



**Department of Textile Engineering**  
**Faculty of Engineering**

**Course Title: Industrial Attachment**

**Course Code: TE 431**

**A report on**  
**IL KAWANG TEXTILE CO. LTD**

**Submitted by,**

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**Supervised by,**

Name of Supervisor: Sumon Mozumder

Designation: Assistant Professor

Department of Textile Engineering

**(A report submitted in partial fulfillment of the requirements for the degree of  
Bachelor of Science in Textile Engineering)**

**Spring-18**

**A report on**  
**IL KAWANG TEXTILE CO. LTD**

## **DECLARATION**

I hereby declare that, this internship has been done by me under the supervision of **Sumon Mozumder, Assistant Professor**, Department of Textile Engineering, Faculty of Engineering, Daffodil International University. I also declare that, neither this report nor any part of this has been submitted elsewhere for award of any degree or diploma.

**Morshed**

ID: 152-23-4411

Department of TE

Daffodil International University

## **LETTER OF APPROVAL**

The internship report on **IL KWANG TEXTILE CO. LTD** is prepared by **Morshed** of bearing **ID: 152-23-4411**. This report is submitted in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN TEXTILE ENGINEERING**. The whole report is prepared under my supervision and guidelines. During the internship the student was found sincere, punctual and hard working. I wish him every success in life.

**Sumon Mozumder**

Assistant Professor

Department of Textile Engineering

Faculty of Engineering

Daffodil International University

## ACKNOWLEDGEMENT

All pleasure goes to the Almighty Allah to give me strength and ability to complete my two months long industrial attachment at **IL KWANG TEXTILE CO. LTD**. It was a great opportunity for me to complete the industrial attachment with the assistance of persons employed in Industry name.

I feel grateful to my academic supervisor **Sumon Mozumder**, Assistant Professor, Department of Textile Engineering, Faculty of Engineering, Daffodil international University as well as to **Md. Munsur Rahman (Mondal)**, **Executive Director**, my factory supervisor for their continuously guiding me about the development and preparation of this training report. They have enriched me with sharing necessary theoretical and practical ideas and supervised me to complete this report on time.

I would like to express my thanks to **Prof. Dr. Md. Mahbub ul Haque**, Head, Department of Textile Engineering, Faculty of Engineering, Daffodil international University for his kind help to finish our training report. I would like to express our thanks to **Prof. Dr. Md. Zulhash Uddin**, Dean, BUTex for providing me necessary information to complete the report.

I am also grateful to the supervisors, technicians, operators and all other staffs of **IL KWANG TEXTILE CO. LTD**, who were most cordial and helpful to me during the tenure of internship.

Finally, I would like to express a sense of gratitude to my beloved parents and friends for their mental support, strength and assistance throughout writing the training report.

*This projects report is dedicated to our  
beloved Parents & Teachers*

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**CHAPTER-1**  
**EXECUTIVE SUMMARY**

# CHAPTER-1

## EXECUTIVE SUMMARY

I performed my internship program on IL KWANG TEXTILE CO. LTD. Which is placed on Dhaka EPZ, Ganakbari, Savar, Dhaka. IL KWANG TEXTILE CO. LTD is one of the biggest woven dyeing industries in Bangladesh. In addition, the company is one of the leading export oriented woven dyeing industry in Bangladesh. It is established in 1993. The company is a subsidiary of Shonest Group is a relatively young company. In a short width, the company received the recognition as one of the market leaders.

In this industry, there are several sections such as Pre-treatment, Dyeing, Printing and Finishing. All of this section is help me to improve my knowledge. Pre-treatment section include as Singeing, Desizing, Souring, Bleaching, Mercerizing. On the other hand, there are three types of dyeing process is performed by IL KWANG TEXTILE CO. LTD. Thermasol dyeing Machine is providing for the process of continuous dyeing and pad-batch dyeing Machine is used for semi-continuous dyeing process. In local dyeing section known as discontinuous dyeing process, which performed by Jet dyeing Machine, Jigger dyeing Machine. IL KWANG TEXTILE CO. LTD has a more affluent finishing section than any other textile industry. There are three Stenter Machine, one Sanforizing Machine, one Peaching Machine and one Loop Steamer Machine. In IL KWANG TEXTILE CO. LTD also provide printing of fabrics. Normally one kind of printing is done by IL KWANG TEXTILE CO. LTD. Rotary screen printing seems like to continuous printing process.

The length of my training period is two months. I am joining my training on **January 8, 2018 and it finished on March 13, 2018.**

**CHAPTER-2**  
**INFORMATION ABOUT FACTORY**

## **CHAPTER-2**

### **INFORMATION ABOUT FACTORY**

#### **2.1 Information about Factory**

##### **Company Profile:**

The IL KWANG TEXTILE CO. LTD was incorporated in Bangladesh established in 1993 at Dhaka EPZ and started business task in, 1994.

The undertaking IL KWANG TEXTILE CO. LTD is a 100% Export oriented Woven Fabrics Dyeing, Printing and Finishing Industry with full scope of Modern Japanese and Korean Machineries.

IL KWANG TEXTILE CO. LTD is one of the rumored Dyeing and Finishing Industries of the nation thinking about its International Standard quality. The undertaking was set up as a best in class fabric dyeing and finishing facilities for production of high quality Poplins, Twills, Oxford, Cotton, CVC and CVS/TC, Stretch, Canvas and so on fabrics.

The Chairman of the Company MRS. SYEDA NASRIN AZIM, Engaged in Textile Business for as far back as 02 years. She is additionally the Chairman of Shiness Group of Companies. She is a very much-presumed Businessman in Bangladesh.

The Managing Director Mr. Md. Ali Azim Khan is a famous Businessman in Bangladesh. He is an all-around experienced Businessman in Bangladesh Since 1989.

##### **Company Overview:**

Company Name	: <b>IL KWANG TEXTILE CO. LTD</b>
Date of Establishment	: 1993
Address	: Plot: 40-43, DEPZ, Savar, Dhaka, Phone: 880-2-8125607, 9132358, 8158175 Website: <a href="http://www.shinessgroup.com/">http://www.shinessgroup.com/</a>
Management Details	: <b>Chairman</b> : Sayeada Nasrin Azim <b>Managing Director</b> : Md. Ali Azim Khan <b>Director</b> : Md. A. Halim Khan Md. Mohasin Uddin Khan Samiha Azim

Workforce	: 345
Production Capacity	: 1.2 million T/C, CVC & 0.7 Million Cotton (Woven Fabric Dyeing & Finishing).
Main Raw Materials	: Different kinds of 100% Cotton, T/C, CVC, and other blends Woven Grey Fabric Textile Dyes, Chemicals & Auxiliaries.
Source of Raw Materials	: Grey Fabrics: Indonesia, China, Pakistan, India & Local sources Dyes & Chemicals: China, Korea, Taiwan, India & Local sources.
Bankers	: Woori Bank Ltd. Standared Chartered Bank Ltd. Social Islami Bank Ltd



## 2.2 Location Layout



Figure: 2.1 Location Layout

## 2.3 Factory Layout

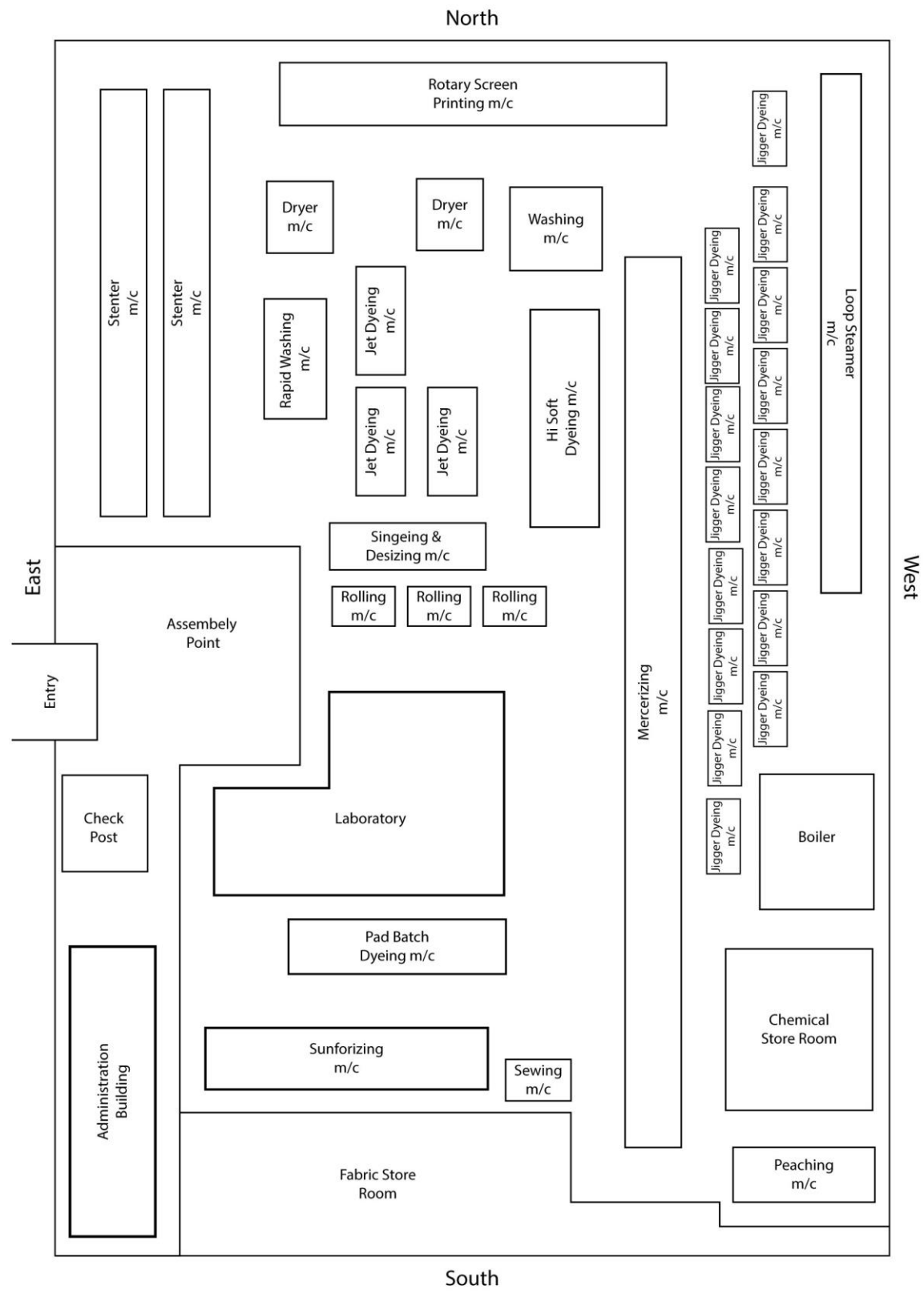


Figure: 2.2 Factory Layout

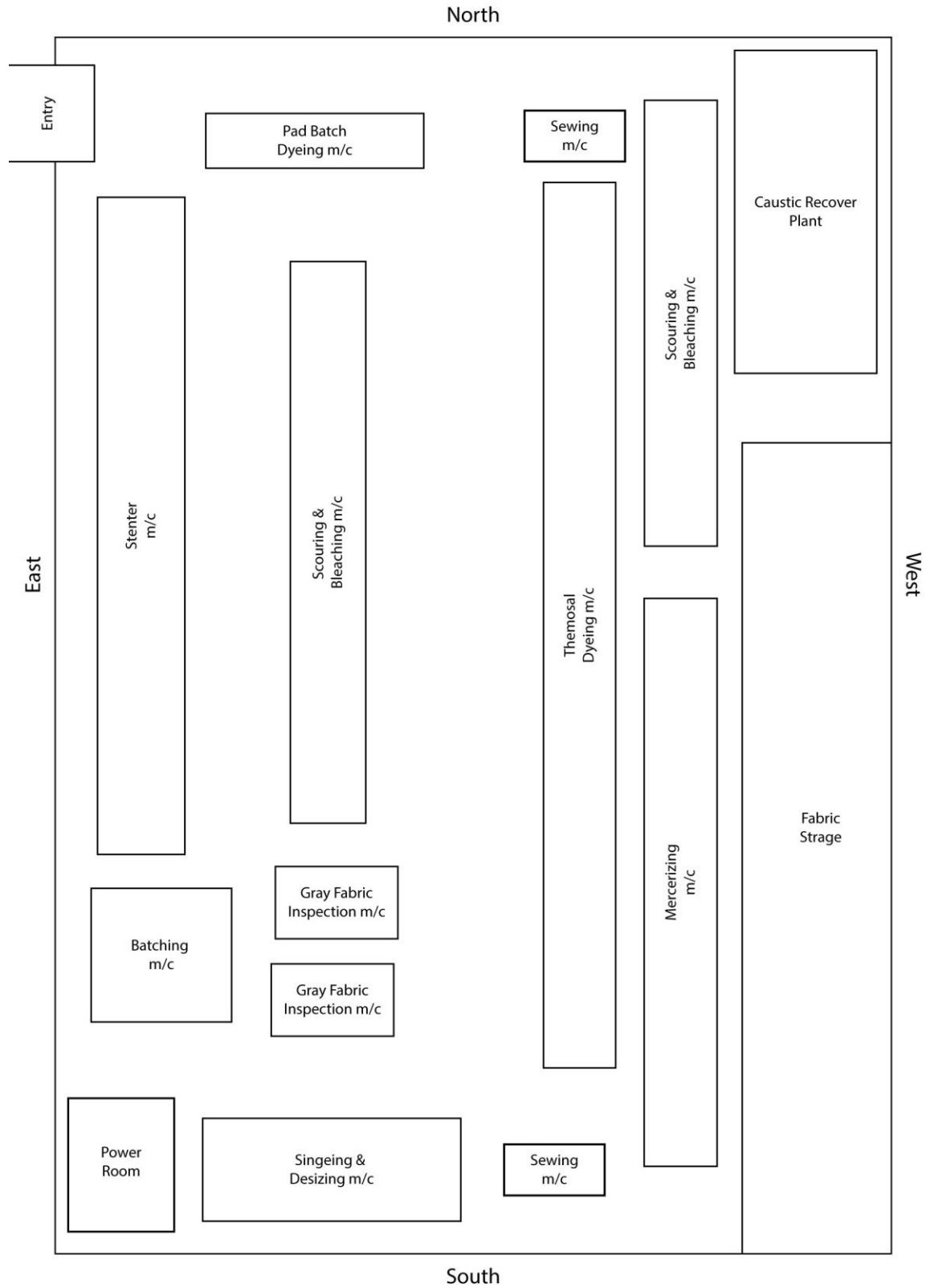
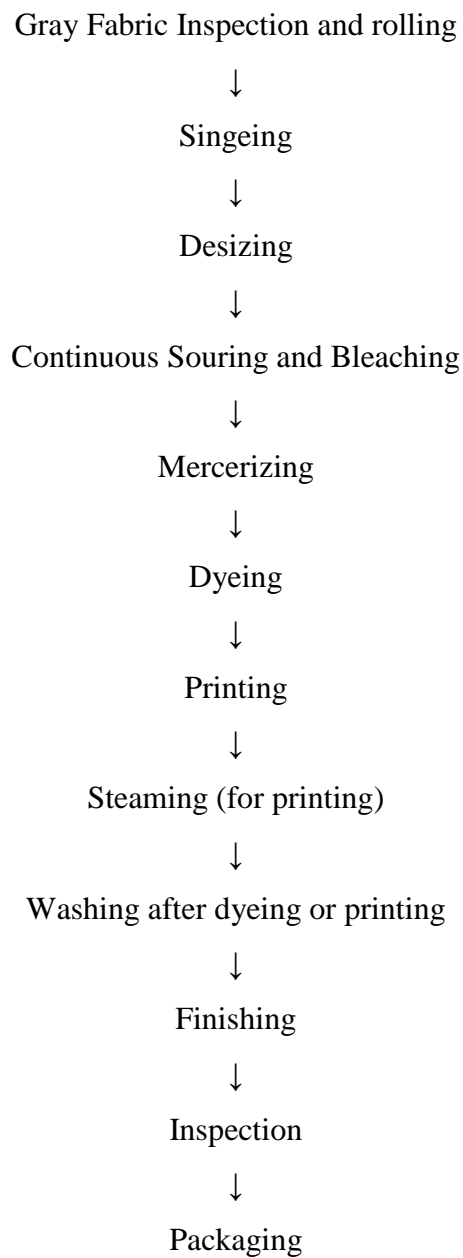


Figure: 2.3 Factory Layout



## 2.4 Different Sections of the Company



### Supporting Departments

There is category of section of supporting department of IL KWANG TEXTILE CO. LTD, which is helping to boost the production parameter in different kind of Machineries.

Supporting department includes:

- H.R Department
- Finance department
- Maintenance department
- Power department
- Boiler department

- Mechanical department
- Effluent Treatment Plan.
- Buying House.
- ETC.

## 2.5 Name of Products Company Export

100% Cotton Canvas (Non Denim), Twill, Poplin, Canvas, 100% Polyester, 100% Cotton Spandex & Polyester Spandex, Solid, Print, T/C, CVC Dyeing & Finishing.

## Membership of Certificates

BTMEA, OEKO TEX

## 2.6 List of Buyers

MAX	Best Seller	Eassipea
Cuflioepa	Ricahuello	Riachlt
Shinest	Padma	ABC
Wool Worth	Hong Kong	Eurotex
NKD	Aushem	Cihearing
Tempolino	Alif	Primark
Auchan	Majumder	ZXY
GXZ	Forver-21	Lisfung
Progress	CIA	Index
Thianis	Dada	Dekko
RFD	Star Garment	Eut
SH Fema	Norwest	Glory Fashion
Euro Bangla	New Yecaker	Kanpast
Casofia	Sample	Eve Dress
Carters	Tailor Vantage	Belatex
Spring Field	Cxebee	Guvee
Grey Stone	H&M	Patriot
Lusaka	Rox	Raytex
Alcot	Clubxpress, etc.	

## Pictorial View of the Company



Figure: 2.4 Pictorial View of the Company

**CHAPTER-3**  
**DETAILS OF ATTACHMENT**

## **CHAPTER-3**

### **DETAILS OF ATTACHMENT**

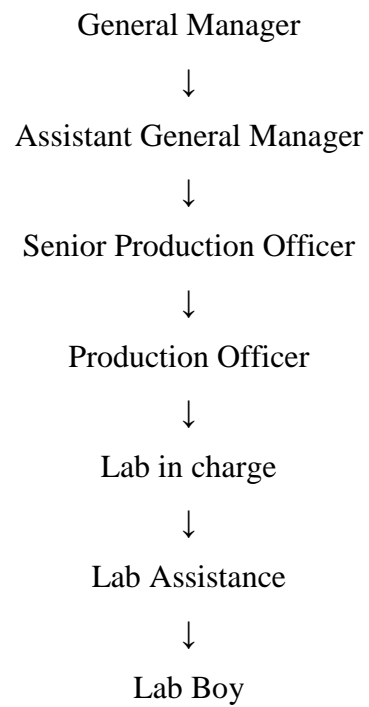
#### **3.1 DYEING LABORATORY SECTION**

##### **3.1 Dyeing Laboratory Section**

###### **3.1.1 Introduction**

Fulfillment of customer requirement is the quality of a product. It the proportions of excellence of a product that specify that whether it match the customer ultimate requirement or not. As textiles, a combine word related to different section and each section is responsible to meet up the requirements of following sections and finally the ultimate user. Dyeing is the operations of coloring textile materials with some medium. It is the segment in which raw fabrics are dyed with coloring materials i.e. dyes in some medium i.e. water along with particular chemicals. Fabrics dyed as per the buyer requirements. Formerly going to the bulk production, a sample fabric dyed in the dyeing laboratory. If the desired shade produced here, then it is go for bulk production at large amount. However, primary recipe to develop particular shade is prepared here and then finally execute in the production section. A standard quality lab provides all right set of circumstances to produce particular shade without any disruption. Besides, the different tests done in the physical lab to judge the different parameters of dyed fabric. Tests manage in the physical lab based on the buyer requirements. During testing, different types of testing method are followed which varied from buyer to buyer. To learn this, an observation done at IL KWANG TEXTILE CO. LTD an export-oriented industry produces all types of woven dyed fabric.

### 3.1.2 Organ gram



### 3.1.3 Dyeing Laboratory Section Layout

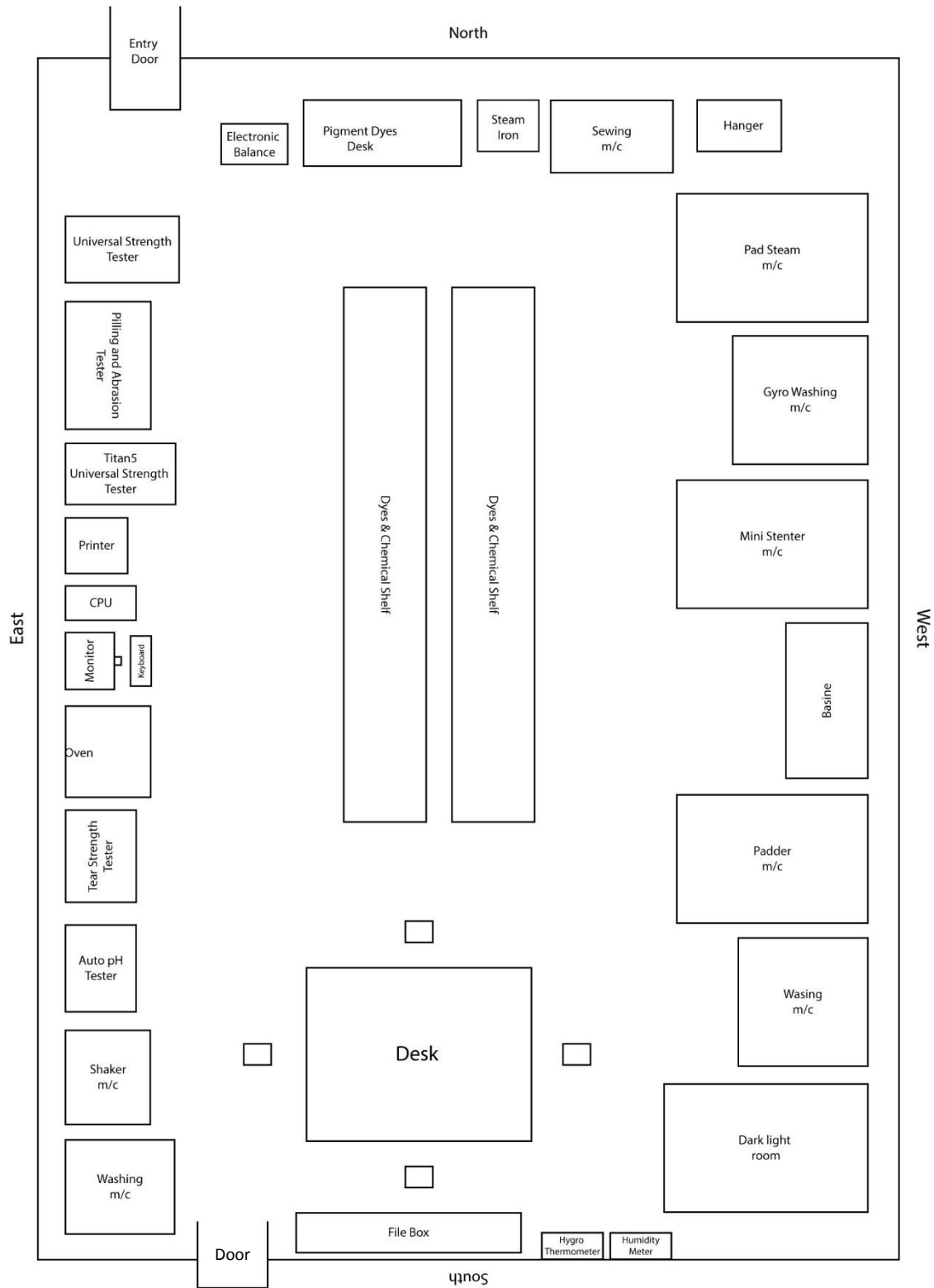


Figure: 3.1.1 Dyeing Laboratory Section Layout

### 3.1.4 Machine Specification Used in Dyeing Lab

Machine No. 01

Machine Name : Wash Cator

Manufacture Name : Electrolux

Origin : Sweden



Figure: 3.1.2 Wash Cator

Function : To wash the fabric sample at specific temperature.

Machine No. 02

Machine Name : Crock Meter

Manufacture Name : Fangyaun Co. Ltd

Origin : China



Figure: 3.1.3 Crock Meter

Function : To test the fabric sample rubbing fastness.

Machine No. 03

Machine Name : Roaches Washtec-P

Manufacture Name : Advance Dyeing Solution Ltd

Origin : UK





Figure: 3.1.4 Roaches Washtec-P

Function : To wash the fabric sample at specific temperature.

Machine No. 04

Machine Name : Roaches Opti-Dry

Manufacture Name : Advance Dyeing Solution Ltd

Origin : UK



Figure: 3.1.5 Roaches Opti-Dry

Function : To wash the fabric sample at specific temperature.

Machine No. 05

Machine Name : Perspirometer

Manufacture Name : Advance Dyeing Solution Ltd

Origin : UK



Figure: 3.1.6 Perspirometer

Function : Used for fabric perspiration test.

Machine No. 06

Machine Name : Carbolit Oven

Manufacture Name : Carbolit Ltd

Origin : UK



Figure: 3.1.7 Carbolit Oven

Function : A heat chamber in which textile fabrics or garments are cured or baked.

Machine No. 07

Machine Name : Padder

Manufacture Name : Xiamen Rapid Ltd

Origin : China



Figure: 3.1.8 Padder

Function : Used for fabric dyeing.

Machine No. 08

Machine Name : Pad Steam

Manufacture Name : Xiamen Rapid Ltd

Origin : China



Figure: 3.1.9 Pad Steam

Function : A speed pad-dyeing process, which operates at high temperatures and is used mainly to apply vat dyes in approximately one tenth the time required for batch methods like jig dyeing and pad dyeing.

Machine No. 09

Machine Name : Mini Stenter

Manufacture Name : Fashan Kelun Co. Ltd

Origin : China



Figure: 3.1.10 Mini Stenter

Function : Used for drying, heat setting of thermoplastic material, fixing of dyes and chemical finishes, controlling fabric width.

Machine No. 10

Machine Name : Light Box

Manufacture Name : Varivide

Origin : England



Figure: 3.1.11 Light Box

Function : Used matching fabric shade.

Machine No. 11

Machine Name : pH Meter

Manufacture Name : Hanna

Origin : Romania



Figure: 3.1.12 pH Meter

Function : Used for measuring pH.

Machine No. 12

Machine Name : Shaker

Manufacture Name : MCI Electronics

Origin : China



Figure: 3.1.13 Shaker

Function : Used for shaking.

Machine No. 13

Machine Name : Titan-5

Manufacture Name : Jame Heal

Origin : UK



Figure: 3.1.14 Titan-5

Function : To test fabric tensile strength, seam slippage, seam strength, stretch recovery, etc. at specific load.

Machine No. 14

Machine Name : Universal Strength Tester

Manufacture Name : KMS-UST

Origin : China



Figure: 3.1.15 Universal Strength Tester

Function : To test fabric tensile strength, seam slippage, seam strength, stretch recovery, etc. at specific load.

Machine No. 15

Machine Name : Tear Strength Tester

Manufacture Name : KMS Colortech

Origin : China

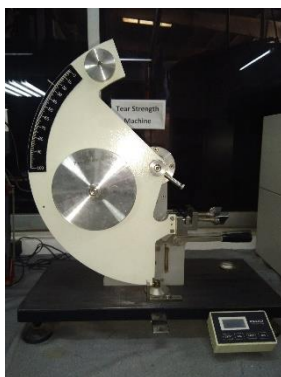


Figure: 3.1.16 Tear Strength Tester

Function : To test fabric tear strength.

Machine No. 16

Machine Name : Martindale Pilling & Abrasion Tester

Manufacture Name : KMS Colortech

Origin : China



Figure: 3.1.17 Martindale Pilling & Abrasion Tester

Function : To test fabric pilling & abrasion.

Machine No. 17

Machine Name : Precision Balance

Manufacture Name : AND Co. Ltd

Origin : Korea

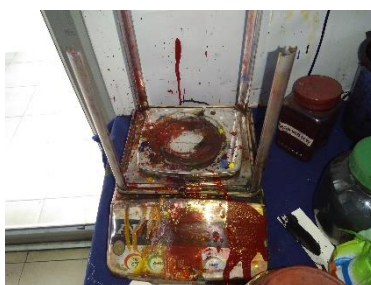


Figure: 3.1.18 Precision Balance

Function : Measuring dyes, chemicals & fabric.

Machine No. 18

Machine Name : GSM Cutter

Manufacture Name : N/A

Origin : China



Figure: 3.1.19 GSM Cutter

Function : Used for measuring GSM.

Machine No. 19

Machine Name : Steam Iron

Manufacture Name : Silver Star

Origin : China



Figure: 3.1.20 Steam Iron

Function : Used for ironing fabric.

Machine No. 20

Machine Name : Overlock Sewing Machine

Manufacture Name : Juki

Origin : Japan



Figure: 3.1.21 Overlock Sewing Machine

Function : Used for sewing fabric.

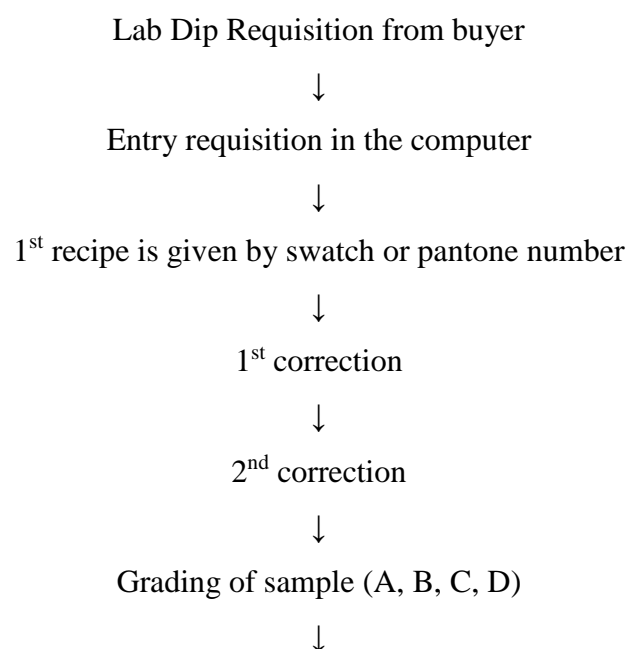
### 3.1.5 Importance and development of lab dip:

Lap dip development is a swatch of fabric, which dyed according to buyer's requirements. It is a procedure by which purchaser's provided swatch matched with the differing dyes rate in the laboratory with or without help of spectrophotometer. Lab dip shows an important role in shade matching & lab dip development is an important task before bulk production.

#### The main objectives in lab dip are as follows:

- To estimate the recipe for sample dyeing.
- To match dyed sample with swatch by light Box.
- To estimate revise recipe for sample dyeing.
- Finally, approved Lab Dip (Grade: A, B, C, D)

#### Process Sequence for development of Lab Dip:





Woven sample send to buyer



Approved by buyer



Order for bulk production



Production card with approved sample and recipe send to production section.

## **3.2 BATCHING SECTION**

### **3.2 Batching Section**

#### **3.2.1 Introduction**

Batching is gray fabric receiving section, in this operation this fabric wound onto a roller after inspection of gray fabric. Batching is the procedure to become ready the fabric, which should be dyed or processed for specific lot and specific order. Primarily batching completed by taking the below criteria under consideration.

#### **3.2.2 Batching Criteria, Distribution and Management**

##### **Batching Criteria:**

- To use maximum capacity for existing dyeing Machine.
- To minimize the washing time or dyeing time or preparation time.
- To minimize the Machine stoppage time.
- To keep the number of batch as less as possible for the same shade.
- To use a specific Machine for dyeing with same shade.

##### **Distribution and Management:**

##### **The Rules for gray fabric inspection:**

- Fabric quality & construction.
- Fabric composition.
- Fabric width.
- Fabric GSM.
- Roll no. & Roll/Bundle Quantity.

##### **Fabric Inspection 4 Points System:**

##### **Defect Length:**

- If Defect length 0 to 3" then 1 point
- If Defect length 3 to 6" then 2 point
- If Defect length 6 to 9" then 3 point
- If Defect length more than 9" then 4 point

##### **Hole:**

- If less or equal to 2.5 cm/1" then 2 point
- If Larger than 2.5 cm/1" then 4 point

To check 18-20 yard's clothes in every minute. 2 inspectors after 2 hours of inspection other two will do the next 2 hour's inspection. Thus, after 2 hours the inspector will change and gray fabric inspection will continue

### 3.2.3 Machines used in Batching Section

Machine Name : Air Turning Machine  
Manufacturer Name : Habdong  
No. of Machine : 03  
Origin : China

#### Pictorial View of the Machines in Batching Section



Figure: 3.2.1 Batching Machine

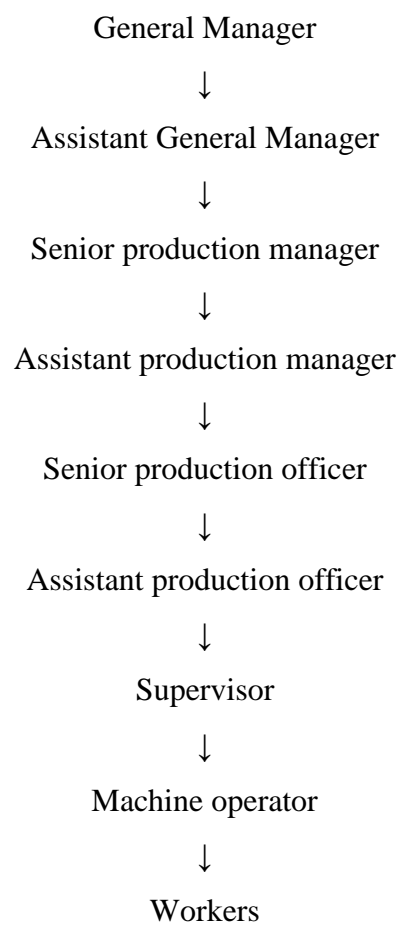
## 3.3 PRE-TREATMENT SECTION

### 3.3 Pre-Treatment Section

#### 3.3.1 Introduction

Pretreatment is very significant role in dyeing industry. Without pretreatment dyeing is not possible. In pretreatment section have different types process such as Singeing & desizing, scouring, bleaching and mercerization. The Machine and procedure briefly describe by following steps.

#### 3.3.2 Organ gram



### 3.3.3 Pretreatment Section Layout:

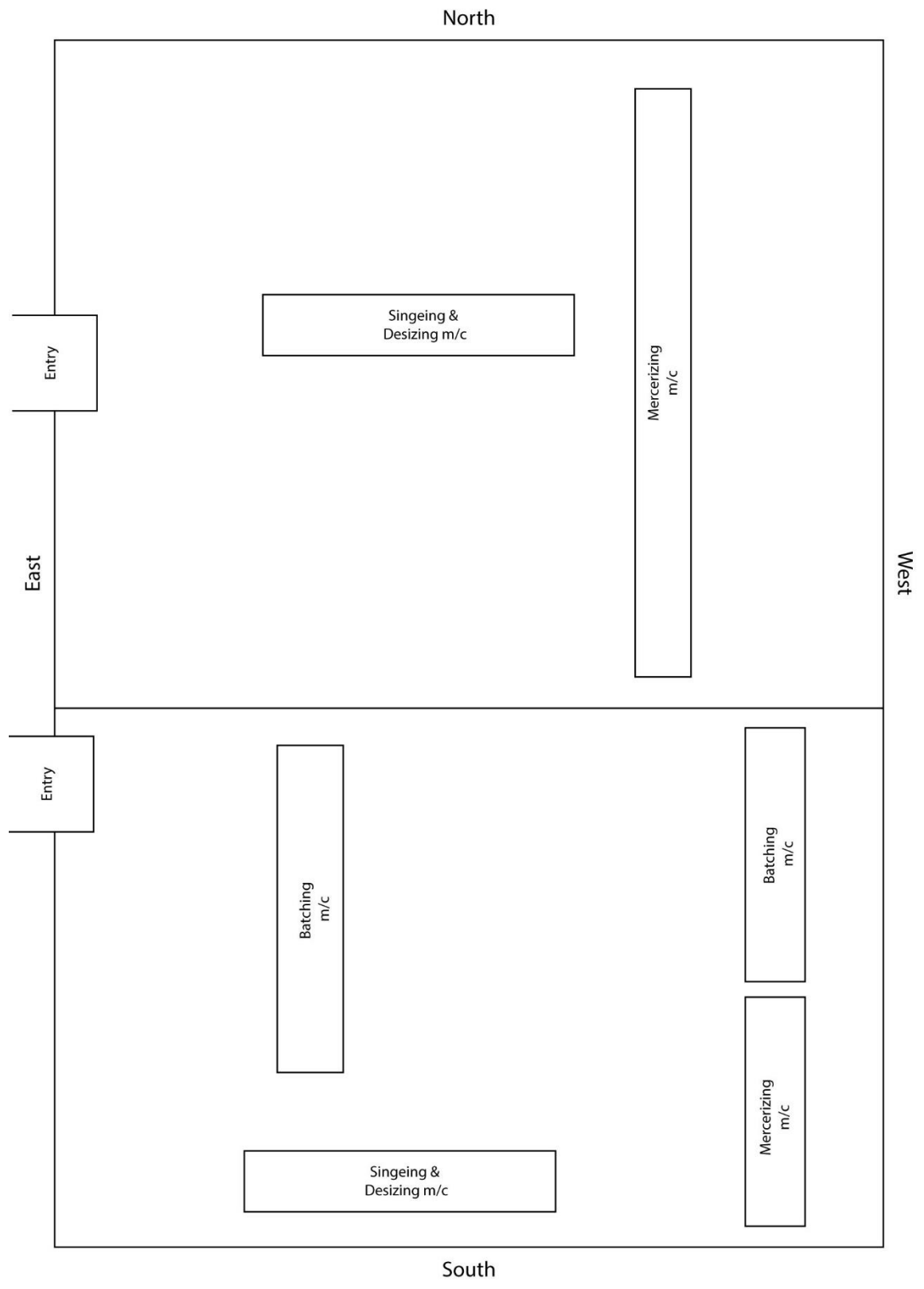


Figure: 3.3.1 Pretreatment Section Layout

### 3.3.4 Machine Description of Pre-treatment Section

**Machine Name** : Singeing & Desizing  
Brand Name : Whan Sung  
Origin : Korea  
No. of Machine : 02  
Production Capacity : 65000-85000 m/day for per Machine.

**Machine Name** : Continuous Scouring & Bleaching  
Brand Name : Habdong  
Origin : Korea  
No. of Machine : 02  
Production Capacity : 95000-100000 m/day for per Machine.

**Machine Name** : Mercerizing  
Brand Name : MH492  
Origin : China  
No. of Machine : 02 (One Clip & One Rolling)  
Production Capacity : 50000-70000 m/day for per Machine.

### 3.3.5 Singeing & Desizing Machine

#### **Singeing:**

The way toward burning off jutting fibers from yarn or fabric by disregarding it a fire. Singeing gives, the fabric a smooth surface and is important for fabrics that are to be printed and for fabrics where smooth finishes and desired.

#### **Singeing Procedure:**

- Fabric preparation for singeing.
- Fabric combed by combing roller.
- Fabric burned by gas burner.

#### **Advantages of Singeing:**

- Achieve clean fabric surface.
- Reduced pilling from fabric.
- Achieve high clarity and detail printing.
- Reduced the dark shades is significantly.

**Desizing:**

The process of removing sizing materials (starches, gelatins, oils, waxes and manufactured polymers such as pc, polystyrene, polyacrylic acid and polyacrylates etc.) from a yarn or fabric, by using acids or enzymes to convert the size into a solvable form which can then be washed out.

**Desizing Procedure:**

- Set the bath with substrate at room temperature and add wetting agent, sequestering agent.
- Add proper amount of enzyme (Desizer TM 25).
- Raise the temperature to 65 to 70°C or according to byer recommendation.
- Run the bath and pick up% should be 70% at 65 to 70°C.
- Cool down and drop.
- Delivered fabric after kept to minimum 8 hours.

**Recipe for Desizing Process:**

Enzyme (Desizer TM 25)	: 3g/l
Detergent (WET-PN)	: 3g/l
Sequestering agent (CLEAR)	: 2g/l
Speed	: 55 m/min
pH	: 6 to 7
Pick Up%	: 70%
Temperature	: (65 to 70) °C
Padder pressure	: R-1.8 & L-1.9

### Pictorial View of Singeing & Desizing Machine



Figure: 3.3.2 Singeing & Desizing Machine

### 3.3.6 Continuous Scouring & Bleaching Machine

#### **Souring:**

Scouring is a procedure of textile materials in watery or different arrangements in order to remove natural fats, waxes, proteins and in addition dirt, oil and different contaminators. The scouring procedure changes with the type of fiber.

#### **Bleaching:**

Wet processing operation carried out on textile materials in an aqueous medium either in preparation of dyeing and finishing or to obtain clean whites in finished material. Bleaching significantly improves the cleanliness of the textile material by decolorizing it from the grey state dissolving the natural pectin's, waxes, small particles of foreign matter and warp sizing and most importantly it increasing the ability of the textile material to absorb dyestuffs more readily and uniformly. Peroxide or chlorine compound are more often than not for blanching compound.

#### **Procedure of Scouring and Bleaching Process:**

- Set the bath with substrate at room temperature with wetting agent, sequestering agent, buffering agent, acetic acid (maintaining the pH 3.5-4) and detergent.
- Add alkalis and hydrogen peroxide then raise the temperature to 95 to 100°C.



- Run the Machine at 40 to 50 m/min.
- After immersed into bath fabric should be stay in J/L box for 35 to 40 minutes at 95 to 100°C temperature.
- Rinse the fabric twice with hot water and cold water.
- Drying the fabric and rolling for next process.

#### **Recipe for Scouring and Bleaching:**

Wetting Agent (Wet PN)	: 2 g/l
Peroxide Stabilizer (Ultra NON NS)	: 1 g/l
Sequestering Agent (CLEAR)	: 3 g/l
Caustic Soda	: 2 g/l
Hydrogen Peroxide	: 5 g/l
Lubricant (CTF-02)	: 2 g/l
Speed	: 60 m/min
pH	: 10 to 11
Pick Up%	: 70%
Temperature	: 95 to 100°C

#### **Pictorial View of Scouring & Bleaching Machine:**



Figure: 3.3.3 Scouring & Bleaching Machine

#### **3.3.7 Mercerizing Machine**

Mercerization is the treatment of cellulosic cotton fabrics with high concentrated caustic soda solution to improve strength, increase luster, dye substantively, strength and smoothness. This mercerization process need lower temperature from 15 to 18°C and alkali concentration is 20 to 30%. Sufficient washing is mandatory after this step to remove any traces of caustic soda.

### **Function of Mercerizing Machine:**

The main function of mercerizing given below:

- Increase the luster of fabric.
- Improve the whiteness of fabric.
- Increase the absorbency of fabric.
- Increase the dye affinity of fabric.
- Improved soft hand feel.

### **Mercerizing Recipe:**

Mercerizing recipe is given below:

- Normally 2000 kg caustic
- 12 kg mercerized oil
- Water is added with caustic about 1500 to 2000 liter
- Caustic bath temperature should be 15 to 18°C
- Machine speed should be 40 to 50 m/min

### **Pictorial View of Mercerizing Machine:**



Figure: 3.3.4 Mercerizing Machine

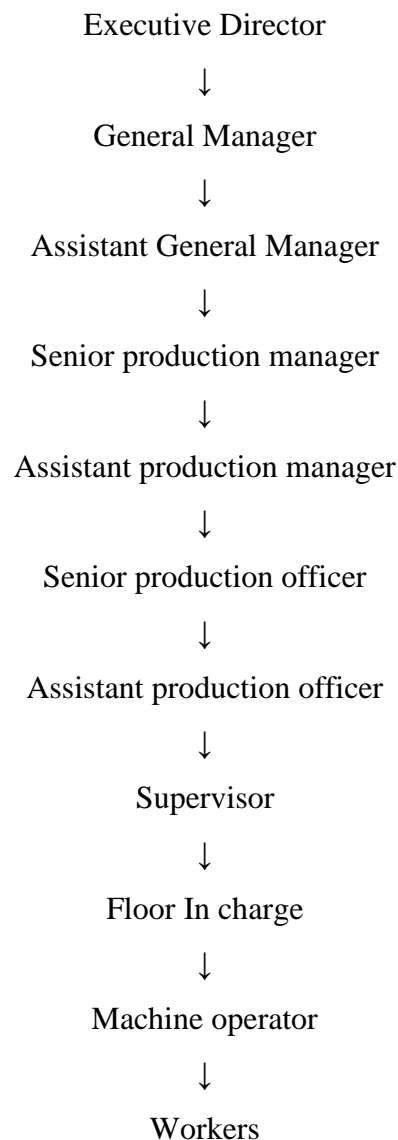
## 3.4 DYEING SECTION

### 3.4 Dyeing Section

#### 3.4.1 Introduction

The procedure of coloration fibers, yarns, or fabrics with the natural or synthetic colors. By used different machines with colors, chemicals and auxiliaries finish this dyeing procedure. For example, Pad Batch dyeing is semi continuous dyeing process, Thermosal dyeing is continuous dyeing process likewise has Jet-dyeing process, Jigger dyeing process and so on. In dyeing process dye atom enter into the fiber particle and produced color.

#### 3.4.2 Organ gram



### 3.4.3 Dyeing Section Layout

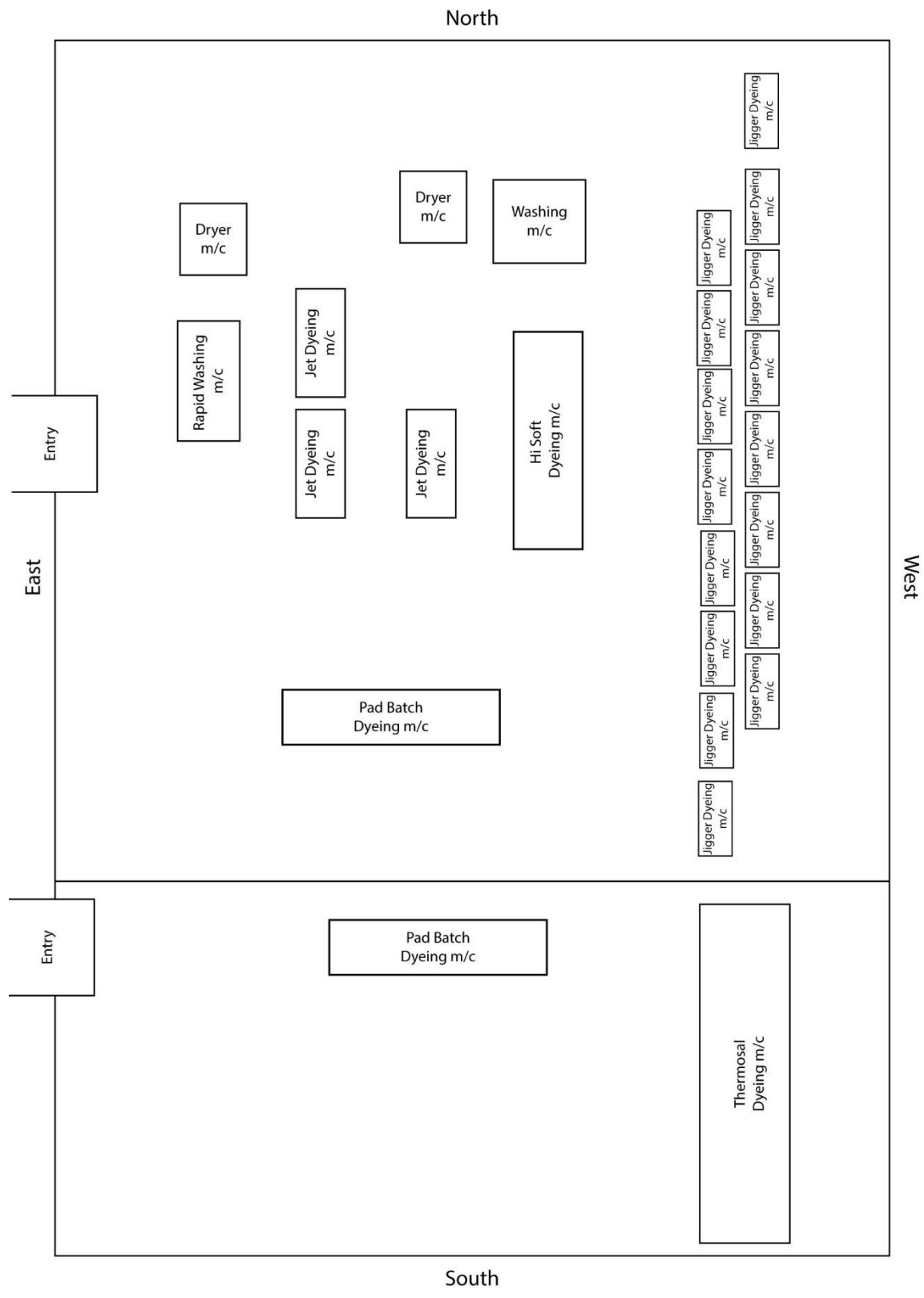


Figure: 3.4.1 Dyeing Section Layout

### 3.4.4 Machine Description of Dyeing Section

**Machine Name : Pad Batch Dyeing Machine**

Brand Name : Kusters

Origin : Germany

No. of Machine : 02

Production Capacity : 40000-50000 m/day for per Machine.

**Machine Name : Continuous Thermosal Dyeing Machine**

Brand Name : Jiang Su Xinlian

Origin : China

No. of Machine : 01

Production Capacity : 95000-100000 m/day

**Machine Name : Jet Dyeing Machine**

Brand Name : Habdong

Origin : Korea

No. of Machine : 03

Production Capacity : 30000-50000 m/day for per Machine.

**Machine Name : Jigger Dyeing Machine**

Brand Name : Sung Moo

Origin : Korea

No. of Machine : 16

Production Capacity : 10000-12000 m/day for per Machine.

**Machine Name : Hi Soft Dyeing Machine**

Brand Name : ACE

Origin : Germany

No. of Machine : 01

Production Capacity : 50000-70000 m/day

**Machine Name : Dryer Machine**

Brand Name : HAI-YANG

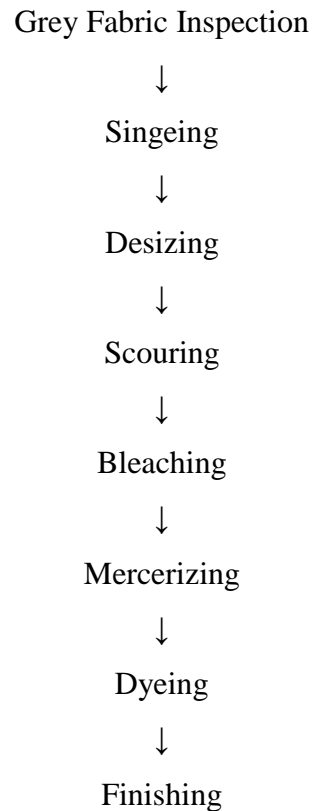
Origin : China

No. of Machine : 01

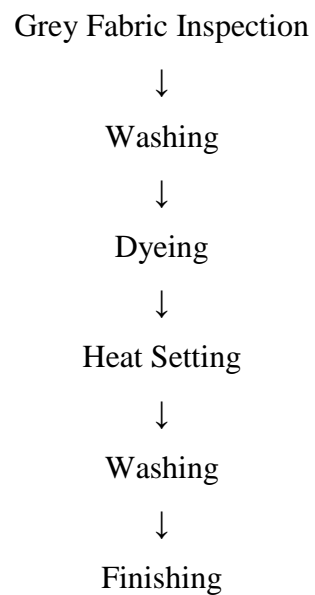
Production Capacity : 30000-50000 m/day

### 3.4.5 Process Flowchart for Dyeing

#### Cotton Dyeing:



#### Synthetic Dyeing:



### 3.4.6 Dyes, Chemicals & Auxiliaries:

#### Chemicals & Auxiliaries:

Different Types of Chemicals & Auxiliaries are used in this industry. Generally, chemicals & auxiliaries are used to influence the dyeing operation.

Most used Chemicals & Auxiliaries also their function are:

Caustic Soda (NaOH)	: Neutralize acidic matter also act as swelling agent.
Acetic Acid	: Used as solubilizing agent which increased dye stability.
Hydrogen Peroxide	: Used as bleaching agent for remove natural color from cellulosic fiber.
Soda Ash	: Used for maintain pH (8.0-8.5) during scouring.
Disper-50 (Dispersing Agent)	: Used for disperse dyeing to ensure uniform & should give stable dispersion
Wet-Pn (Wetting Agent)	: Used for reduce water surface tension.
Clear (Sequestering Agent)	: Used for reduce water hardness.
FIX 250 (Fixing Agent)	: Used for fix dye in fabric.
P-15 (Leveling Agent)	: Used for uniform dyeing.
Silan-HSS (Softener)	: Used for fabric soft feel.
Desizer TM 25 (Desizing Agent)	: Used for remove sizing materials.
Non NS (Stabilizing Agent)	: Used for buffering action to control the pH in bleaching.
Defoam AEP (Anti Foaming Agent)	: Used for reduce formation of foam.
Sofs (Crease Proofing Agent)	: Used for prevent crease from fabric.
Pidicryl Binder 5401 (Binder)	: Used in printing process.
Hypol-25 (Emulsifier)	: A substance that coats the particles of the dispersed phase and prevents coagulation of colloidal particles.
Gluber Salt	: Used as electrolyte which help to increase dye affinity of the fiber.

### **3.4.7 Pad Batch Dyeing Machine:**

#### **Some important information of the Pad Batch Machine:**

Machine name	: Pad Batch
Brand name	: Kusters
Origen	: Germany
Manpower	: 6
Production Range	: 40000-50000 m/day

Machine Speed	: 40 m/min
Temperature	: Room Temperature
No of Padder	: 4
Used Utilities	: Gas, Electricity

### **Recipe for Pad Batch Dyeing Machine:**

A recipe given which I watched during my training period in Pad Batch dyeing Machine:

Customer	: MAX
Color	: Black
Fabric Construction	: 20X20/60X60 (Twill)
Fabric Quantity	: 10000 yds
Sunzol Black B (80%)	: 18950 gm
Remazol Golden Yellow (15%)	: 35610 gm
Urea	: 120 kg
Gluber Salt	: 105 kg
P-15 (Leveling Agent)	: 3.0 kg
Caustic (NaOH)	: 50 kg (35°C)
Temperature	: Room Temperature
Machine Speed	: 30-35 m/min
Total Liquor	: 1950+550 liter

### **Product quality check:**

For the period of Pad Batch dyeing process, check the surface defects of the fabric such as, crease mark, spots on the fabric, fabric position in Machine, fabric sewing, selvedge or any other defects that can be identify visually.

### **Quality Control Sample Test:**

1 or 2 yards fabric sample cut from the batch & send to the quality control lab for test. The shade card attached with the fabric sample for the QC test. QC department test the fabric physical, chemical & analysis the tests and notes the results in fabric test results.



### **Pictorial View of Pad Batch Dyeing Machine:**



Figure: 3.4.2 Pad Batch Dyeing Machine

### **3.4.8 Continuous Thermosal Dyeing Machine:**

#### **Some important information of the Thermosal Machine:**

Machine name	: Thermosal
Brand name	: Jiang Su Xinlian
Origen	: China
Manpower	: 8
Production Range	: 95000-100000 m/day
Machine Speed	: 40 m/min
Temperature	: 180-220°C
Used Utilities	: Gas, Electricity

#### **Recipe for Continuous Thermosal Dyeing Machine:**

A recipe given which I watched during my training period in Thermosal dyeing Machine:

Customer	: Shinest
Fabric Construction	: 108X52/45X34 (Canvas)
Fabric Quantity	: 20000 yds
Novacron Yellow S3R IN	: 0.87 gm/l

Novacron Red P- 4B GR	: 0.83 gm/l
Novacron Blue CR	: 0.65 gm/l
Primasol-V	: 11 gm/l
Primasol-NF	: 3 gm/l
Urea	: 50 gm/l
Soda Ash	: 11 gm/l
Glubar salt	: 11 gm/l
Wetting agent	: 3 gm/l
Machine Speed	: 50 m/min
Temperature	: 120 -150°C

**Product quality check:**

For the period of Thermosal dyeing process, check the surface defects of the fabric such as, crease mark, spots on the fabric, fabric position in Machine, fabric sewing, selvedge or any other defects that can be identify visually.

**Quality Control Sample Test:**

1 or 2 yards fabric sample cut from the batch and send to the quality control lab for test. The shade card attached with the fabric sample for the QC test. QC department test the fabric physical, chemical & analysis the tests and notes the results in fabric test results.

**Pictorial View of Continuous Thermosal Dyeing Machine:**



Figure: 3.4.3 Continuous Thermosal Dyeing Machine

### **3.4.9 Jet Dyeing Machine:**

#### **Some important information of the Thermosal Machine:**

Machine name	: Jet Dyeing Machine
Brand name	: Habdong
Origen	: Korea
Manpower	: 12
Production Range	: 30000-50000 m/day
Machine Speed	: 45-55 m/min
Temperature	: 120-130°C
No. of Roller	: 02
Used Utilities	: Gas, Electricity

#### **Recipe for Jet Dyeing Machine:**

##### **A recipe given which I watched during my training period in Jet dyeing Machine:**

Customer	: Auchan
Fabric Construction	: 108X52/45X34 (Twill)
Fabric Quantity	: 15000 yds
Lumacron Yellow SERD	: 0.88 gm/l
Lumacron Red - SCBN	: 0.84 gm/l
Lumacron Blue -SERLN	: 0.67 gm/l
Urea	: 50 gm/l
Soda Ash	: 11 gm/l
Glubar salt	: 11 gm/l
Eco (Anti Creasing Agent)	: 5 gm/l
Wetting agent (P-15)	: 3 gm/l
Machine Speed	: 45 m/min
Temperature	: 120 -160°C

#### **Reduction:**

Hydrose	: 40 gm/l
Caustic	: 38 gm/l

### **Product quality check:**

For the period of Jet dyeing process, check the shade of the fabric also surface defects such as, crease mark, spots on the fabric, fabric position in Machine, fabric sewing, selvedge or any other defects that can be identify visually.

### **Quality Control Sample Test:**

1 or 2 yards fabric sample cut from the batch and send to the quality control lab for test. The shade card attached with the fabric sample for the QC test. QC department test the fabric physical, chemical & analysis the tests and notes the results in fabric test results.

### **Pictorial View of Jet Dyeing Machine:**



Figure: 3.4.4 Jet Dyeing Machine

### **3.4.10 Jigger Dyeing Machine:**

#### **Some Important Information of Jigger dyeing Machine:**

Machine Name	: Jigger Dyeing Machine
Brand Name	: Sung Moo
Origin	: KOREA
Manpower	: 16
Production range	: 10000-12000 m/day
MACHINE Speed	: 50-70 m/min

Temperature	: 75-95°C
Liquor Level	: 280 L
Function	: Only cotton part dyeing
Used utilities	: Gas, Electricity

### **Recipe for Jigger Dyeing Machine:**

A recipe given which I observed during my training period in Jigger dyeing Machine:

#### **Dyeing:**

Water	: 400 liter
Sunfix Blue MF-CN	: 2500 gm
Sunfix Red MF-CN	: 580 gm
Sunfix Blue RSPL	: 150 gm
Soda	: 3.5 kg
Salt	: 10.5 kg

#### **Fixing:**

Fixing Agent (FIX 250)	: 0.8 kg
Acetic Acid	: 350 gm

#### **Washing:**

Soda	: 250 gm
Detergent (WET-PN)	: 350 gm

#### **Product quality check:**

For the period of Jigger dyeing process, check the shade of the fabric also surface defects such as, crease mark, spots on the fabric, fabric position in Machine, fabric sewing, selvedge or any other defects that can be identify visually.

#### **Quality Control Sample Test:**

1 or 2 yards fabric sample cut from the batch and send to the quality control lab for test. The shade card attached with the fabric sample for the QC test. QC department test the fabric physical, chemical & analysis the tests and notes the results in fabric test results.



### **Pictorial View of Jigger Dyeing Machine:**



Figure: 3.4.5 Jigger Dyeing Machine

### **3.4.11 Hi Soft Dyeing Machine**

#### **Some Important Information of Hi Soft dyeing Machine:**

**Machine Name** : Hi Soft Dyeing Machine  
**Brand Name** : ACE  
**Origin** : Germany  
**No. of Machine** : 01  
**Production Capacity** : 50000-70000 m/day for per Machine.

#### **Pictorial View of Hi Soft Dyeing Machine**



Figure: 3.4.6 Hi Soft Dyeing Machine

### 3.4.12 Dryer Machine:

#### Some Important Information of Dryer Machine:

Machine Name	: Dryer Machine
Brand Name	: HAI-YANG
Origin	: China
Manpower	: 8
MACHINE Speed	: 30-35 m/min
Production range	: 30000-40000 m/day
Temperature	: 80-120°C
Function	: For Fabric Drying
Cylinder	: 26
Used utilities	: Gas, Electricity

#### Product quality check:

For the period of drying process, check the shade of the fabric also surface defects such as, crease mark, spots on the fabric, fabric position in Machine, fabric sewing, selvedge or any other defects that can be identify visually.

#### Quality Control Sample Test:

1 or 2 yards fabric sample cut from the batch and send to the quality control lab for test. The shade card attached with the fabric sample for the QC test. QC department test the fabric physical, chemical & analysis the tests and notes the results in fabric test results.

#### Pictorial View of Dryer Machine:



Figure: 3.4.7 Dryer Machine

## **3.5 PRINTING SECTION**

### **3.5 Printing Section**

#### **3.5.1 Introduction**

The printing characterized as localized coloring that is dyes or pigments connected locally or irregularly to create the different designs. The principle objective in textile printing the generation of eye-catching design with very much characterized limit made by the imaginative arrangement of a motif or motifs by at least one or more colors.

#### **Style of Printing:**

There are three types of printing style:

- Direct Style
- Discharge Style
  - White Discharge
  - Color Discharge
- Resist Style
  - White
  - Color

#### **Different Types of Printing Method:**

Method of printing are:

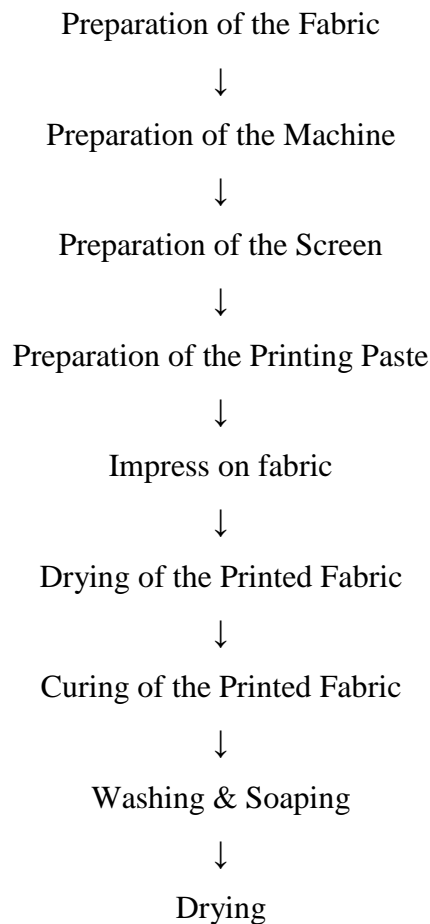
- Block Printing
- Roller Printing
- Screen Printing
- Heat Transfer Printing
- Ink-Jet Printing
- Resist Printing
- Carpet Printing
- Warp Printing
- Rotary Screen Printing
- Spray Printing
- Flock Printing
- Stencil Printing
- Tie Dyeing & Batik Printing



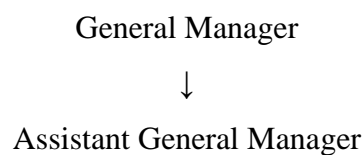
- Jet Spray Printing
- Electrostatic Printing
- Blotch Printing
- Digital Printing
- Photographic Printing
- Discharge Printing
- Pigment Printing
- Duplex Printing
- Direct Printing
- Burn Out Printing

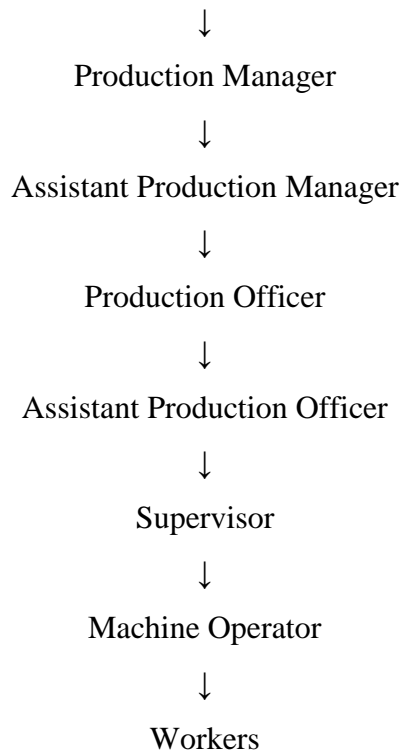
**Steps Follow in Textile Printing:**

Textile printing carried out various steps such as:



**3.5.2 Organ gram**





**3.5.3 Section layout of printing section**

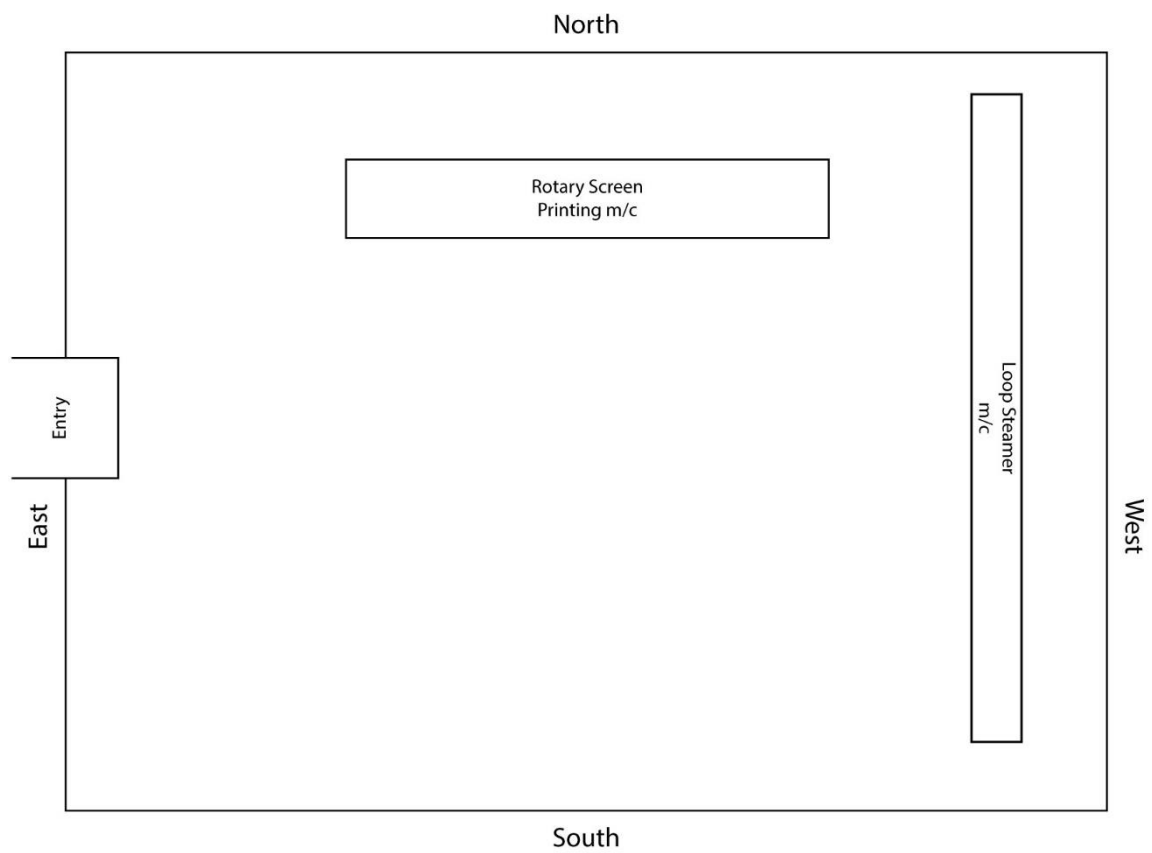


Figure: 3.5.1 Printing Section Layout

### 3.5.4 Machine Specification

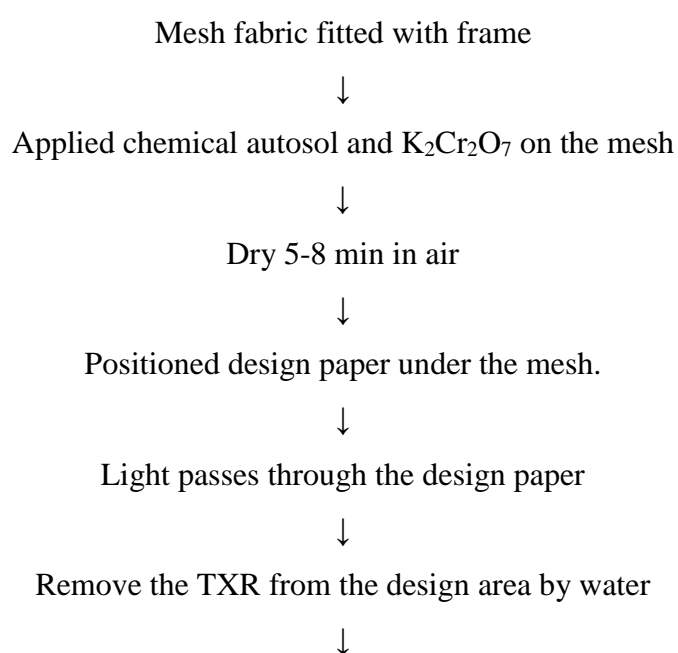
#### Rotary Screen Printing

A arrangement of roller and screen printing in which a perforated cylindrical screen is used to apply color. Color enforced from the inside of the screen onto the cloth. Rotary screen printing also has many fundamental attractions from the point of view of screen printing such as relatively low capital cost, high productivity and the capability of printing very wide width.

#### Some Important Information of Jigger dyeing Machine:

Machine Name	: Rotary Screen Printing Machine
Brand Name	: SWASTIK
Origin	: India
Manpower	: 8
Production range	: 10000-12000 m/day
MACHINE Speed	: 5 to 80 m/min
Temperature	: 120 to 180°C
Repeats	: 640 mm to 1018 mm
No. of Colors	: 16
Function	: Only cotton part dyeing
Used utilities	: Gas, Electricity

#### Printing Screen Preparation Flow Chart:



Cleaning



Drying

**Recipe for Rotary Screen Printing Machine:**

**Two types of printing run in this industry:**

- Reactive Print
- Pigment Print

**Printing paste preparation for Pigment:**

L. Amonia	: 1.5%	11 kg
Bainder 707/77	: 11%	101 kg
Entishumar	: 0.2%	1.2 kg
Dymathic DM	: 2.5%	25 kg
Urea	: 4%	39 kg
Water		830 kg
<b>Total</b>		<b>1000 kg</b>

**Printing paste preparation for Reactive:**

Algenate Gum	: 32%
Urea	: 17%
Sodium Bi Carbonate	: 6%
Revatol SP	: 4%

**Printed Samples:**

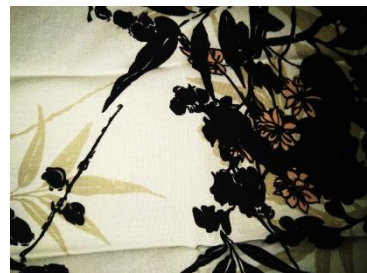


Figure: 3.5.2 Printed Sample

### Pictorial View of Rotary Screen Printing Machine



Figure: 3.5.3 Rotary Screen Printing Machine

## 3.6 FINISHING SECTION

### 3.6 Finishing Section

#### 3.6.1 Introduction

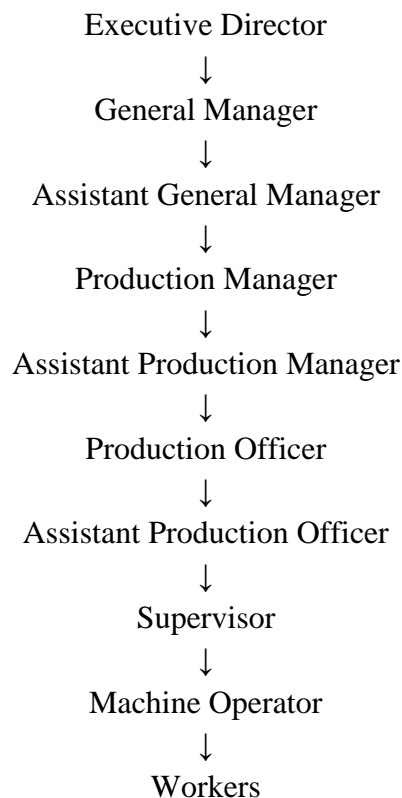
The creation of a market and consumer usable textile not completed after fabric production, dyeing or printing operation. Fabrics usually still need to undertake an additional processing known as finishing process. Which is the final process before the fabric cut into apparel or made into any articles of textile. Finishing incorporates task of heat setting, napping, embossing, pressing, calendaring and the utilization of chemicals that change the character of the fabric. Finishing process improved attractiveness and makes the fabrics appropriate for their intended end use. There are many types of finishes, some make fabric softer, some stiffer, some water repellent and waterproof, some shrink resistant and some fire proof and so on.

#### Classification of Finishing:

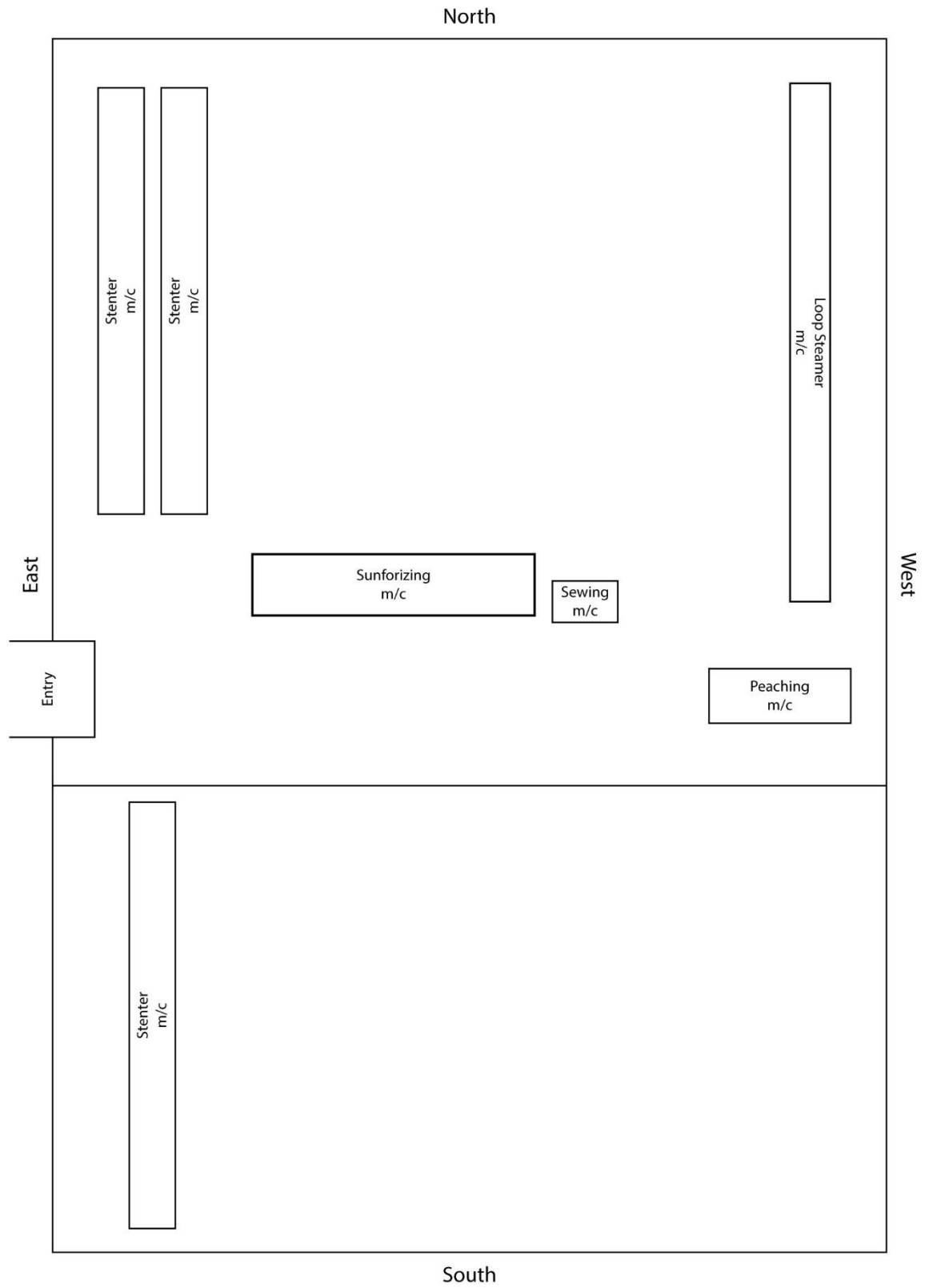
Textile finishes classified as:

- Aesthetic Finishes
- Functional Finishes

#### 3.6.2 Organ gram



3.6.3 Finishing Section LayoutFigure:



3.6.1 Printing Section Layout

### 3.6.4 Machine Description of Finishing Section

**Machine Name : Stenter Machine**  
Brand Name : Mi Kwang Machine Industries Co. Ltd  
Origin : Korea  
No. of Machine : 03  
Production Capacity : 25000-38000 m/day for per Machine.

**Machine Name : Peaching Machine**  
Brand Name : Doyou Machinery Co. Ltd  
Origin : Korea  
No. of Machine : 01  
Production Capacity : 30000-50000 m/day for per Machine.

**Machine Name : Sanforizing Machine**  
Brand Name : Hyundai  
Origin : Korea  
No. of Machine : 01  
Production Capacity : 30000-40000 m/day for per Machine.

**Machine Name : Loop Steamer Machine**  
Brand Name : Yong Xin  
Origin : Korea  
No. of Machine : 01  
Production Capacity : 20000-35000 m/day for per Machine.

### 3.6.5 Stenter Machine

#### Some Important Information of Stenter Machine:

Machine Name : Stenter Machine  
Brand Name : Mi Kwang Machine Industries Co. Ltd  
Origin : Korea  
Manpower : 8  
Production range : 25000-38000 m/day  
Machine Speed : 40 to 80 m/min  
Temperature : 150 to 190°C  
No. of Chamber : 6



No. of Burner	: 6
No. of Blower	: 12
Used utilities	: Gas, Electricity

**Function of Stenter Machine:**

- Heat setting
- Starching
- Soft Finish
- Wrinkle Free Finish
- Water Repellent
- Topping
- Loop control
- Width Control
- Shrinkage control
- Spirility control
- Moisture control
- GSM control
- Drying

**Chemical & Auxiliaries used for finishing on Stenter Machine:**

There are many chemical & auxiliaries used in stenter Machine:

- FIX 250 (Fixing Agent)
- Silan-HSS (Hydrophilic Softener)
- Silan AM 20 (Softener)
- Soft-WH (Nonionic Softener)
- Soft CONC (Cationic Softener)
- SOFS (Crease Proofing Agent)
- Adasil SM (Amino Silicone Softener)
- Acetic Acid
- Aquasoft NASS (Hydrophilic Softener)
- Unisoft-NYS (Powder)
- Urea

**Product quality check:**

- Shade Check
- GSM Check
- Width Check
- Fault Check

- Clips Checking
- Design and Fabric Bow Check
- Pin setting Check

### Pictorial View of Stenter Machine



Figure: 3.6.2 Stenter Machine

### 3.6.6 Peaching Machine

Peaching or Sueding is a mechanical finishes process in textile. Which a fabric rubbed on one or both sides to create a fibrous surface. This fibrous surface improves the fabric appearance, gives the fabric a softer, fuller hand, and can mask fabric construction and subdue coloration give luster. Most commonly used sander peaching Machine.

#### Some Important Information of Peaching Machine:

Machine Name	: Peaching Machine
Brand Name	: Doyou Machinery Co. Ltd
Origin	: Korea
Manpower	: 6
Production range	: 30000-40000 m/day
Machine Speed	: 40 to 50 m/min
Used utilities	: Electricity

### Pictorial View of Peaching Machine



Figure: 3.6.3 Peaching Machine

### 3.6.7 Sanforizing Machine

Sanford Lockwood Cluett (1874– 1968) in 1930 found this Machine. Sanforizing is a mechanical finishes process in textile purpose. Which control the shrinkage, width, increment softness quality, smoothness, luster of the fabric. This procedure for the most part utilized for cotton fabric.

#### Some Important Information of Sanforizing Machine:

Machine Name	: Sanforizing Machine
Brand Name	: Hyundai
Origin	: Korea
Manpower	: 6
Production range	: 35000-45000 m/day
Machine Speed	: 20 to 30 m/min
Over Feed	: 5-8%
Belt Roller Temp.	: 160 to 180°C
Felt Roller Temp.	: 180 to 190°C

Steam Box Temp. : 60-65 °C

Used utilities : Gas, Electricity

### **Function of the Sanforizing Machine:**

The chief function of the Sanforizing Machine are:

- Control Shrinkage of the fabric
- Control width of the fabric
- Increase the Softness of the fabric
- Increase the Smoothness of the fabric
- Increase the Luster of the fabric

### **Product quality check:**

- Width check of the fabric
- Fault check of the fabric

### **Pictorial View of Sanforizing Machine**



Figure: 3.6.4 Sanforizing Machine

### 3.6.8 Loop Steamer Machine

Steamer primarily used for fixing printed dye in fabric. Loop steamer is developing for Reactive, Vat Discharge, Disperse Discharge, Pigments, Disperse, etc. Equipped with Super Heater for Temperature Range 105-185°C. Working width 1100-3200 mm. Loop Steamer functioned by Thermic Fluid and appropriate for operating with steam or air for steam or air for steam fixing or air fixing.

#### Some Important Information of Loop Steamer Machine:

Machine Name	: Loop Steamer Machine
Brand Name	: Young Xin
Origin	: Korea
Manpower	: 6
Production range	: 35000-45000 m/day
Machine Speed	: 30 to 50 m/min
Temperature	: 105 to 185°C
Used Fluid	: Thermic Fluid
Used utilities	: Gas, Electricity

#### Pictorial View of Loop Steamer Machine



Figure: 3.6.5 Loop Steamer Machine



## 3.7 UTILITIES SECTION

### 3.7 Utilities Section

#### 3.7.1 Existing Utility Service

Following utility services are existing:

- Water : Pumps
- Electricity : PDB and Generator
- Gas : Titas Gas
- Steam : Boiler
- Compress : Air Compressor

#### 3.7.2 Water

In this industry water provided in various sections continuously by utilizing submersible and centrifugal pumps.

Table: 3.1 Centrifugal pump for water supply to different section

Centrifugal pump for water supply to different section	Capacity
25 Horse Power Pedrollo pump	400 ltr/min
15 Horse Power Pedrollo pump	600 ltr/min
KSB (35HP)	100 m/hr
Jhonoson Pump (35HP)	100 m/hr
Submersible Pump KSB	150 m/hr

#### 3.7.3 Electricity

In this industry power provided in various areas constantly by utilizing PDB and Generator.

#### Some Important Information of Generator:

- Machine Name : Warsila Gas Generator
- Origen : GARMANY
- No of the Machine : 3
- Capacity : 1150 KW
- Machine Name : Prime Power Generator
- Origen : CHINA
- No of the Machine : 4
- Capacity : 1250 KW

### 3.7.4 Boiler

Boiler mainly used for produce and provided steam to different section as required. In IL Kwang Textile Co. Ltd. two boilers are available for produce and provide steam to different section.

#### Some Important Information of Boiler Machine:

Machine Name	: Boiler
Origin	: China
Brand Name	: Fulton
Certification	: SGS
Capacity of Boiler	: 1150 KW and 1250 KW
Place Style	: Horizontal
Media	: Steam and Water
Package Cladding	: Stainless Steel
Steam Capacity	: 4 tons
Steam Temperature	: 193°C
Fuel	: Gas & Diesel
Working Pressure	: 12.5bars
Pressure	: Low Pressure
Weight	: 31 tons
Heat Efficiency	: 80%

### 3.7.5 Gas

Predominantly gas conveyed by TITAS gas from Titas Gas Transmission Company. Gas for the most part utilized as the fuel of boiler, generator and furthermore utilized for warming, steam, drying and different Machine and so on however it is fundamentally utilized for steam creation. Usually 38m<sup>3</sup> gas is required to deliver 1 ton of steam.

### 3.7.6 Compressor

Compressor mainly used for delivered compressed air to different section as required.

#### Some Important Information about Compressor:

Machine name	: Boiler compressor
Brand name	: Quincy
Origen	: USA
Capacity	: 850 ltr/sec
No of Machine	: 12

## **3.8 MAINTENANCE**

### **3.8 Maintenance**

#### **3.8.1 Introduction**

Machine, structures and others facilities subjected to plummet because of other utilize and condition procedure of drop, if unchecked, peaks in rendering these administration offices unserviceable and conveys them to a halt. Industry, in this manner must choose between limited options however go to them every occasionally to repair and recondition them in order to stretch out their life to the degree it is financially and physically conceivable to do as such.

#### **Objective of Maintenance:**

- Keeps the factory, equipment's Machine & Machine tools in optimum working condition.
- Identified accuracy of product and time schedule of delivery to customer.
- Keep me downtime of Machine to me least should to have control over me production program.
- Keep the production cycle within the specified range.
- Modify the Machine instruments to address the issue of production.

#### **3.8.2 Types of Maintenance:**

Primarily two types of maintenance:

- **Preventive Maintenance**
  - Electrical Maintenance
  - Mechanical Maintenance
- **Break Down Maintenance**
  - Electrical Maintenance
  - Mechanical Maintenance

#### **Preventive Maintenance:**

Preventive Maintenance is a prearranged routine activity to make sure that on time inspection or checking of facilities to expose conditions that may lead to production breakdowns or harmful description.

#### **Break down Maintenance:**



In this instance, repairs are made after the equipment is out and it cannot be perform its regular function.

**Routine Maintenance:**

Expert engineer of maintenance department prepares maintenance of different Machine. Generally, in incident of dyeing Machine, maintenance of after 30 days complete inspection of different significant parts done.

**Workforces Set-Up for Maintenance:**

Shift A : 9 AM to 9 PM

Shift B : 9 PM to 9 AM

**Maintenance Procedure:**

Normally preventive maintenance are should be done. During maintenance procedure, following points are should be checked.

**3.8.3 Check list of Different Parts:**

- Grease the Machine bearing.
- Cleaning the Machine.
- Check the air supply of filter, regulators auto drain seals.
- Cleaning of drain values, replace scale if required.
- Clean filters element and blow out.
- Checking of emptying roller coupling and packing.
- Greasing of emptying roller bearing.
- Checking of oil level and bolt of unloading roller gearbox.
- Checking & cleaning of main vessel level indicator.
- Check the oil level of pump bearing and refill if required.
- Check all door seals.
- Check function of the heat and cool modulation.

**CHAPTER-4**  
**IMPACT OF INTERNSHIP**

## **CHAPTER-4**

### **IMPACT OF INTERNSHIP**

During my training period, I have gained lots of knowledge about the internal subjects of an industry. Especially I had learnt about different dyeing process such as continuous dyeing process, semi continuous dyeing and discontinuous dyeing process also I had learnt about different pretreatment, printing, finishing. Now I think I have too much skillful and qualified of a dyeing industry. I have gain the knowledge of dyeing laboratory, dyeing floor, shade matching, finishing of a fabric, printing process and so on.

For the period of my training, I have also agree to kind of responsibilities, which are very helpful for my future life. I always try to learn best knowledge of the industrial activities especially dyeing laboratory system and different dyeing process. I saw the starting process to finishing process of a sample.

Industrial training is essential part of a Graduation. Not anybody can perfect without training of his profession. My industrial training was great supportive for my present and future life because I learnt about the industrial environment, how to maintain the workers, how to make a plan, how can improve knowledge and how can apply knowledge at working field. Moreover, I have prepared an industrial attachment according to base my industrial training. I think it provide too much assistance for my future life particularly to my working field.

Every institute provides the student theoretical knowledge of his particular subject. I think it will not fulfill without internship. When the students is doing training and see the different process steps, than students remained his or her theoretical knowledge and they can easily understood the process sequence. In this place, my classroom was sometimes too much helpful to my training period. I see different dyeing process, which I learnt my classroom, so I can easily, understood the dyeing process. Sometimes I did not recognize some process or method than I told and asking them about my problem of my industrial supervisor and university supervisor.

# **CHAPTER-5**

# **CONCLUSION**

## **CHAPTER-5**

### **CONCLUSION**

At the conclusion of my industrial training, I can realize it was big helpful for my future and present life to my job career. I can learn lots of think and get more knowledge about the environment of an industry and the working steps of different situation for a different buyer. I have as well learned from this industry how to control the industries workers and manage of them.

I think there are large numbers of difference between the knowledge of university and the industry because industry based on practical knowledge. Alternatively, university arranged of a student to give the theoretical knowledge. When both knowledge comes in one platform, I will think that is full of the knowledge, which I learn. For that reason, industrial attachment is facilitating me to fulfill of my knowledge.

I especially thanks to my honorable supervisor Sumon Mozumder who helps to me for facing any problem, which I have not understood on the industry. I prepare my industrial report in according to the instruction of my supervisor and input the information to my training industry.