Faculty of Engineering

Department of Textile Engineering

REPORT ON

Industrial Attachment

At

Dhaka Garments & Washing LTD.

Dakkhin Vangnahati

Sreepur, Gazipur

Course Title: Industrial Attachment

Course Code: TE-431

Submitted By

Md. Sabbir Hossain ID: 151-23-4118

Raihan Mahmud ID: 151-23-4211

Supervised By

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Assistant Professor

Department of Textile Engineering

Daffodil International University

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

Advance in Apparel Manufacturing Technology

Duration: 22 September' 18 to 21 November' 18

Declaration

We hereby declare that, this Industrial Attachment report has been done by under the supervision of Engr. Mohammad Abdul Baset Assistant Professor, Department of Textile Engineering, and Daffodil International University. We also declare that neither this report nor any part of this report has been submitted elsewhere for award of any degree. There is no part of this paper directly copy from other.

Prepared by:

Name	ID	**Signature**
Md. Sabbir Hossain	151-23-4118	
Raihan Mahmud	151-23-4211	

LETTER OF APPROVAL

To

The Head

Department of Textile Engineering

Daffodil International University 102,

Shukrabad, Mirpur Road, Dhaka 1207.

Subject: Approval of Industrial Attachment Report of B.Sc. In TE Program.

Dear Sir,

I am just writing to let you know that this report titled as **"Industrial Attachment"** has been prepared by the student Md. Sabbir Hossain and Raihan Mahmud bearing ID 151-23-4118 and 151-23-4211 is completed for final evaluation. The whole report is prepared based on the factory data with required belongings. The students were directly involved in their industrial attachment activities and the report become vital spark of much valuable inform for the readers.

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

Yours sincerely

……..

Engr. Mohammad Abdul Baset

Assistant Professor

Department of Textile Engineering

Daffodil International University

ACKNOWLEDGEMENT

At first, we like to express our heart -felt thanks to Almighty Allah for his kind blessing for completion of this process successfully. We would like to thank the people, who have made a significant contribution to make this industrial attachment. Their guide lines, suggestions & inspiration helps me a lot. We would like to express our deepest appreciation to our respected teacher & academic supervisor **Engr. Mohammad Abdul Baset, Assistant Professor, Dept. of textile engineering (DIU).** Deep knowledge & keen interest of helps & assists me much to carry out this report on Industrial engineering. His endless patience, scholar guidance, constant encouragement, energetic supervision, constructive criticism, valuable advice, checking many raw data & correcting them at all stages have made it possible to complete this report.

We would like to express our heartiest gratitude Prof. **Dr. Mahbubul Haque**, **Head of the Dept. Textile Engineering** for his suggestion & also the other faculty members & the stuffs of TE department of Daffodil International University. We also very much glad to Dhaka Garments & Washing Ltd. Authority for giving us opportunity to do my report work in their factory. We also thankful to **Abdur Rahman Sumon** Asst. Manager Dhaka Garments & Washing Besides, this internship program makes us realized the value of working together as a team & gives a new experienced in working environment, which challenges us every time. Finally, we express our sincere thanks to all those who have either directly or indirectly helped us to make this industrial attachment successfully.

Dedicated to our beloved Parents & Respected Teachers

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Executive Summary

EXECUTIVE SUMMARY

Industrial Training is an essential part in developing the practical & professional skills required for an Engineer & an aid to prospective employees. Our internship is carried at Dhaka Garments & Washing Ltd. It is well known Factory in Bangladesh especially in Washing sector. This factory consists of two section washing & dyeing. We mainly focus on washing sector of Dhaka Garments & Washing Ltd. The washing sector is carried about 38 washing machine 27 dryer & 7 hydro-extractor. There is also a sample section, Quality section in the factory.

We passed our time during internship on bulk production to focus on washing process. During the production, we learnt about how machine was running & also learnt about function of different chemicals on required materials. We got familiar with different types of Denim fabric of different buyer. This training enhanced our University learning experience through involvement in industrial and commercial field, thus enabling us to relate theoretical concepts with practical situations. After completing our attachment, we realized that industrial training makes our knowledge more practical & deeper that makes us confidence to face any problem in our practical & challenging professional life as well.

This factory is fully complained and very much concern about the labor law and compliance. The factory is also concern about environmental issues as they have well established Effluent Treatment Plant (ETP).

Chapter 2
General Information about Factory

2.1 Company Profile:

Company Name:	**Dhaka Garments & Washing Ltd.**
Company Nature	Privet Limited Company
Head office	House # 1, Road # 06, Block # F Niketon, Gulshan-1, Dhaka-1212, Bangladesh
Fax No	880-2-9891171
Tel No	880-2-9886392
Email	hgl@hamsgroupbd.com
Web	www.hamsgroupbd.com
Established Date	September, 1998
Location	Dakkhin Vangnahati, Sreepur, Gazipur, Bangladesh
Project Cost	50 cr (approximately)
Man-power	570
Business field	Readymade Garments Washing & Dyeing
Main product	Denim long pant, short pant, overall skirt, cotton sweater.
Manufacturing capacity	3000 Dozens/Day

2.2 Types of wash:

Garments Wash	Tinting Wash
Acid Wash	Deep Dye
Heavy Garments Wash	Stone Enzyme Wash
Biopolish Wash	Tie Dye
Pigment Wash	Sand Wash
Bleach Wash	Silicon Wash
Sand Blasting / Spray Blasting	Enzyme-Silicon
Stone Wash	

2.3 Local Buying House:

Li & Fung (BD Ltd.)	Auchan
Linmark	Lindex
Nor Wester	Texel Ltd.
ABA Group	Jecepenny
Pelican Resources inc.	NASSA
DAC Pacific	Epic Designers
Tex-EBO	

2.4 Washing Capacity:

- Dye & Tint 12000 PCs/day
- Enzyme Wash 15000 PCs/day
- Bleach Wash 20000 PCs/day

- Enzyme Stone Wash 16000 PCs/day
- Pigment Wash 25000 PCs/day
- Garments Wash 40000 PCs/day
- Enzyme Silicon Wash 25000 PCs/day
- Avg. All type of Wash 22000-23000 PCs/da

2.5 Major customers:

- H&M
- Target
- Tom Tailor
- Jc-penny
- Primark
- s.Oliver
- ESPRIT
- Walmart
- K-Mart
- Fashion Traders

2.6 Sales & Marketing policy:

Improvement through Research and development for better marketing.

Banks: Premier Bank Ltd. Gulshan Branch National bank.

Address: Dakkhin Vangnahati, Sreepur,
Gazipur, Bangladesh

Telephone: 880-2-9886392

Fax: 880-2-9891171

e-mail: hfl@bdcom.com

Web:	www.hamsgroup.com
Different departments:	Sample section, Washing & Dyeing section, Drying section, Quality section, Storage section.
Sister Concern:	HAMS Fashion Ltd. Bijoy (Pvt.) Ltd. HAMS Garments Ltd. Fashion-2000 Ltd. Pacific Label Ltd.

2.7 History:

Md. Shafiqur Rahman, founder & managing director of this company, is a textile engineer himself who provided service for eighteen years in garments washing and dyeing sector. In September 1998 with five local made garments washing and dyeing machine he launched Dhaka Garments & Washing Ltd. The commitment was "TO MAINTAIN QUALITY AND TO DELIVER TIMELY" and still strongly believes it.

Within five years the industry earned good reputation in garments washing & dyeing sector. Now HAMS WASHING & DYEING LTD. is one of the leading garments washing & dyeing industry in Bangladesh.

The industry is now equipped with modern washing & dyeing machines. The total numbers of machine are five times than the initial set up.

2.8 Man Power Management:

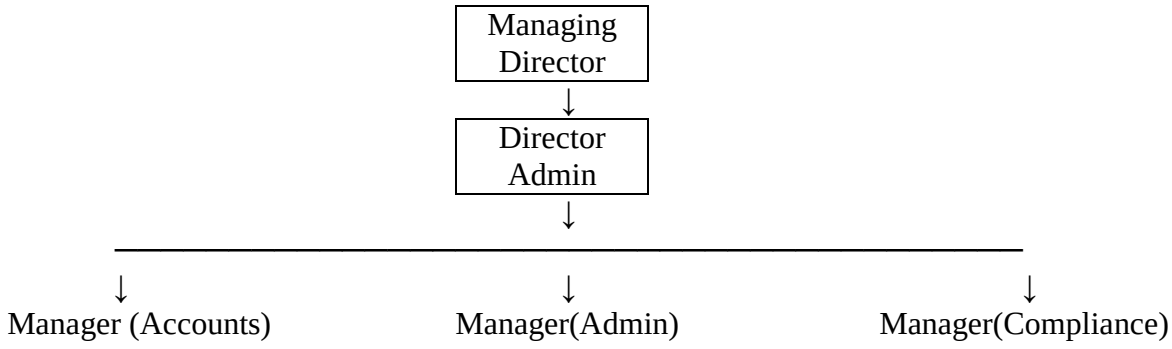
The company includes over 110 employees with some highly skilled personnel. Most of the staffs are self-motivated and hard working.

2.9 Organogram

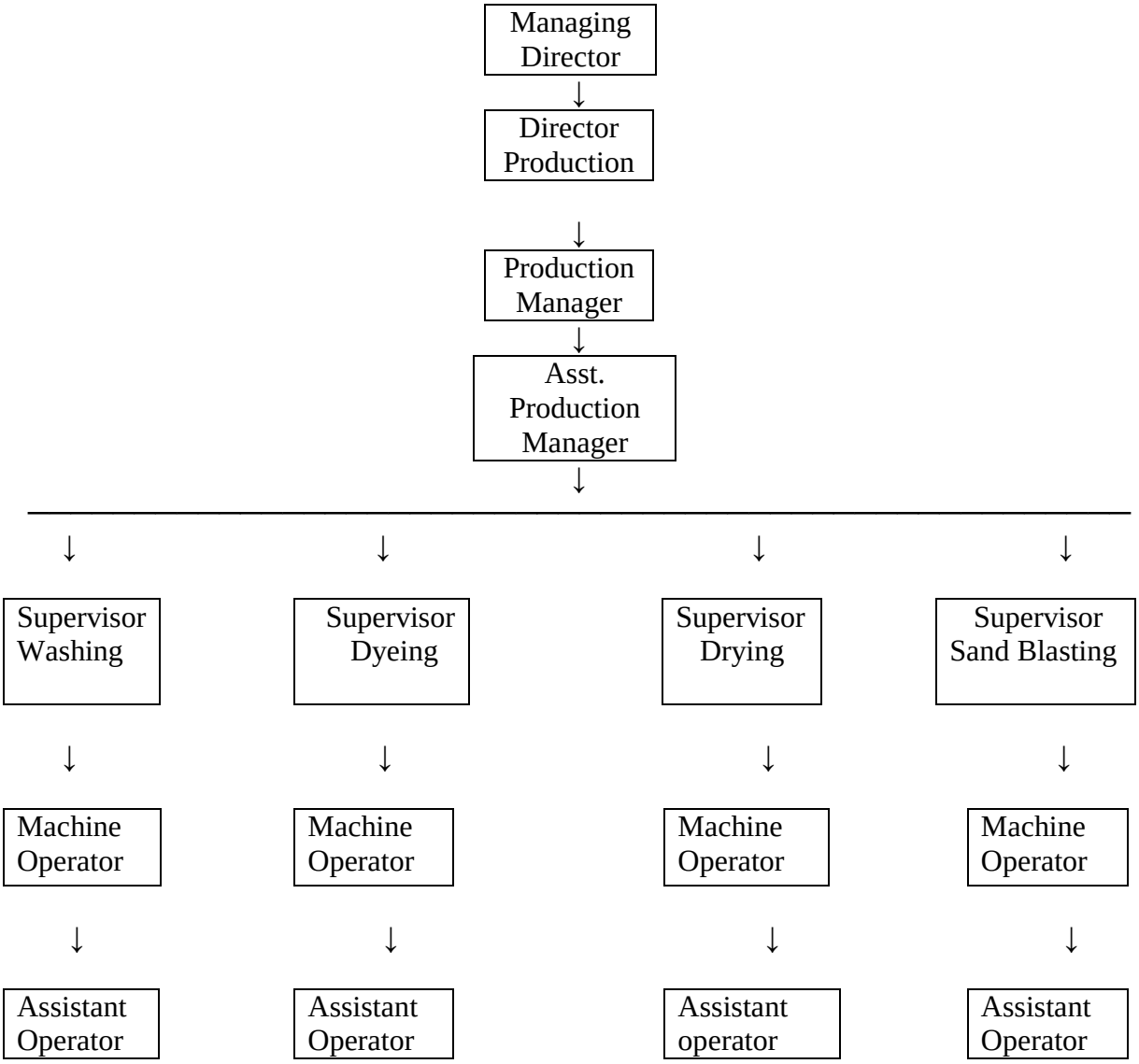
2.9.1 Man Power Management:

SL. NO	Designation	No. of post	Gender	Qualification	local	Foreign expert
1	Managing Director	1	Male	B.Sc in Textile Technology	√	X
2	Director(Admin)	1	Male	B.Sc in Textile Technology	√	X
3	Director(Production)	1	Male	B.Sc in Textile Technology	√	X
4	Director(Marketing)	1	Male	Bachelor	√	X

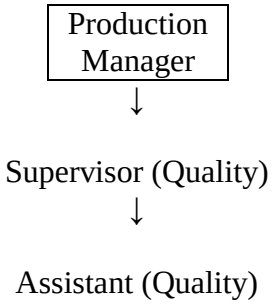
2.9.2 Organogram-Administration:



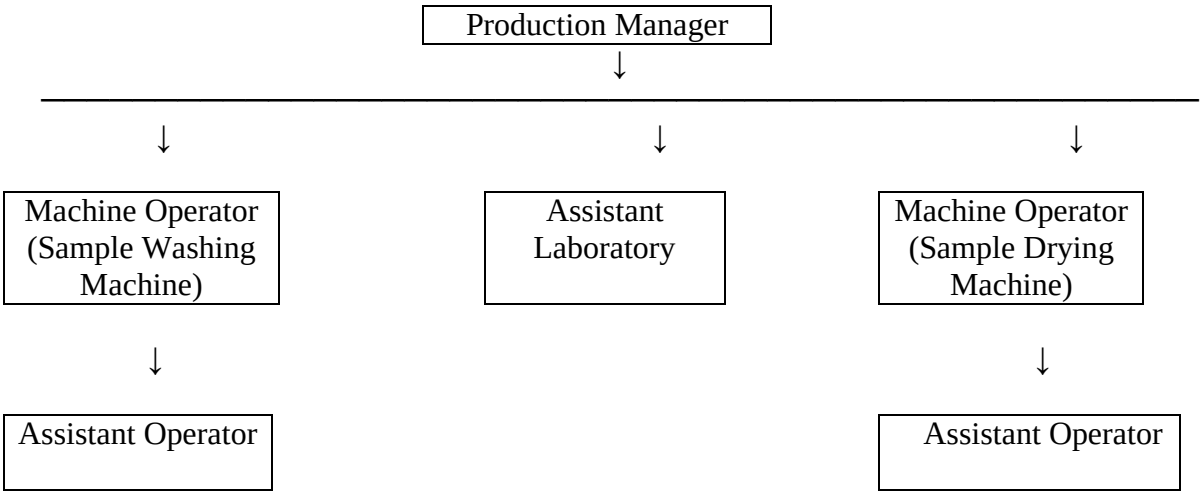
2.9.3 Organogram- Production:



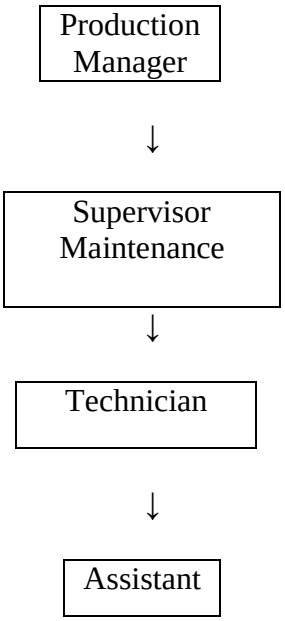
2.9.4 Organogram Quality Control:



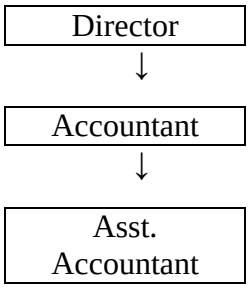
2.9.5 Organogram Laboratory:



2.9.6 Organogram Maintenance:



2.9.7 Organogram- Finance:



Chapter 3
Description about the attachment

3.1 Washing and Dyeing Section:

There are fifteen (15) sample washing machines and thirty eight (38) industrial machines in washing section, one (1) sample drying and twenty seven (27) industrial drying machines in drying section, seven (7) hydro extractors in hydro extraction section. There is a modern sample washing machine, a modern industrial washing machine in washing section and a modern hydro extractor in hydro extraction section. The industry is in the process of upgrading it's existing machines. Specifications of some incoming machines are also given in this chapter.

3.1.1 Layout of Washing & Dyeing Section:

Fig: 3.1.1 Layout of Washing & Dyeing Section

3.1.2 Process Flow chart of Garments Wet Process:

De-size

⇓

Enzyme

(Stone/ Activator/ Acid)

⇓

Rinsing

⇓

Bleaching

⇓

Rinsing

⇓

Neutralizing

⇓

Hydro-extracting

⇓

Drying

⇓

P.P neutralize

⇓

Cleaning

⇓

Tinting

⇓

Softening

⇓

Hydro-extracting

⇓

Drying

3.1.3 Process Flow chart of Garments Dyeing:

Batching

↓

Pre-treatment

↓

Dyeing

↓

Sample check

↓

Hydro Extraction

↓

Drying

↓

Quality Control

↓

Storage

3.1.4 Sample Washing Machines

No. of machines: 15

Manufacturing company: Bengal Heavy Electric Engineering.

Manufacturing country: Bangladesh.

Features:

- Single door design for general washing, sample washing
- Machine body and essential parts are made of stainless steel.
- Preset front and backward rotation.
- Conventional machine.

Specifications:

- Capacity: 30kg
- Inner Cylinder: 28”X34”
- Thickness of inner drum: 3mm
- Motor (HP): 1HP, 0.75KW
- Power Consumption: 2.3 Amp
- Steam Consumption: 2 HP,
- Water Inlet: 2”, 1way in.
- Steam Inlet: 1”, 1way in.
- Water Discharge: 3”, 1 way out.

3.1.5 Industrial Washing Machines

No. of machines: 26

Manufacturing company: Bengal Heavy Electric Engineering.

Manufacturing country: Bangladesh.

Features:

- Single door design for general washing, sample washing.
- Machine body and essential parts are made of stainless steel.
- Preset front and backward rotation.

Specifications:

- Capacity: 200 kg
- Inner Cylinder: 42”X88”
- Thickness of inner drum: 3 mm
- Outer Cylinder: 54”X960”
- Motor (HP): 10HP, 7.5KW
- Power Consumption: 17 Amp
- Steam Consumption: 15 HP, 230 Kg

- Water Inlet: 2”, 2 ways in.
- Steam Inlet: 1”, 2 ways in.
- Water Discharge: 3”, 2 ways out

3.1.6 Modern Sample Washing Machines:

No. of machines: 01

Manufacturing company: STEFAB INDIA LIMITED

Model no: LXS 35.

Manufacturing country: India.

Features:

- Single door, front-loading, open pocket.
- Machine body and essential parts are made of stainless steel.
- Automatic timed. Auto reverse. Automatic 5 water level & auto digital temperature control.
- Electric solenoid water & steam valves.
- Non-clog motorized drain valve.
- Full electric protection.

Specifications:

- Capacity: 35 kg (Dry: Wet =1:10)
- Inner cylinder: 950 mm dial X 500mm
- Wash motor: 0.75 KW
- Main door opening: 500 mm dial
- Water connection consumption: 25 mm dial, 120 litres.
- Drain: 75 mm dial, 1 way out
- Steam connection consumption: 15 mm dial, 25 Kg/hr.
- Electric heating: 12 KW
- Overall dimension: 1100mm(W) X 1430mm(D) X 1700mm(H)

3.1.7 Modern Industrial Washing Machine:

No. of machines: 12

Manufacturing Company: Tonello

Model no: DTS 380

Manufacturing Country: Turkey

Features:

- Single door, front-loading, open pocket.
- Machine body and essential parts are made of stainless steel.
- Automatic timed, auto reverse, automatic water level & auto digital temperature control.
- Electric solenoid water & steam valves.
- Non-clog motorized drain valve.
- Full electric protection

Specifications:

- Capacity: 460 kg (1:10)
- Inner cylinder: 1750 mm dial x 1180 mm
- Wash motor: 7.5 KW
- Exact speed: 130 RPM
- Main door opening: 300 mm dial
- Inspection door opening: 300 mm dial
- Water connection consumption: 500 mm dial, 960 liters
- Drain: 115 mm dial, 2 ways out
- Steam connection consumption: 25 mm dial, 200kg/hr.
- Thermal fluid connection consumption: 1.5” X 1.5” BSP, 8000 KCAL/hr.
- Overall dimension: 1950mm(W) X 2500mm(D) X 2100mm(H)

3.1.8 Hydro-Extractors:

No of machine: 7

Manufacturing Company: Tongxin Ltd.

Manufacturing Country: China

Features:

- Due to solid connections it can be positioned onto firm floorings to operate.
- It has excellent electrical layout in prevention of electricity leakage, shock, which is important in wet conditions in the operations.
- Machine operations are made easy, with convenient start-stop operations for maximum efficiency.
- The inner stainless steel is well balanced, thus achieving longer life span and assuming energy efficiency of machine.
- Shock absorbers are well paced in the three suspension points to reduce vibrations.
- Stainless steel constructions in major parts ensure durability.

Specifications:

- Model no: SHE-42
- Capacity: 280 LBS
- Inner cylinder: 1067dial X 419mm
- Over all dimensions: 2150 mm (W) X 1650 mm (D) X 1050 mm (H).
- Wash motor: 7.5 KW
- Extract speed: 860 RPM

3.1.9 Modern Hydro Extractors:

No. of machines: 03

Manufacturing company: STEFAB INDIA LIMITED,

Manufacturing country: India.

Features:

- Full stainless steel outer drum and inner basket. Strong welded construction. Basket can be dismantled without dismantling outer casing. Electrically interlocked top lid stops the machine when opened. Three position drain connection. Outer casing mounted on heavy galvanized plate base frame. Long rust free life and strength.
- Direct drive. Basket is directly mounted on to a specially designed high torque heavy-duty motor resting on spigot of the base frame with built-in rubber buffer cushion for self-balancing. No v-belts, no speed loss, quick self-balancing. Noiseless & vibration less operation.
- Automatic timed. Automatic DC injection for braking. Safety devices against single phasing reverse phasing & motor overload. Great convenience & safety. No foot pedals, no levers, no brake liners, no maintenance.

Specifications:

- Model no: HX 50
- Capacity: 80 Kg
- Inner cylinder: 1000dial X 300mm
- Volume: 235 Litres ° Basket speed: 750 R.P.M.
- Wash motor: 7.5 KW ° Drain: 75 mm dial
- Overall dimension: 1250mm(W) X 1550mm(D) X 1150mm(H)

3.1.10 Modern Drying Machines:

No. of machines: 27

Manufacturing company: TRIVENETA GRANDIN S.R.L

Manufacturing country: Italy

Specifications:

- Stainless steel inner cylinder and large S.S. loading-unloading door. Outer body not painted. Long rust free life and sheen.
- Built in solvent filter housed in the top tank receives soiled from the base tank through a powerful centrifugal pump which pushes the soiled solvent through several fine mesh cylindrical filters for reuse. Maximum recovery of clean solvent.
- Low spin extract. Separate motors for dry clean & extract. Vibration less during extraction. Low spin extract makes articles lighter to unload. No solvent dripping. No wastage of solvent.
- Automatic timed. Auto reverse. Full electrical protection against single phasing & motor overload. Operator's convenience & machine safety. Efficient cleaning.

Features:

- Capacity: 45 Kg
- Basket size: 910 mm (dial) X 970 mm
- Volume: 360 Litres
- Dry clean motor: 0.77 KW
- Extract motor: 3.5 KW
- Extract speed: 220 rpm
- Loading door opening: 600 mm (dial)
- Base tank capacity: 250 Litres
- Filter tank capacity: 250 Litres
- Overall dimensions: 1570mm(W) X1100mm (D) X 2160mm(H)

3.2 Dry Process Section:

In dry process there are different types of machines are used:

3.2.1 layout of Dry Process Section:

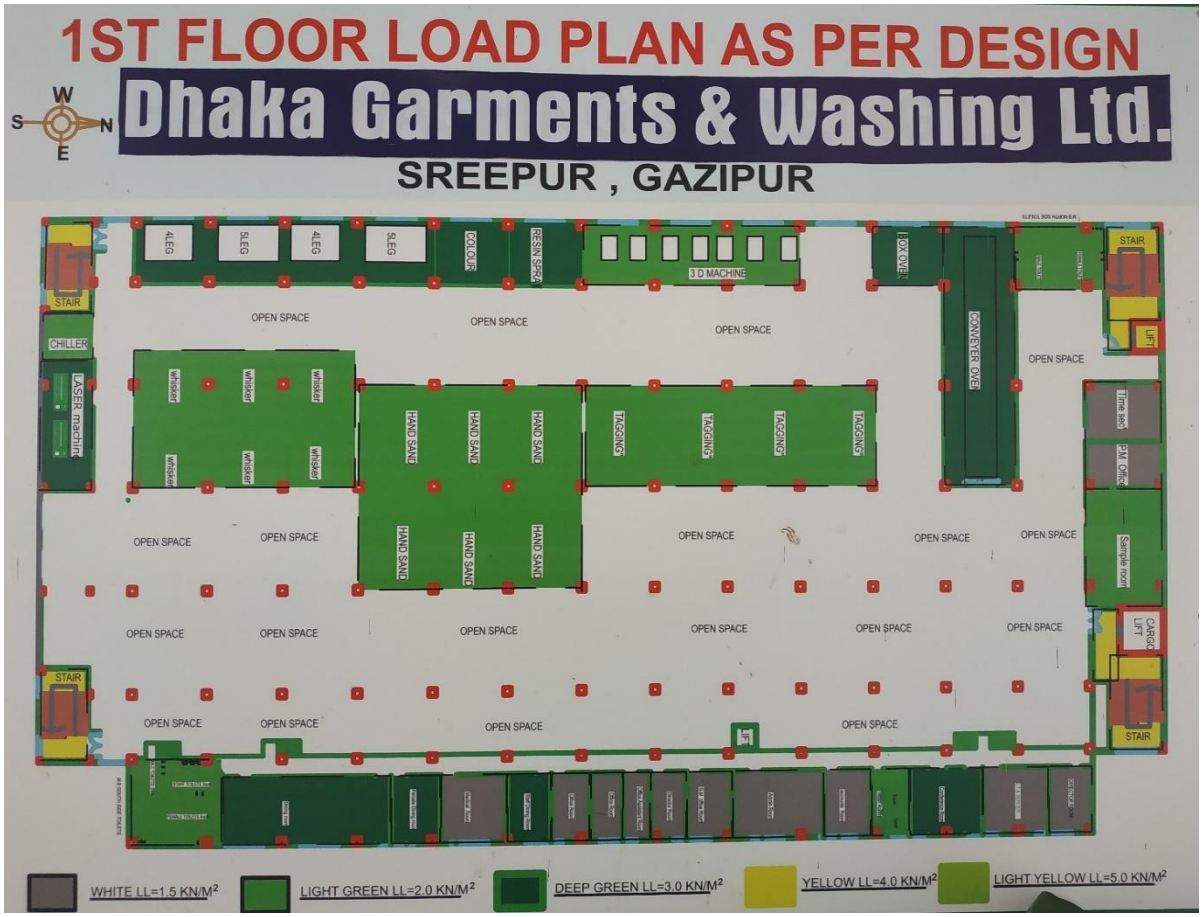


Fig: 3.2.1 layout of Dry Process Section

3.2.2 Process Flow chart of Garments Dry Process:

Garments Selection

⇓

Whisker

⇓

Hand Rubbing/ Scrapping/ Brushing

⇓

Tagging

⇓

Grinding

⇓

Destroy

⇓

Wrinkling

3.2.3 Machine Name: 3D Wrinkle

No of machine: 07

Manufacturing Company: Method

Manufacturing Country: Turkey

Specifications:

- Model: 3D-CEF4
- Serial No: 16-160
- Date of Manufacturing: 2016
- Weight: 500 kg
- Voltage: 380/16 KW
- Frequency: 50 HZ
- Air Pressure: 6-8 br.
- Dimensions: 2000×1400×1700

3.2.4 Machine Name: Industrial Oven

Number of Machine: 01

Manufacturing Company: Triventa Grandi
Manufacturing Country: Italy

Specifications:

- Model: DTS380
- Serial No: 17608
- Manufacturing Date: 2017
- Voltage: 400 KW
- Frequency: 50 HZ

3.2.5 Machine Name: Circular 3D Machine

Number of Machine: 01

Manufacturing Country: Turkey
Manufacturing Company: Metod

Specifications:

- Model: DOC-3D-CRS
- Serial Number: MTD17039
- Frequency: 50HZ
- Voltage: 180V
- Weight: 10000 Kg
- Temperature: MAX 200 Degree Calcius

3.2.6 Machine Name: Laser Machine

Number of Machine: 02

Manufacturing Country: Spain
Manufacturing Company: Jeanologia SL

Specifications:

- Serial Number: FHS-0238
- Manufacturing Date: 2016
- Voltage: 480 V
- Frequency: 50 HZ

3.2.7 Machine Name: P.P Spray

Number of Machine: 12
Manufacturing Country: Turkey

Features:

- It is made of metal

3.2.8 Machine Name: Tag Gun

Number of Machine: 15

Manufacturing Country: China
Model: SF-08S

Features:

- Machine body are generally made of plastic.
- Inside the tag gun there is a pin which is made of metal.

3.2.9 Machine Name: Grinding Machine

Number of Machine: 05

Manufacturing Country: China
Manufacturing Company: Changsha Tianchuang Ltd.

Features:

- Machine body and essential parts are made of metal.
- Made for specially destroy garments material.
- There are two wheels which are used to destroy garments material.
- These two wheels are made of sand.

3.2.10 Machine Name: Sand Blasting Machine

Number of Machine: 14

Manufacturing Country: China

Features:

- Single door design for general washing, sample washing.
- Machine body and essential parts are made of stainless steel.
- Preset front and backward rotation.

Specifications:

- Model: SBT-650
- Capacity: 200 Litres
- Dimension: 800mm X 1000mm X 1250mm
- Sand contains: 200 Kg

3.2.11 Other Components/Accessories:

- No. of cabinets: 14
- Hopper (for controlling dust in cabinets): 02
- Helmet: 30 Pcs
- Musk: 60 Pcs
- Gloves: 33 pairs.
- Air preserver-1, capacity of 2000 c.c.
- Air preserver-2, capacity of 900 c.c.\

3.3 Chemical Section:

Chemical that used in Dhaka garments and washing Ltd:

3.3.1 Caustic Soda (NaOH):

- Type: Alkali
- Unit price: Taka 31 per Kg
- Source: Bangladesh
- Uses: Neutralize acidic materials, saponify glycerides (waxes and oils), solubilize silicate.

3.3.2 Soda Ash (Na2CO3):

- Type: Alkali
- Unit price: Taka 19 per kg
- Source: China
- Uses: Used to alkaline the solution/medium. Control PH

3.3.3 Wetting agent:

- Type: Combination of Detergent & Surfactant
- Unit price: Taka 170 per kg
- Source: Bangladesh
- Uses: Emulsify oils, fats and waxes; remove oil-stains; suspend materials after they have been removed. Reduce surface tension & minimize inter facial tensions.

3.3.4 Anti-back:

- Type: Anti back staining agent
- Unit price: Taka 184 per kg
- Source: India, China
- Uses: Prevent back staining

3.3.5 Acetic Acid:

- Type: Organic acid
- Unit price: Taka 87 per kg
- Source: Korea
- Uses: Used to make solution/medium acidic. Control PH

3.3.6 Bleaching Powder [Ca (OCl)Cl:

- Type: Oxidizing agent
- Unit price: Taka 27 per kg (KCI, 33% Chlorine), Taka 119 per kg (Japan, 65% Chlorine) ° Source: India
- Uses: Used to decoloration of fabric
- Monthly requirements: 3590 kg (KCI), 142 (Japan) (approximately)

3.3.7 Sodium Hypo Chloride (NaOCl):

- Type: Oxidizing agent
- Unit price: Taka 23 per kg
- Source: India, China °
- Uses: Used to uniform lightening of the color of the indigo or sulphur dyed garments in bleach wash.

3.3.8 Enzyme:

- Type: Enzyme
- Unit price: Taka 390 per kg (liquid), Taka 460 per kg (powder
- Source: China
- Uses: Used to breaks down the longstarch molecular chain into smaller sections, that can be easily washed from the garments.

3.3.9 Peumic Stone:

- Type: Washing stone
- Unit price: Taka 310 per bag (25 kg)
- Source: China
- Uses: It is used to have an abrasion/irregular-fading effect of stone on garment.

3.3.10 Silicon:

- Type: Softener
- Unit price: Taka 180 per kg
- Source: Korea
- Uses: Creates the fabric surface oily/ used for lubrication

3.3.11 Softener Flax:

- Type: Softener
- Unit price: Taka 115 per kg
- Source: Korea
- Uses: Soften fabric handling

3.3.12 Potassium Permanganate:

- Type: Decolouration agent
- Unit price: Taka 90 to 470 per kg
- Source: India, Bangladesh
- Uses: Used to decolouration of fabric

3.3.13 Sodium Meta bi Sulphate:

- Type: De-chlorination agent
- Unit price: Taka 38 per kg
- Source: China
- Uses: Used to neutralize activity of chlorine on fabric/solution

3.3.14 Peroxide (H2O2):

- Type: Oxidising agent
- Unit price: Taka 43 per kg
- Source: Korea
- Uses: OH- ions destroy the colouring material and improve whiteness

3.3.15 Common Salt:

- Type: Salt
- Unit price: Taka 16 per kg
- Source: Bangladesh
- Uses: Used as electrolyte for solution, improves shining of fabric.

3.3.16 Dyestuff:

Type: Direct dye

- Unit price: Taka 300-1200 per Kg
- Source: China, Switzerland.
- Use: Cotton & Viscose garments dyeing.
- Monthly requirements: Depends on ordered quantity.

Type: Reactive dye

- Unit price: Taka 275-850 per Kg.
- Source: China, Switzerland
- Use: Cotton & Viscose garments dyeing.

Type: Pigment dye

- Unit price: Taka 300-500 per Kg
- Source: Switzerland.
- Use: Cotton & Viscose garments dyeing.
- Monthly requirements: Depends on ordered quantity.

3.3.17 Glauber salt:

- Type: Salt
- Unit price: Taka 19 per Kg o
- Source: China
- Use: Levelling agent.

3.3.18 Fixing Agent:

- Unit price: Taka 500 per kg
- Source: Switzerland.
- Use: Color fixation.

3.3.19 Dispersing agent:

- Unit price: Taka 500 per Kg.
- Source: Switzerland.
- Use: Assists in the process of particle size reduction of dye.

3.4 Store & Inventory Control:

In Dhaka garments & washing Ltd. there are different inventory systems for different raw materials and finished materials.

3.4.1 Dye & Chemical Store:

There is a different store for dyes & chemicals. Various types of dyes & chemicals are stored here according to the dyes & chemical company.

Different types of dyes & chemicals are listed in a sheet. In the sheet the stored quantity of dyes & chemicals is also included. The sheet is updated everyday & a copy of this sheet is supplied to the GM (production), Dye house & lab section.

3.4.2 Spare Store:

In Dhaka Garments & Washing LTD. Required number of spears of different machines are stored in the mechanical storeroom. All the spears are listed in a sheet, which is controlled by the mechanical & maintenance personnel. Spares are arranged in the storeroom according to their size, quantity & requirements. There are shelves in the storeroom to keep the small spare parts.

3.4.3 Finished Product Store:

Dhaka Garments & Washing LTD. supplies its finished dyed fabrics to its garments section. So, dyed finished fabrics are stored for short time in the finishing section. All the delivered fabrics are noted on the tally khata according to the lot no, quantity, fabrics diameter, buyer's name, color & considering other technical parameters.

3.5 ETP (Effluent Treatment Plant):

Dhaka Garment & Washing Ltd. Has biological effluent treatment plant. This plant is running 24 hours.

Specification:

- Lifting Pump: 4, each capacity 7.5 kw
- Fine section: .37 kw
- Storage and Homogenization Tank: Volume 1147.5 m3 & Retention time 7.17 hr
- Neutralization Tank: Volume =51 m3, Retention Tank = 0.32 hr
- Feeding Pump: 7.5 kw
- Distribution Tank: Volume =81 m3, Retention time = 0.51 hr
- Sludge Thickener: Volume= 70 m3, HRT = 33 hr

3.5.1 Layout of E.T.P & W.T.P Section:

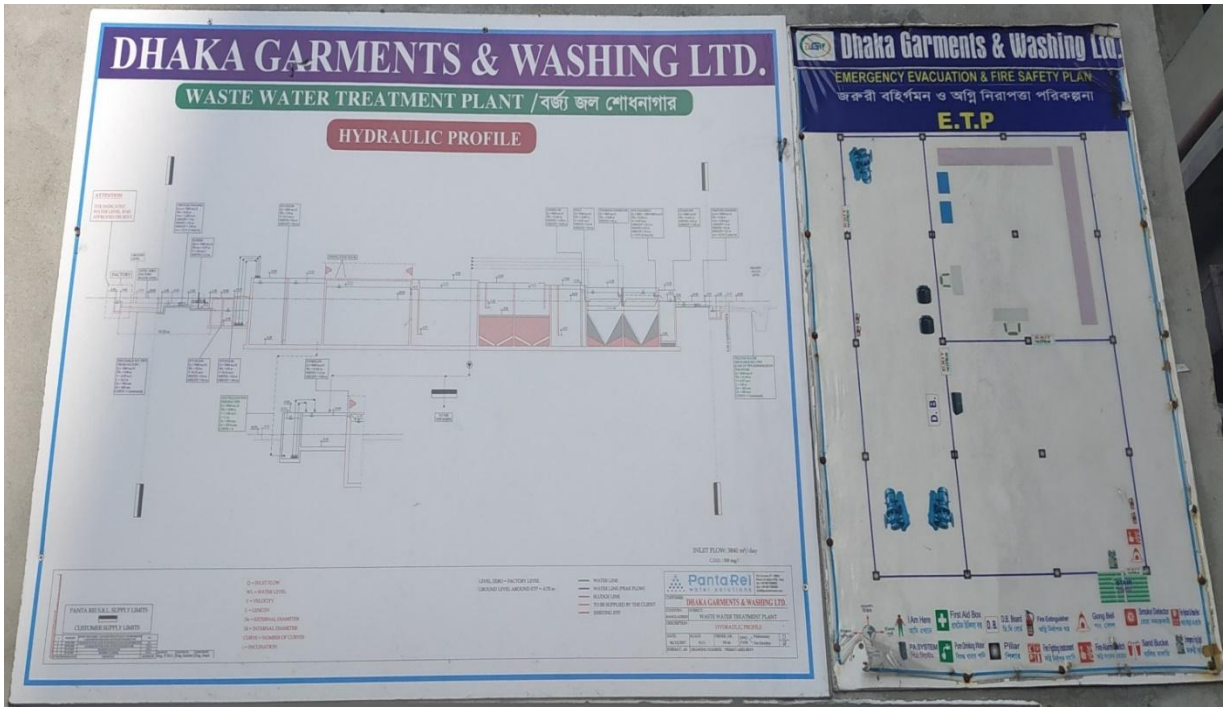


Fig 3.5.1 Layout of E.T.P & W.T.P Section

Chapter 4
Impact of Internship

4.1 Dyeing Section:

In dyeing section, we have learnt about the following topics:

- We introduced with different types of dyeing machine.
- We know about different dyestuff & chemicals using in dyeing section.
- We note down the flow chart of different dyeing process.
- We learnt about time, temperature, pressure maintain in dyeing section.

4.2 Washing Section:

In washing section, we have learnt about the following topics:

- We introduced with different types of washing machine & modern washing machine.
- We learnt about flow chart of different washing process.
- We observed every step of washing process.
- We note down different types of chemicals using in washing process.
- We introduced different types of dry process instrument.
- We learnt about different types of dry process.
- We learnt about the whole sequence of dry process and wet process of washing.

Chapter 5
Conclusion

5.0 Conclusion:

We have completed our industrial Training successfully by the grace of Allah. The completion of two months industrial experienced at the industry gave us the inspiration that factory is the appropriate destiny to implement the theoretical knowledge. We get lot of information and experienced about dyeing and washing section. This training helps us to adapt ourselves with working environment and management system of the industry.

The Management system of the factory is quite well too. All the personnel of the factory are co-operative and friendly with us. The security system is very good too. In the training period, we were introduced as a member of the factory. For that, they gave us all kind of facilities and scope for learning about washing and dyeing production and machineries.