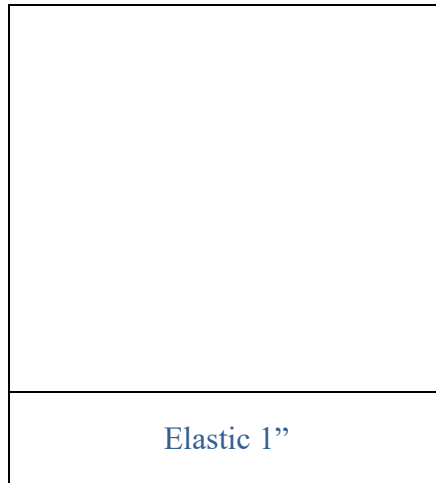
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3.3.8 Accessories Sample Attachment

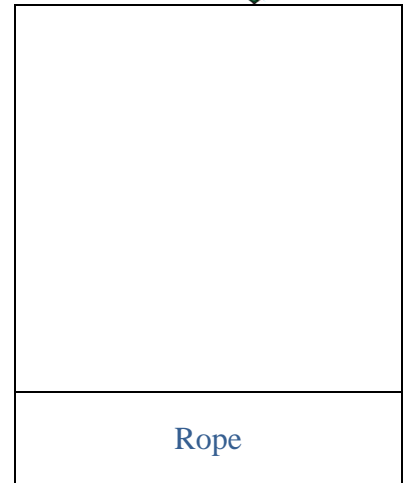




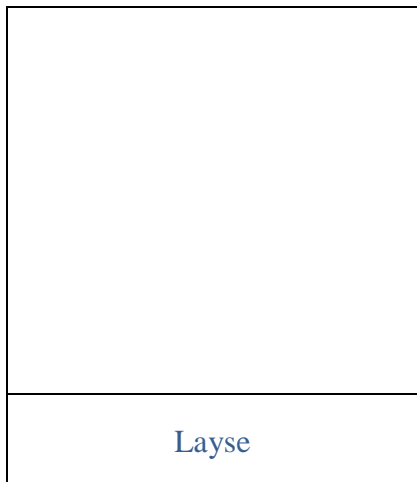
Elastic 2”



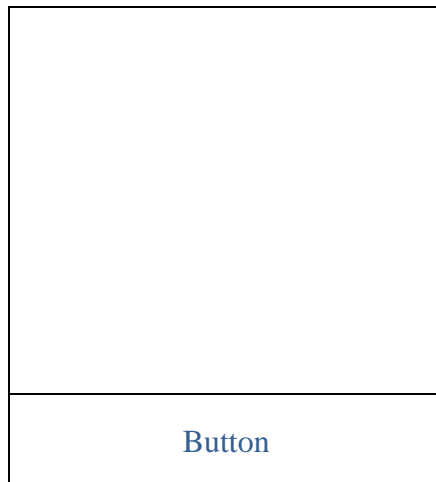
Elastic 1”



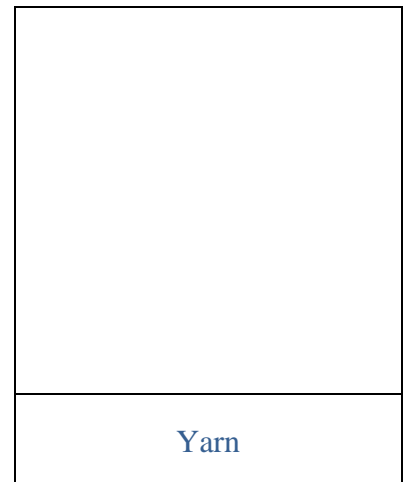
Rope



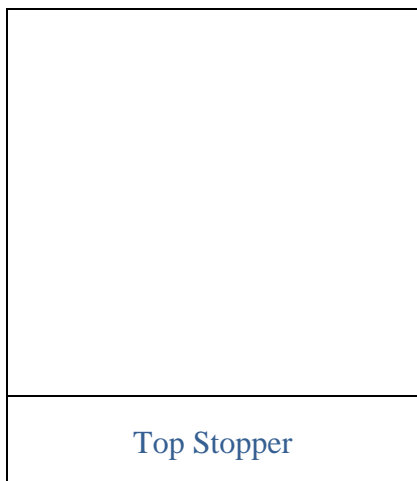
Layse



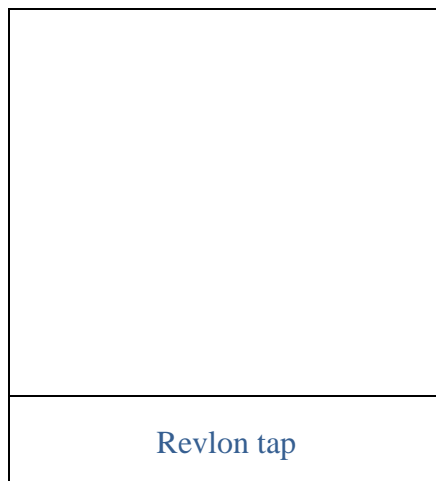
Button



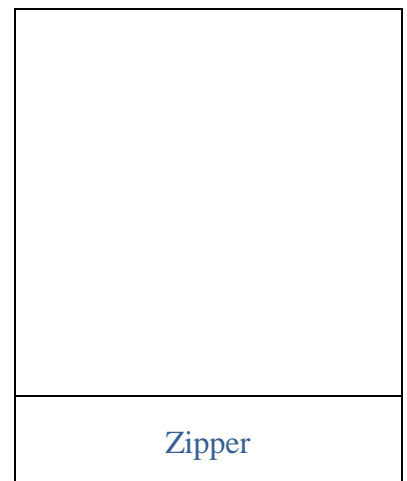
Yarn



Top Stopper



Revlon tap



Zipper

3.3.9 Fabric Relaxation Procedure

- Single s/j at least 12 hours relaxation.
- At least 24 hours relaxations for single s/j Single jersey 5% cotton spandex and Rib.
- At least 16 hours relaxation Fleece 100% cotton
- Fleece Polyester/ cotton
Minimum 12 hours



Figure: 3.3.7 Fabric Relaxation Procedure

3.3.10 Lab Section

Lab section using for inspections of different kind fabrics.

Equipment's List

- Electric balance
- GSM cutter
- Washing machine
- Snap pull test machine Light box

3.3.11 Shrinkage Checking Procedure

We collect the fabric 10% of roll for shrinkage test.

Then we Take 25" X 25" fabric for washing to the buyer requirement.

We done wash 3 times of fabrics.

Each one wash will be wash 10 minute + dryer 5 Minute dryer

The formula of shrinkage test

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$$\text{Formula} = \frac{(\text{Before wash} - \text{After wash}) * 100}{\text{Before wash}}$$

3.3.12 Light Box Checking Instruction

Light box are used for fabric shade check

F - Florescent

D65 - Day Light

TL 84 - Tube Light

UV - Ultra Violet

CWF - Color White Fluorescent work for white and blue shade

3.3.13 Spreading

In the apparel section fabric spreading is the most important things for garments making. When marker making is finish then fabric is spreading. In fabric spreading will be attached specify length by length and width by width.



Figure: 3.3.8Fabric Spreading

Requirements of Fabric Spreading

- ✘ Alignment of fabric ply
- ✘ Correct ply tension
- ✘ Fabric must be flat
- ✘ Elimination of fabric defects
- ✘ Correct ply direction and lay stability

3.3.14 Cutting Section



Fig: 3.3.9 Cutting Section

3.3.15 Process of Cutting

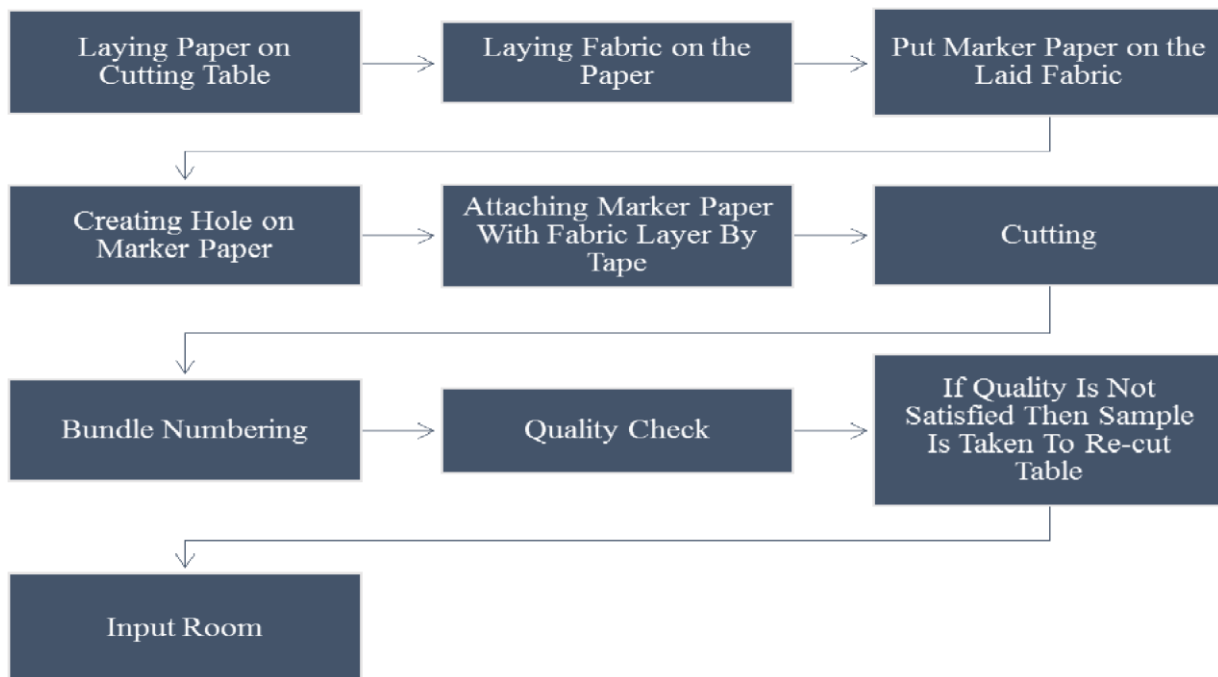


Figure: 3.3.10 Process of cutting

3.3.16 Machine in Cutting Section

Fabric Cutting machine:

Fabric Cutting machine is used to cut the fabric.



Figure: 3.3.11 Fabric Cutting Machine

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Numbering Machine:

In the cutting fabrics need numbering with numbering m/c.



Figure: 3.3.11 Numbering Machine

Precaution: To save the worker in accident use gloves and mask

3.3.17 Inspection after Cutting and Bundling



Fig: 3.3.13 Fabric Inspection after cutting

Faults Inspected:

1. Oil mark
2. Insect
3. Color Splash

Inspected Fabric Bundle Store:



Fig: 3.3.13 Inspected Fabric Bundle Store

3.3.18 Cutting Table Specification

Total Cutting Table: 3 pieces Table Height: 33”

Table Width: 97.5”

Table Length: 840”

3.3.19 Wastage during Cutting

- Ends of ply losses.
- Selvage loss.
- Loss of fabric in roll.



3.3.20 Sewing Section

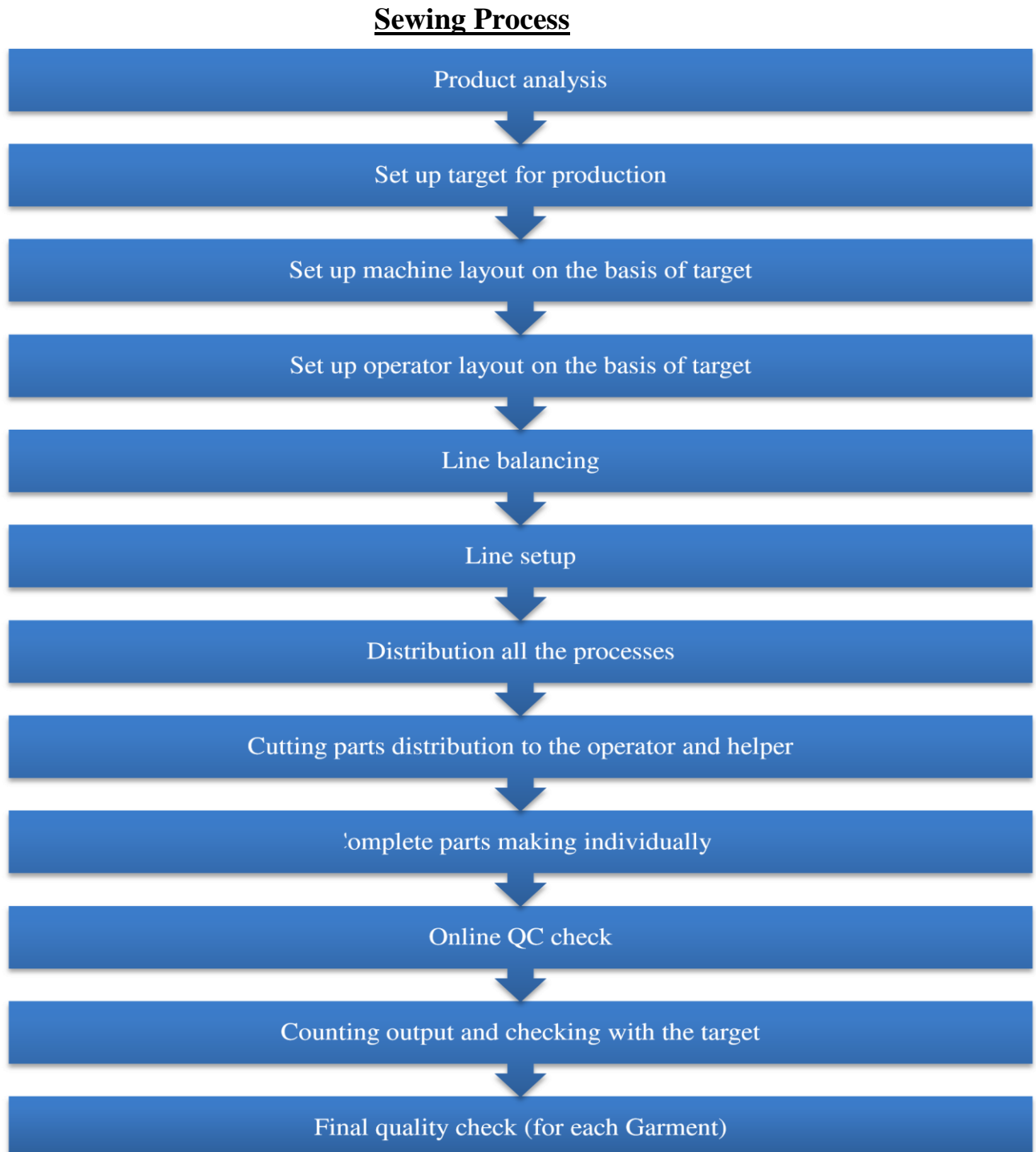






Figure: 3.3.15 sewing process

3.3.21 Different Type's Machineries with Functions in Sewing Section

Type Of Machine	Figure	Brand Name
Plain M/C		Juki
Over Lock M/C		Juki
Bar tech M/C		Juki
Eyelet M/C		




Button Attaching M/C		Juki
Button Hole M/C		Juki
Flat Lock M/C		Juki

Fig: 3.3.16 Table of Types of Sewing Machine

3.3.22 Sewing Faults:

- Skipped Stitch
- Unbalanced Stitch
- Staggered Stitch
- Seam puckering
- Variable Stitch Density

3.3.23 Finishing Section



Fig: 3.3.18 Finishing Section

3.3.23 Finishing Working Process

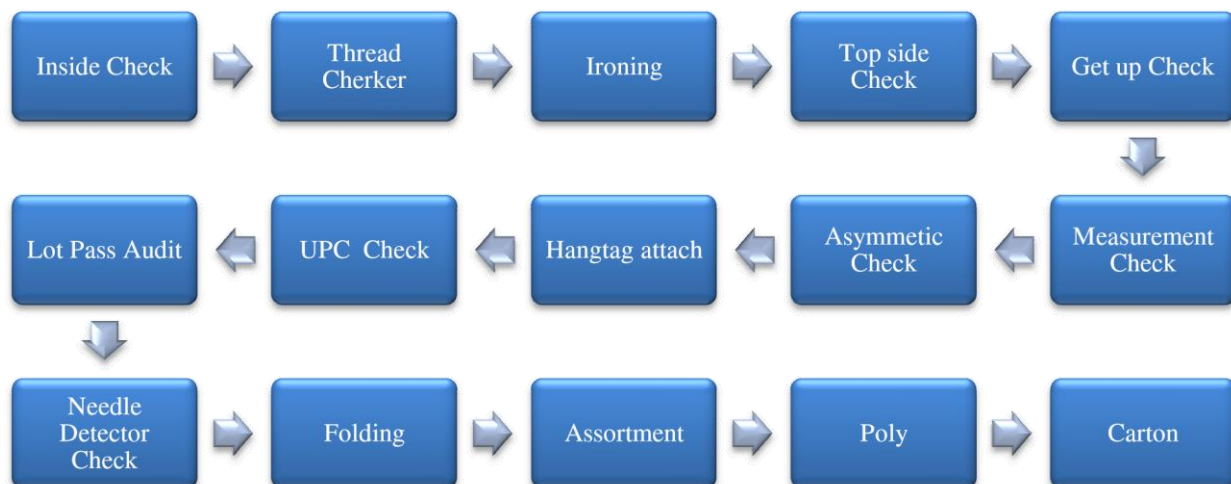


Fig: 3.3.19 Finishing Work in Process

3.3.23 Process and Their Function

Inside Check:

- Check the garments of inner part.
- To see the uneven seam and missed stitch

Hread checker:

- In the garments bodies loose thread removes

Ironing:

- Create a nice shape of garments body.

Top side Check

- Un cut thread skipped stitch open seam etc check in top side check.

Get-up check

- Heck Cutting in small thread
- Check whether in colors
- Shade right or wrong
- Check the Spots in garments

Measurement check

- Measurement check will be according to buyer requirement

Asymmetric check



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- Uneven parts in the garments.

Hang tag attach

- In the garments will be attached hang tag like Price tag.

UPC check

- Bar-code and style number check of garments.

Lot pass audit

- In here takes number sample from a lot then check all faults. If faults are found greater than the acceptable range then the lot is rework.

Needle detector check

- Needles identifies of garments if some needle have

Folding

- In the specific dimension are folded pressed garments. Women labors works it usually.

Assortment

- Buyer required assortment will be procedure.

Poly

- Garments will be poly in this sections

Carton

- In the cartons poly will be filed.

3.3.21` Final Inspection

AQL- Acceptable Quality label. AQL policy is followed garments manufacturer. In AQL system samples would be collected by statistically from the lot size and will decide the lot of garments to be granted or rejected. AQL is usually use in finishing sections at garment making.

Defect Classification

Defects detected during visual inspection are usually classified within 3 categories:

1. Critical
2. Major and
3. Mino

For all sample size:

- Critical defect= 0
- Major= 2.5
- Minor= 4.0 / 6.5.



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3.3.24 Merchandising Department

Merchandising is main department at marketing and production. They do the pricing and costing of garments.

3.3.25 Basic Work Done by Merchandiser:

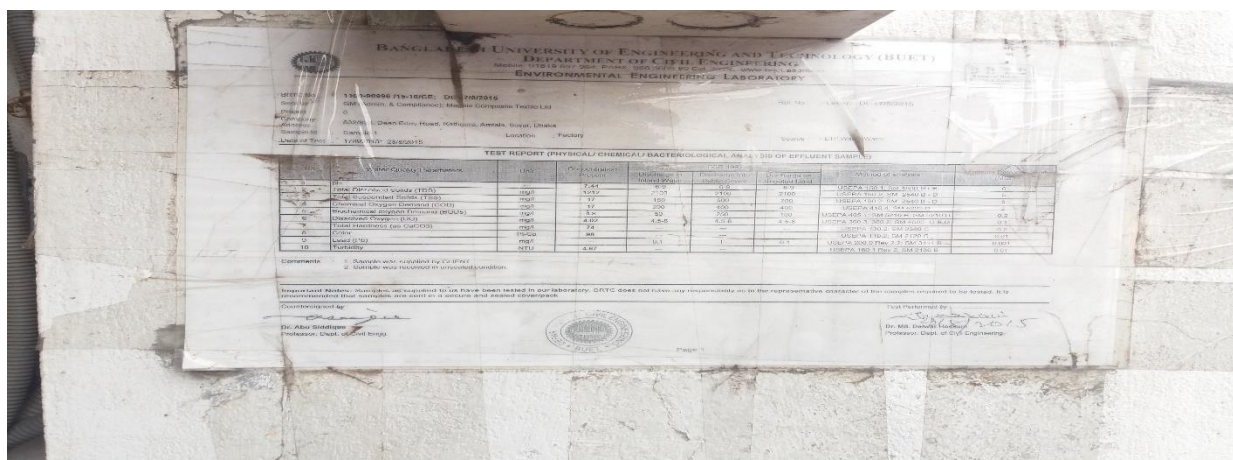
- Buyer searching
- Costing and consumption
- Order receive
- Sample approval
- Prepare TNA
- Fabric and accessories booking
- Follow up lead time
- Production follow up
- Delivered good at right time and right quantity

3.4 ETP

Magpie Textile Composite Ltd has a Bio-Chemical effluent treatment plant



Fig : ETP Lay-out plan



BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
ENVIRONMENTAL ENGINEERING LABORATORY

TEST REPORT (PHYSICAL/CHEMICAL/BACTERIOLOGICAL ANALYSIS OF EFFLUENT SAMPLES)

Sl. No.	Parameter	Unit	Value	Standard	Remarks
1	Total Suspended Solids (TSS)	mg/l	150	100	Exceeds
2	Total Dissolved Solids (TDS)	mg/l	150	500	Within Limit
3	Total Solids (TS)	mg/l	300	1000	Within Limit
4	Chemical Oxygen Demand (COD)	mg/l	150	500	Within Limit
5	Biochemical Oxygen Demand (BOD ₅)	mg/l	150	500	Within Limit
6	pH	-	7.5	6.5-8.5	Within Limit
7	Total Hardness (as CaCO ₃)	mg/l	150	500	Within Limit
8	Chloride (Cl ⁻)	mg/l	150	500	Within Limit
9	Sulfate (SO ₄ ²⁻)	mg/l	150	500	Within Limit
10	Temperature	°C	25	15-30	Within Limit
11	Dissolved Oxygen (DO)	mg/l	1.5	2.0	Below Standard
12	Total Phosphorus (TP)	mg/l	0.5	1.0	Within Limit
13	Total Nitrogen (TN)	mg/l	0.5	1.0	Within Limit
14	Ammonia Nitrogen (NH ₄ -N)	mg/l	0.5	1.0	Within Limit
15	Nitrite Nitrogen (NO ₂ -N)	mg/l	0.5	1.0	Within Limit
16	Nitrate Nitrogen (NO ₃ -N)	mg/l	0.5	1.0	Within Limit
17	Coliform Bacteria	100000	400	1000	Exceeds
18	Fecal Coliform	10000	40	100	Exceeds
19	Fecal Streptococcus	10000	40	100	Exceeds
20	Staphylococcus aureus	10000	40	100	Exceeds
21	Salmonella	10000	40	100	Exceeds
22	Shigella	10000	40	100	Exceeds
23	Enterococcus	10000	40	100	Exceeds
24	Yeast	10000	40	100	Exceeds
25	Mould	10000	40	100	Exceeds

Comments: 1. Samples were collected by C.E. Staff.
 2. Samples were received in uncooled condition.

Responsible Officer: Mr. M. M. Hossain, Asst. Prof. in Charge, Env. Eng. Lab., BUET. (Signature)
 Date: 15/05/2015

Dr. M. M. Hossain, Asst. Prof. in Charge, Env. Eng. Lab., BUET. (Signature)
 Date: 15/05/2015







Chapter 4

Impact of Internship

4.1 Knitting Section

In knitting section we have learned about the following topics:

- Introducing knitting machine of different types
- Details discuss of knitting faults.
- Details know of different fabrics
- To know the four point system
- To know the inspection system of knitting fabrics.
- Details know the inspections machine of fabrics.

4.2 Dyeing Section

Under this topics we learn in dyeing sections

- Introducing finishing machine of different types
- To know different type of dyeing machine.
- To know details functions of dyeing and finishing machine.
- To know the finishing inspection system.
- In stander and compacting how do control GSM.
- Work in batch section
- To know the test of different types at lab.

4.4 ETP

4.3 Garments Section

We learn the different topics in garments sections under bellows

- Know about different types of sample in garments sections.
- Details discussion about marker.
- How to do make marker production.
- To know about marker efficiency
- Know about thread consumption Fabric consumption

- Know about fabric spreading procedure.

- Introduced to different cutting machine.
- Introducing different types of sewing machine.
- Know about different types of sewing machine function.
- Discussion on different type of stitch.
- Details discussion on stiches of different types

4.4 ETP

ETP works on harmful chemicals and impurities from water in the industry



CHAPTER-5

CONCLUSION



Conclusion:

After finishing period of industrial training, I realized that it help my future life and present life in my career. In this whole industrial work I came to know that knitting, dyeing & garments production section. It is completely a new experience about it. I see all sections of my industrial training and I get lot of information and experienced on production, sewing faults, etc. and their remedies. I always try my best work to finished project very well ahead. I learn one best things that how to do full fill buyer requirement and how to do settlement with local and foreign buyers. I also try to know that how to do control workers and management them.

I especially thanks to my honorable supervisor teacher Mohammad Abdul Baset helps to me for facing any problem which I was not understood on the industry. I prepare my industrial report in according to the instruction of my supervisor and input the information to our training industry.

My industrial training gives me a lot of knowledge from industrial and I see its many different university knowledge from industrial work. Our university give us theoretical knowledge to that's why I think it is the full knowledge which I learn it. It help us enrich of my knowledge.