



Faculty of Engineering

Department of Textile Engineering

REPORT ON

Industrial Attachment

At

“Nur Group”

Hortokitola, Attabah, Chandra, Kaliakoir, Gazipur, Dhaka

Course Title: Industrial Attachment Course Code: TE-431

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

Advance in Apparel Manufacturing Technology

April, 2018

DECLARATION

We hereby declare that, this industrial attachment has been done by us under the supervision of **Engr. Mohammad Abdul Baset**, Assistant Professor, Department of Textile Engineering, Daffodil International University. We also declare that neither this internship report nor any part of this internship report has been submitted elsewhere for award of any degree.

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LETTER OF APPROVAL

Date: 19-04-18

To

The Head

Department of Textile Engineering

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 industrial Attachment in **Nur Group** has been prepared by the student bearing ID 152-23-4419 and 152-23-4420 is completed for final evaluation . The whole report is prepared based on the proper investigation and information in **Nur Group**. The student were directly involved in their industrial attachment report activities.

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

Yours sincerely



.....

Engr. Mohammed Abdul Baset

Assistant Professor

Department of Textile Engineering

Daffodil International University

DEDICATION

Above all, we want to thanks almighty Allah. By the grace of Allah, we are successfully done our thesis paper. We want to dedicate our work to our honorable teacher. We want to thanks **Engr.Mohammad Abdul Baset**, Assistant Professor Daffodil International University whose most contribution behind our success. Especially my father whose hard fatigue helps to reach this situation. Frankly we want to say, all of our cousin or relatives everyone owing to get the devotion.

ACKNOWLEDGEMENT

At first we would like to express my heart-felt thanks to “**Almighty ALLAH**” for his kind blessing to complete of this internship report successfully.

We are fell grateful to and wish our profound our indebtedness to **Eng. Mohammad Abdul Baset, Assistant Professor, Department of TE, Daffodil International University, Dhaka.** Deep Knowledge & keen interest of our supervisor in the field of knit garments merchandising at apparel industry influenced us to carry out this project. His endless patience ,scholarly guidance, continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to **Dr. Md. Mahbulul Haque, Head of the Department of Textile Engineering, Daffodil International University,** for his kind help to finish our project and also to other faculty member and the staff of TE department of Daffodil International University.

We would like to thank **Md. Abdul Mottaleb Hossain (G.M. Dyeing & Finishing)** of **NUR GROUP** and the Staffs who motivate me thoroughly and the other people, who have made a significant contribution to make this report successful. Their guide lines, suggestions & inspiration helped me a lot.

TABLE OF CONTENT

| | |
|---|------------|
| Chapter: 1 Executive | 1 |
| Summary..... | |
| 1.1 Executive | 2 |
| Summary..... | |
| Chapter: 2 Information about Factory..... | 3 |
| 2.1 Company Profile..... | 4 |
| 2.1.1 Front View of Nur Group..... | 5 |
| 2.1.2 Site Direction for Nur Group..... | 6 |
| 2.1.3 General information about factory..... | 7 |
| 2.1.4 Organogram of Garments Section..... | 8 |
| 2.1.5 Sister Concerns..... | 8 |
| 2.1.6 Major Buyers..... | 9 |
| 2.1.7 Philosophy, Vision, Mission, Values, Strategy and sustainability, Belief..... | 10-11 |
| | |
| Chapter: 3 Description of | 12- |
| Attachment..... | |
| 3.1 Knitting | 13 |
| Section..... | |
| 3.1.1 Industrial Knitting | 13 |
| Process..... | |
| 3.1.2 Process Flow Chart for | 13 |
| knitting..... | |
| 3.1.3 Layout of Knitting | 14 |
| Section..... | |
| 3.1.4 Organogram of | 14 |
| Knitting..... | |

| | |
|---|----|
| 3.1.5 Knitting | 15 |
| Machine..... | |
| 3.1.6 Basic parts of Knitting | 16 |
| m/c..... | |
| 3.1.7 Important knitting | 16 |
| parameters..... | |
| 3.1.8 Production | 16 |
| Parameter..... | |
| 3.1.9 Picture of Knitting | 17 |
| machines..... | |
| 3.1.10 Common hand tools used in | 17 |
| knitting..... | |
| 3.1.11 Other Machine in Knitting | 19 |
| Section..... | |
| 3.1.12 Inspection | 19 |
| machine..... | |
| 3.1.13 Many Types of fabric are produced in knitting section of Nur | 20 |
| Group..... | |
| 3.1.14 Considerable points of knitted | 20 |
| fabric..... | |
| 3.1.15 Inspection | 21 |
| Report..... | |
| 3.1.16 Faults found in knitting | 21 |
| section..... | |
| 3.1.17 | 22 |
| Production..... | |
| 3.1.1 Production Flowchart of Knitting Section..... | 22 |
| 3.2 Sample section..... | 23 |
| 3.2.1 Organogram..... | 23 |
| 3.2.2 Flow chart of sample Section..... | 24 |

| | | |
|--------|--|----|
| 3.2.3 | Sample type..... | 25 |
| 3.2.4 | The details attached the garment sample | 26 |
| 3.2.5 | Sample swatch chard..... | 27 |
| 3.3 | Cutting section..... | 28 |
| 3.3.1 | Layout plant..... | 28 |
| 3.3.2 | Orgarogram..... | 29 |
| 3.3.3 | flowchart of cutting section..... | 30 |
| 3.3.4 | Fabric cutting..... | 32 |
| 3.3.5 | Factor affecting the cutting process for fabric are as follow..... | 32 |
| 3.3.6 | Type of cutting m/c use..... | 32 |
| 3.3.7 | Fabric inspection..... | 33 |
| 3.3.8 | Fabric inspection report sheet..... | 34 |
| 3.3.9 | Shrinkage test..... | 34 |
| 3.3.10 | Shade Test..... | 35 |
| 3.3.11 | Marker inspection..... | 35 |
| 3.3.12 | Part checking inspection..... | 35 |
| 3.3.13 | Bundle inspection input..... | 35 |
| 3.4 | Sewing section | 36 |
| 3.4.1 | Layout..... | 36 |
| 3.4.2 | Organogram..... | 38 |
| 3.4.3 | Flow chart of sewing section..... | 38 |
| 3.4.4 | Name of m/c use in sewing section..... | 38 |
| 3.4.5 | Different types of stitch..... | 39 |

| | |
|---|----|
| 3.4.6M/c description..... | 40 |
| 3.4.7Description of different types of sewing m/c..... | 41 |
| 3.4.8Sewing quality planning..... | 49 |
| 3.4.9Sewing quality checking points..... | 49 |
| 3.4.10Different types of sewing fault..... | 50 |
| 3.5Industrial engineering..... | 51 |
| 3.5.1Organogram..... | 51 |
| 3.5.2Process flow chart of industrial engineering..... | 52 |
| 3.5.3Calculation formula..... | 53 |
| 3.5.4Major working areas of IE..... | 53 |
| 3.5.5Other working areas of IE..... | 53 |
| 3.5.6Responsibilities of IE..... | 54 |
| 3.5.7Method study..... | 54 |
| 3.5.8Time study..... | 55 |
| 3.5.9Operation performance..... | 56 |
| 3.6 Finishing section..... | 57 |
| 3.6.1M/c description of finishing..... | 57 |
| 3.6.2Process flowchart of garments finishing..... | 57 |
| 3.6.3Garment finishing department's function are discussed below..... | 59 |
| 3.7Store section..... | 61 |
| 3.7.1Organogram..... | 62 |
| 3.7.2Process flow chart of garments store..... | 62 |
| 3.7.3Grey fabric store..... | 63 |
| 3.7.4Finishing goods..... | 63 |

| | |
|------------------------------------|----|
| 3.7.5Accessories store..... | 63 |
| 3.7.6Sewing thread..... | 63 |
| 3.7.7Button..... | 64 |
| 3.7.8Interlining..... | 64 |
| 3.7.9Quality inventory..... | 64 |
| 3.8Compliance..... | 65 |
| 3.8.1List of compliance issue..... | 65 |
| 3.8.2Health..... | 66 |
| 3.8.3Toilet..... | 66 |
| 3.8.4Fire..... | 66 |
| 3.8.5Safety guard..... | 67 |
| 3.8.6Salary and wages..... | 67 |
| 3.9Utility..... | 67 |
| 3.9.1Electrical..... | 67 |
| 3.9.2Gas..... | 68 |
| 3.9.3Water..... | 68 |
| 3.9.4Description of utility..... | 68 |

CHAPTER##4.....71

| | |
|----------------------------------|----|
| 4.1Impact of internship..... | 71 |
| 4.1.1Sample section..... | 71 |
| 4.1.2Cutting section..... | 71 |
| 4.1.3Sewing section..... | 71 |
| 4.1.4Industrial engineering..... | 72 |
| 4.1.5Finishing section..... | 72 |

| | |
|------------------------------------|-----------|
| 4.1.6Store section..... | 72 |
| 4.1.7Compliance..... | 73 |
| 4.1.8Utility..... | 73 |
| CHAPTER###5..... | 74 |
| 5.1Conclusion..... | 75 |
| 5.1.1Limitation of the report..... | 75 |

Number of table:

| | |
|---|----|
| Table No: 2.1 Company profile..... | 4 |
| Table no: 3.2 Common hand tools used in knitting..... | 18 |
| Table no: 3.3 Criteria for giving penalty points..... | 33 |
| Table no: 3.4 Machine Description | 40 |
| Table no: 3.5 Calculation formula | 53 |
| Table no: 3.6 Machine Description of finishing section..... | 57 |
| Table no: 3.7 Description of utility of Nur group..... | 69 |

Number of Figure

| | |
|--|----|
| 3.1 layout of knitting section..... | 14 |
| 3.2 Picture of knitting machine..... | 17 |
| 3.3 fabric inspection machine..... | 19 |
| 3.4 Inspection report..... | 21 |
| 3.5 Daily production report..... | 22 |
| 3.6 Swatch of Sample..... | 27 |
| 3.7 Cutting section layout plan..... | 28 |
| 3.8 Flow chart cutting section..... | 30 |
| 3.9 Straight knife cutting machine..... | 32 |
| 3.10 fabric inspection report sheet..... | 34 |
| 3.11 Marker inspection report..... | 35 |
| 3.12 Sewing section layout plan..... | 36 |
| 3.13 Plain machine..... | 42 |
| 3.14 Over lock machine..... | 43 |
| 3.15 Bar tack machine..... | 44 |
| 3.16 Feed of the Arm Machine..... | 47 |
| 3.17 Sewing quality planing..... | 49 |

CHAPTER ## 01

EXECUTIVE SUMMARY

1.1 EXECUTIVE SUMMARY:

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

It is my pleasure that I had an opportunity to complete my two month internship at **Nur Group**, which is one of the most modern industries of the country.

Nur Group is one of the major garments manufacturing organization in Bangladesh. This organization increasingly reducing its rejection and rework rate in-process and final garments in order to ensure product quality and delivery time as per buyer requirement and increase profitability. **Nur Group** will ensure sufficient training and suitable work to increase productivity and skills of the employee. Now **Nur Group** has a 55,000 square feet area. Its production capacity is around 2640000, number of machines 1200 and number of employees at least 3000.

In this report I tried to cover a short profile of **Nur Group** and major customers of **Nur Group** and their different activities.

CHAPTER ## 2
INFORMATION ABOUT NUR
GROUP & RAIYAN KNIT
COMPOSITE LTD.

2.1: Company profile

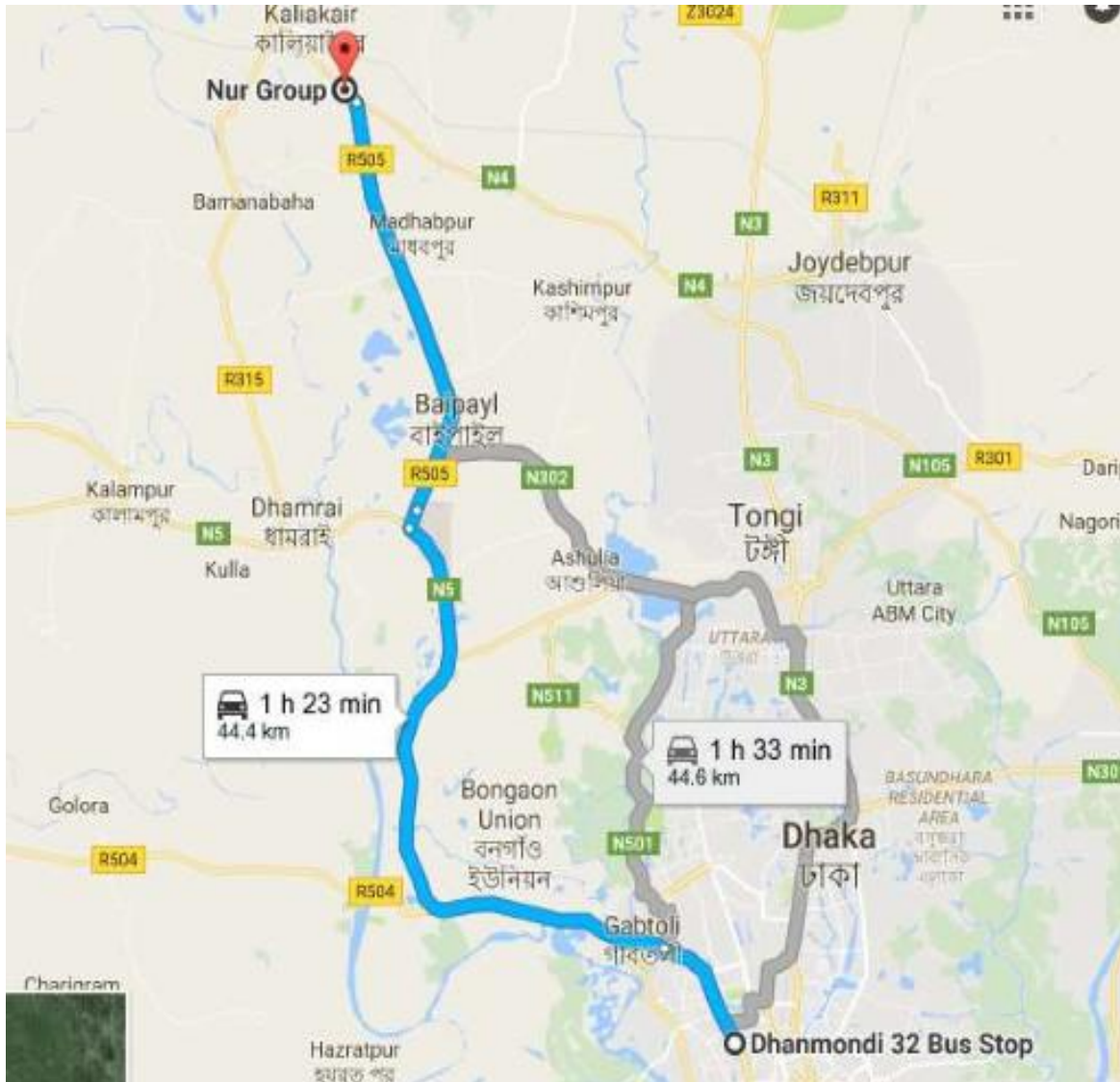
| | |
|----------------------|--|
| COMPANY NAME | NUR GROUP&RAIYAN KNIT COMPOSITE LTD. |
| Factory | Hortokitala, Chandra, Kaliakoir, Gazipur. Tel: + 06822-51951. Fax: +880258314663 |
| Total floor area | 55,000 sq. ft. |
| Listing status | Private listed company. |
| Main Market | Europe, USA, Canada, etc. |
| Factory Equipment's | Different types of Sample, Cutting, Sewing, washing, Finishing and Generator machines. |
| Number of sewing m/c | 1120 |
| Number of worker | 3000, Male : 1400 Female : 1600 |
| Company motto | We believe in the power of industry to build a bright future for Bangladesh on the global stage. |
| Company mission | We are passionate about achieving socio-economic growth and change through intelligent business practice. |
| Company vision | The vision of Nur Group is to create an outstanding value for customers and other stakeholders. We are committed to produce world-class products through our hard labor which can satisfy our customers. |
| Product/Service: | T-shirt, Polo shirt, Sweat shirt, Polar jacket, Denim trouser short, Twill trouser short, Shirts, sleep-wear, pyjamas set et |
| Contact Person: | Raihan Rafi Khan Anjan Manager Admin |
| E-mail | info@nurgroupbd.com |
| Web site | www.nurgroupbd.com |

Table No: 2.1

Front View of Nur Group



2.2 Site Direction for NUR GROUP from Dhanmondi32, Dhaka



2.3 General information about factory

NUR Group is one of Bangladesh's largest industrial conglomerates, achieving highly respected status worldwide since its initial incorporation as a garments manufacture in 1995.

They are exporting all kind of high quality readymade garments like T-shirt, Polo shirt, Sweat shirt, Polar jacket, Denim trouser short, Twill trouser short, Shirts, sleep-wear, pajamas set etc. for Men, Ladies and kids from Bangladesh to Europe, Canada and America and all over the world Nur Knitwear Limited Established year 1995, Tillottama Fashions Limited Established year 2002, Sumaiya Fibers Ltd. Garments Established year 2002, Production Floor Area 55, 000 Sq. Feet. Production Capacity 200, 000 pc per Month Polo Shirts 450, 000 pc per Month Basic T-Shirts Tank Tops Production Line 15 Lines Products Polo Shirts, T-Shirts, Shorts, Pajamas etc. For Men's, Ladies, Juniors Kids. Manpower 1300 Nur Wool wears Ltd. Sweater Established year 2003. They have also sweater factory Production Capacity 50, 000 pc per Month Basic Pullovers Cardigans Products Pullover, Cardigan, Tops etc. For Men's, Ladies, Juniors and Kids. They have own Buying House with all necessary logistic and technological support and facilities. They are exporting all Ready-Made Garments item to over the world.

Production floor area: 426,855 square feet

Production capacity : 750,000pieces/Month (polo shirt)

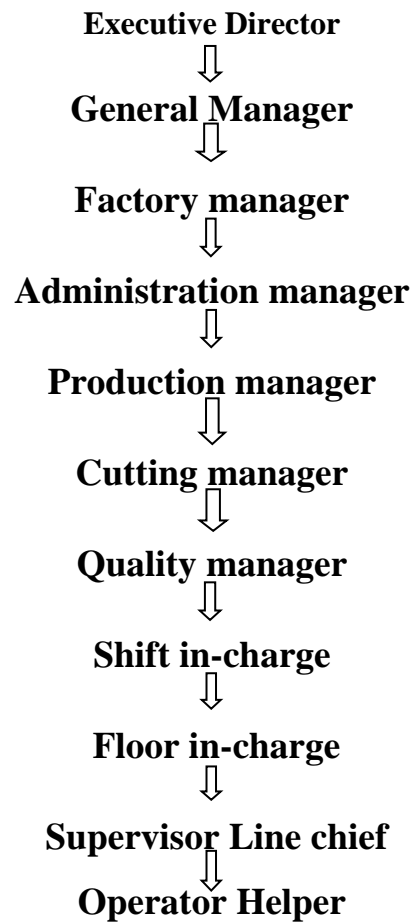
150,000pieces/Month (Semi critical fashionable T-Shirt)

Production Line : 32 Lines

Products : Polo Shirt, T-Shirt, Tank top, Pajamas, Sportswear, Nightwear,
Underwear, Jacket, Skirt, Shorts etc.

Manpower : 3000 Employees

2.4 Organogram of Garments Section



2.5 Sister Concerns

- ✚ **RAIYAN KNIT COMPOSITE LIMITED.**
- ✚ **TILLOTTAMA FASHION'S LIMITED.**
- ✚ **RAIYAN TERRY TOWEL & DYEING LTD.**

2.7 Major Buyers



Name: Hennes & Mauritz

Country: Sweden



Name: Carrefour

Country: UAE



Name: AUCHAN

Country: France



Country: USA

Name: Kohl's

2.8 Philosophy, Vision, Mission, Values, Strategy and Sustainability, Belief.

Philosophy:

We believe in the power of industry to build a bright future for Bangladesh on the global stage. We believe in the responsibility of our industry to our customers, our people, our surrounding communities and our environment. We are dedicated to sustainability, accountability and excellence in everything we do. We are passionate about achieving socio-economic growth and change through intelligent business practice.

Vision:

The vision of Nur Group is to create an outstanding value for customers and other stakeholders. We are committed to produce world-class products through our hard labor which can satisfy our customers.

Mission:

The mission of Nur Group is to become the market leader in satisfying our customers with the best quality knitted garments from Bangladesh to place around the globe.

Values:

We believe in the power of industry to build a bright future for Bangladesh on global stage. We believe in the responsibility of our industry to our customers, our people, our surrounding communities and our environment. We are dedicated to sustainability, accountability and excellence in everything we do. We are passionate about achieving socio economic growth and change through intelligent business practice.

Strategy:

Growth through business expansion and acquisition. Diversification with a focus on professionalism and enhanced management system. Improved cost-efficiency ratios through intelligent use of manpower and new technologies. Steadfast improvement and development of our quality product portfolio. Working in genuine partnership with customers to ensure their total satisfaction. Enhancing the reputation of Bangladesh's apparel manufacture industry worldwide.

Sustainability:

We are dedicated as a group to the vital role of sustainability in securing a bright commercial, social and environment future. We address through.

Quality:

Insisting on stringent standards of quality control.

BELIEF:

Quality is never an accident and is always the result of high intent, sincere effort, intelligent direction and skillful execution of our employee teams.

Service:

Delivering the highest standards of client care, ensure accountability across supply chain.

Environment:

Implementing a 3 years plan to reduce gas water consumption and effluent waste.

CHAPTER -03
DESCRIPTION OF THE
ATTACHMENT

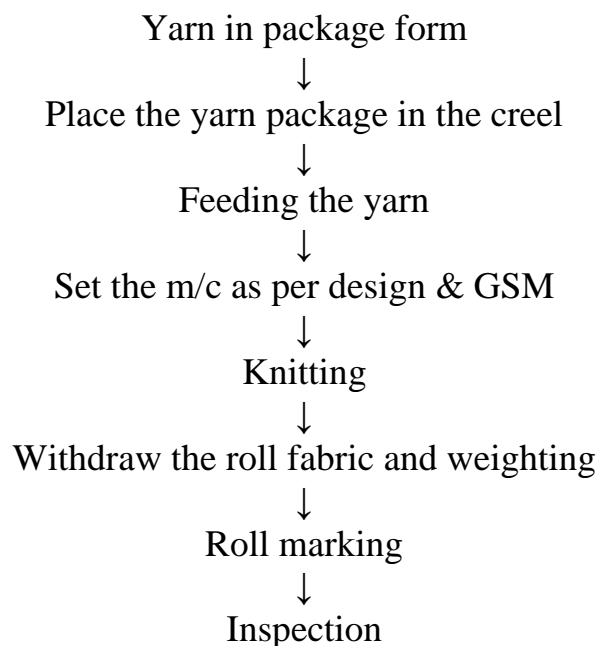
3.1 Knitting Section

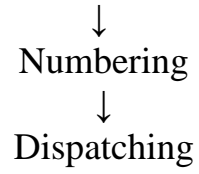
Knitting section is vital section of the Nun group. It has located on the 2nd floor of the 1st building. The section produce single jersey, double jersey, pk fabric, rib fabric etc. Produce the grey fabric Knitting is a method by which yarn is manipulated to create a textile or fabric. Knitting creates multiple loops of yarn, called stitches, in a line or tube. Knitting has multiple active stitches on the needle at one time. Knitted fabric consists of a number of consecutive rows of interlocking loops.

3.1.1 Industrial Knitting Process:

It is a known fact that the main material for fabric construction is yarn. Knitting is the second most frequently used method, after weaving, that turns yarns or threads into fabrics. It is a versatile technique that can make fabrics having various properties such as wrinkle-resistance, stretch ability, better fit, particularly demanded due to the rising popularity of sportswear and casual wears. As of present day, knitted fabrics are used widely for making hosiery, underwear, sweaters, slacks, suits and coats apart from rugs and other home furnishings.

3.1.2 Process Flow Chart for Knitting:



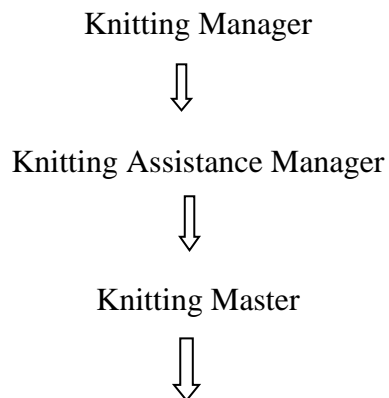


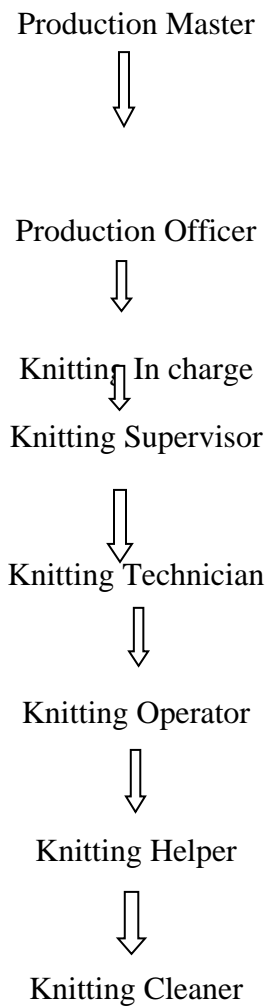
3.1.3 Layout of Knitting Section:



Fig.No: 3.1

3.1.4 Organogram of Knitting:





3.1.5 Knitting Machine:

There are 2 types of knitting m/c in **Nur Group**

- a. Full circular knitting m/c
- b. Semicircular knitting m/c

There are have 21 knitting machine in **Nur Group**

3.1.6 Basic parts of knitting m/c:

- ✓ Needle.
- ✓ Sinker.
- ✓ Cam.
- ✓ Cam Box.
- ✓ Sinker Box.
- ✓ Lycra Stand etc.

3.1.7 Important knitting parameters-

- i. M/c gauge
- ii. M/c diameter
- iii. V.D.Q. pulley
- iv. Needle gauge

3.1.8 Production parameter:

- i. Machine diameter
- ii. Machine R.P.M.
- iii. No. of feeders
- iv. Machine gauge
- v. Yarn count
- vi. Machine running time

3.1.9 Picture of Knitting Machines:



Rib Circular Knitting m/c



S/J Circular Knitting m/c

Fig.No:3.2

3.1.10 Common hand tools used in knitting:

- i. Tension meter b
- ii. Salary range
- iii Dally
- iv. G.S.M. pulley
- v. Gauge Patti
- vi Wheel
- vii. Nose plus
- viii. Lock key
- ix. Screw driver.

| Machine No | Machine Type | Dia×Gauge | Feeder no. | M/c brand | Origin |
|------------|---------------|-----------|------------|---------------------|---------|
| 1 | S/jersey | 30×28 | 90 | QUANZHO U HENGYI | China |
| 2 | S/jersey | 30×28 | 90 | QUANZHO U HENGYI | China |
| 3 | S/jersey | 30×28 | 90 | QUANZHO U HENGYI | China |
| 4 | Interlock | 34×24 | 82 | Top Knit | Korea |
| 5 | Interlock | 34×28 | 82 | Top Knit | Korea |
| 6 | Interlock | 34×28 | 82 | Top Knit | Korea |
| 7 | S/jersey | 34×28 | 96 | Terrot | Japan |
| 8 | Rib/Interlock | 32×24 | 68 | Mayer&Cie | Germany |
| 9 | Interlock | 32×24 | 68 | JIUNN LONG | Taiwan |
| 10 | Fleece/S/J | 30×24 | 96 | JIUNN LONG | Taiwan |
| 11 | Fleece/S/J | 30×24 | 96 | JIUNN LONG | Taiwan |
| 12 | Fleece/S/J | 30×24 | 90 | Lisky | Taiwan |
| 13 | Terry | 34×24/28 | 108 | Lisky | Taiwan |
| 14 | Terry | 30×20/24 | 96 | Lisky | Taiwan |
| 15 | Terry | 30×20/24 | 96 | Mayer&Ci | Taiwan |
| 16 | S/jersey | 38×24 | 123 | PAI LUNG | Germany |
| 17 | Fleece/S/J | 30×20/24 | 96 | PAI LUNG | Taiwan |
| 18 | S/jersey | 36×24 | 114 | PAI LUNG | Taiwan |
| 19 | Rib | 34×18 | 72 | PAI LUNG | Taiwan |
| 20 | Rib/Interlock | 34×18/24 | 72 | PAI LUNG | Taiwan |
| 21 | Rib | 30×18 | 62 | PAI LUNG | Taiwan |

Table No: 3.2

3.1.11 Other machine in knitting section:

1. Grey Fabric Inspection Machine.
2. Electric balance for fabric weight
3. Electric balance for GSM check
4. Compressor

3.1.12 Inspection Machine:



Fig No: 3.3 Fabric Inspection Machine

Grey Fabric Inspection:

Grey fabric is the process of identifying knitting faults in the knitted fabric just after the grey fabric production in the knitting machine

3.1.13 Many types of fabric are produced in knitting section of Nur Group:

- ✓ S/jersey Fabric
- ✓ D/jersey Fabric
- ✓ 2 thread fleece
- ✓ 3 thread fleece
- ✓ S/Lacoste
- ✓ D/Lacoste
- ✓ S/pique
- ✓ D/pique
- ✓ Plain interlock
- ✓ Interlock (design)
- ✓ Rib (in various formation)

3.1.14 Considerable points of knitted fabric:

- ✓ Design/type of fabric
- ✓ Finished G.S.M.
- ✓ Yarn count
- ✓ Type of yarn
- ✓ Diameter of fabric
- ✓ Stitch length & color depth

3.1.15 Inspection Report:

NUR GROUP

2-4 POINT FABRIC INSPECTION REPORT - KNIT FABRIC

Buyer P.O. No: **ALC/04** Supplier: **10/1, CO+K11** Date: **07-02-18**
 Color: **Blue-34160** Supplier: **US17**
 Order No: **0121-016** Total no. of rolls received: **610-6735** G.S.M./Weight: **160**
 Warm Cost: **101-5462** Kg for 100%:

| Roll No. | TCT Kg | Dia | Actual Length | TCT Width | Actual Width | Calculation for size of Defect | | | | Total Defect Points | Total Points per 100 sq.yds | Status |
|----------|--------|-----|---------------|-----------|--------------|--------------------------------|-------------------------|-------------------------|--------------------|---------------------|-----------------------------|--------|
| | | | | | | 1 Point (Up to 3") | 2 Point (Between 3"-6") | 3 Point (Between 6"-9") | 4 Point (Above 9") | | | |
| A | 01 30 | 34 | 305 | 302 | 1.65 | 0 | 0 | 0 | 0 | 4 | 2.35 | Pass |
| | 02 27 | 4 | 101 | 4 | 4 | 0 | 0 | 0 | 0 | 6 | 3.29 | Pass |
| B | 01 25 | 4 | 83 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 2.66 | Pass |
| | 02 26 | 4 | 87 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 2.54 | Pass |
| C | 02 28 | 4 | 95 | 4 | 4 | 0 | 0 | 0 | 0 | 6 | 3.59 | Pass |
| | 02 25 | 4 | 87 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 2.54 | Pass |
| | 03 28 | 4 | 84 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 2.63 | Pass |

Calculation formula: $\frac{\text{Total points}}{\text{No. of Yards inspected}} \times \frac{36 \text{ inches}}{\text{Fab. width}} \times 100 = \text{POINTS PER 100 sq. YARDS}$

ACCEPTABLE POINTS PER 100 sq. YDS. 28 POINTS - PASS
 29 POINTS - FAIL

Defect codes: A - Burf mark, B - Burf to edge, C - Loose yarn, D - Hole, E - Drop stitch, F - Foreign yarn, G - End out, H - Mixed yarn, I - Needle bar, J - Knot, K - Run/purse, L - Split, M - Skew, N - Bowing, O - Oil spot, P - Dirty Spot, Q - Water Mark, R - Color Spot, S - Uneven dye, T - Print mistake, U - Line mark, V - Dye streaks, W - Dye patches, X - Shading, Y - Crease mark, Z - Yarn condition

G.A. Supervisor: *[Signature]* General Manager: *[Signature]*

Fig.No: 3.4 Inspection Report:

3.1.16 Faults found in knitting section-

- ✓ Contamination
- ✓ Fly
- ✓ Needle mark
- ✓ Needle breakage
- ✓ Hole f. Star mark
- ✓ Lycra out
- ✓ Patti
- ✓ Slab
- ✓ Wheel free
- ✓ Count mistake
- ✓ Lot mistake

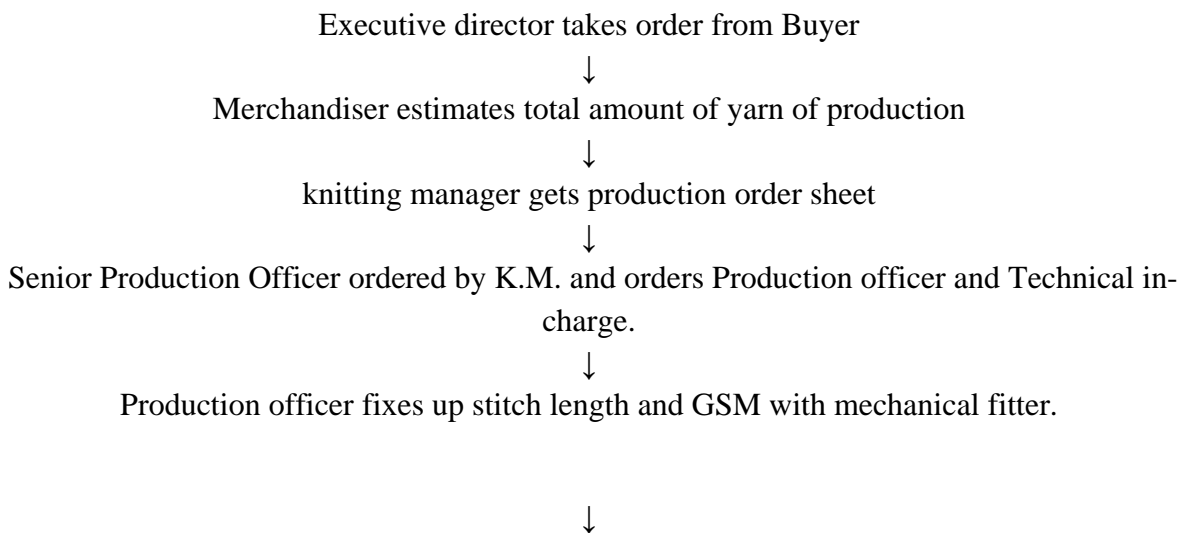
3.1.17 Production:

| Raiyan Knit Composite Ltd. | | | | | | | | | | | | | | Daily Production Report | | | | Date 01/02/2018 | |
|--|---------------|------|-----|-----|------|--------|--------|--------|------|----------|-------------|-----------|--------|-------------------------|--------|------------|-------|--------------------|-----------------|
| Sl. No. | Operator name | Size | SL | GSM | Roll | Spun A | Roll | Spun B | Roll | Spun C | Total Wt/kg | Order | F/Type | Color | Count | Party Name | N. B. | Remarks | |
| 01 | | 28" | 255 | 150 | 01 | 21-002 | 22-002 | 21-0 | 670 | 3011132 | Slape 51J | Dk-Blue | 227 | visage | G.P | | | (67x25) = 1,675cf | |
| 02 | | 30" | 280 | 260 | 02 | 51-003 | 58-003 | 55-0 | 1640 | 1430011 | F/Type | Blue-75 | 2172 | kuve | Aueham | | | (164x20) = 3,280cf | |
| 07 | | 32" | 305 | 200 | 02 | 47-001 | 42-002 | 63-0 | 1520 | 3011132 | L1S1J | Dove-Blue | 34 | ectm | G.P | | | (152x25) = 3,800cf | |
| 08 | | 34" | 300 | 160 | 02 | 44-002 | 60-002 | 57-0 | 1700 | GIR-0016 | L1S1J | Rose | 29 | ectm | Aueham | | | (170x25) = 4,250cf | |
| 10 | | 30" | 335 | 200 | 03 | 81-002 | 70-002 | 58-0 | 2030 | 3011132 | L1S1J | Black | 28 | ectm | G.P | | | (200x25) = 5,225cf | |
| 11 | | 34" | 300 | 160 | 02 | 61-002 | 47-002 | 62-0 | 1700 | GIR-0016 | L1S1J | Eero-2 | 31 | ectm | Aueham | | | (170x25) = 4,250cf | |
| 12 | | 30" | 335 | 200 | 02 | 83-002 | 70-003 | 82-0 | 1900 | 3091132 | L1S1J | Black | 28 | ectm | G.P | | | (190x25) = 4,750cf | |
| 19 | | 32" | 305 | 200 | 02 | 59-002 | 46-0 | - | 1000 | 3011132 | L1S1J | Dove-Blue | 34 | ectm | G.P | | | (100x25) = 2,500cf | |
| 20 | | 34" | 315 | 200 | 03 | 70-003 | 74-0 | 68-0 | 2120 | 3011132 | L1S1J | D-K-Blue | 34 | ectm | G.P | | | (212x25) = 5,300cf | |
| 21 | | 36" | 340 | 160 | 02 | 48-003 | 51-003 | 80-0 | 2280 | GIR-0016 | L1S1J | Junu-3 | 31 | ectm | Aueham | | | (228x25) = 5,700cf | |
| CF | | 32" | 260 | 150 | - | - | 03 | 36-003 | 82-0 | 780 | AS17757 | S/O | retrol | 28/cb-oshin | Sach | Kaw | | | (78x10) = 780cf |
| <p>Total → 21-05180, 25 GSM, 2M, 5710, 17M, 0</p> <p>Party = 780cf</p> <p>Total → 40,520cf (without Party)</p> | | | | | | | | | | | | | | | | | | | |

Fig.No:3.5 Daily Production Report

Knitting is the one kind of fabric manufacturing process. This type of fabrics is produced by forming loops. The Knitting Manager is responsible for production of knitting section. It start from the collecting order from buyer and will end by the delivering the product in dyeing unit.

3.1.18 Production Flowchart of Knitting Section:



Definite operator operates machine in his full conscious and Attention.



Mechanical fitter fixes machine if there is any m/c fault.



Supervisors keep daily production report and assure m/c is OK.



Fabric roll is checked by a troop of inspectors in inspection unit and weighted.



Final product to the required amount is delivered to dyeing unit.

3.1. SAMPLE SECTION:

Sample section is the 2nd step of the **Nur Group**. It has 2nd floor of the 2nd building. Sampling is one of the main process in **Nur Group** and it has a vital role in attracting buyers. Because the buyers generally places the order after they are satisfied with the quality of the sample.

3.1.2 Organogram of sample section:

General Manager



Sr. Executive



Shift in charge



Floor in charge

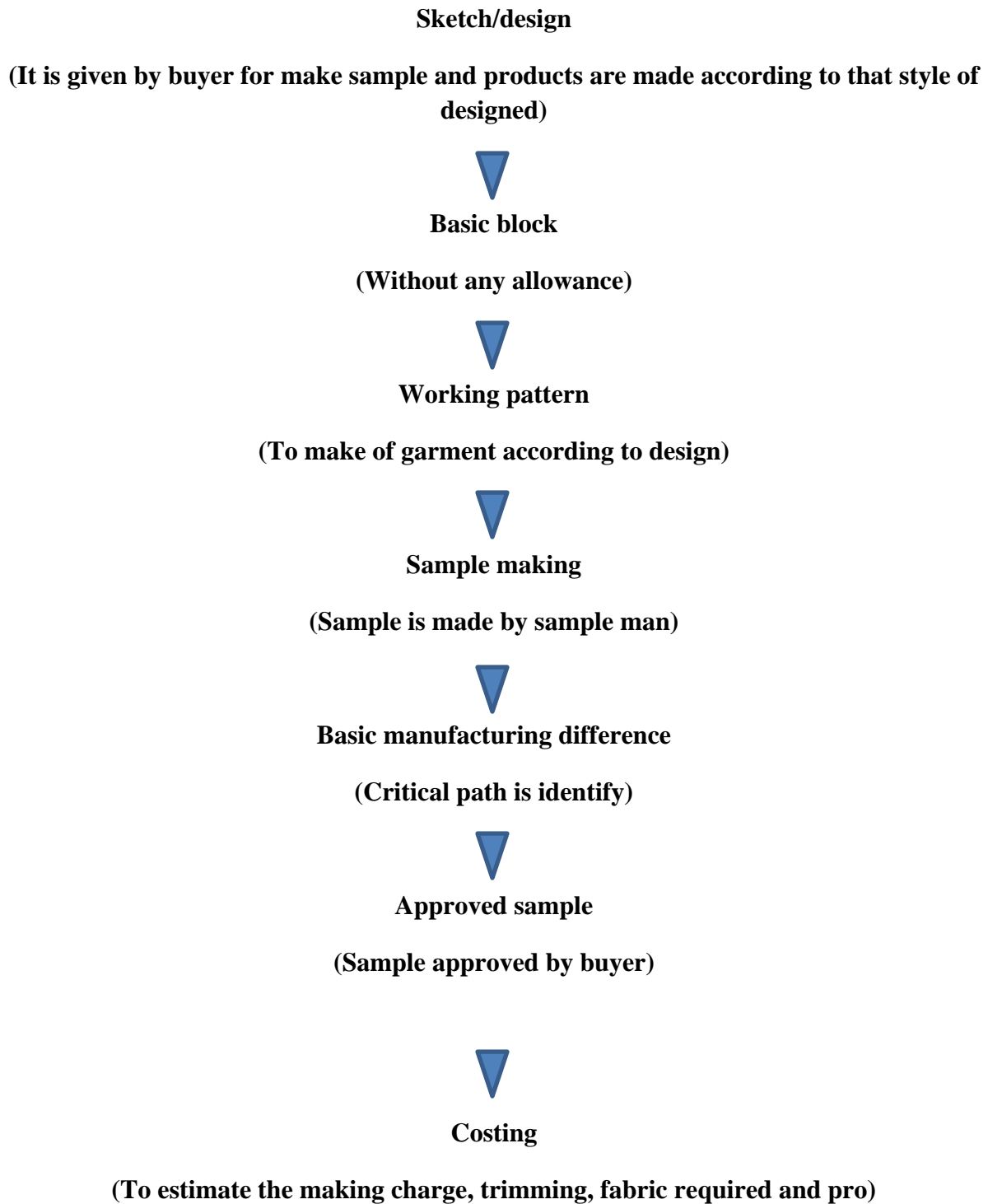


Supervisor



Operator

3.1.3 Flow chart of sample department:



Design or Sketch:

It is nothing but one kind of engineering art including all measurement of particular style.

Basic Block:

It is an individual component of garments without any design or style.

Working Pattern:

To make pattern for a particular style with net dimension. .

Problem of Production or Production Related Matter:

Production related problems should be eliminated in this step.

Approved Sample:

The sample which is approved by buyer is called approved sample.

Send to Buyer:

When all process is done, then the garments are sent to buyer.

Production Pattern:

To make pattern for a particular style with net dimension along with allowan

3.2.2 Sample type:

- 1) Development sample
- 2) Salesman Sample
- 3) Photo Sample
- 4) Approval Sample
- 5) Size set Sample
- 6) Mock up Sample
- 7) Pre-production Sample
- 8) Production Sample
- 9) Shipping Sample

3.1.4 The Details Attached to the Garment Sample:

After the confirmation of order, each sample sent to the buyer has the following details attached to it, with the help of a tag. It contains the details pertaining to both, what the buyer has demanded and what supplement fabric/trim etc. they have used (if applicable).

1. Ref no.
2. Color
3. Fabric
4. Composition
5. Description
6. Quantity
7. Style no/ Size
8. Store

There may be a separate sampling department in a company. But as the merchandiser is the person who is interacting with the buyers regarding samples and other requirements, this sampling department will work under the supervision of merchandising department. Also as the samples are to be made according to the buyers' price ranges and quality levels, merchandiser has to advise sampling department suitably.

3.1.5 Sample swatch card (Trims):

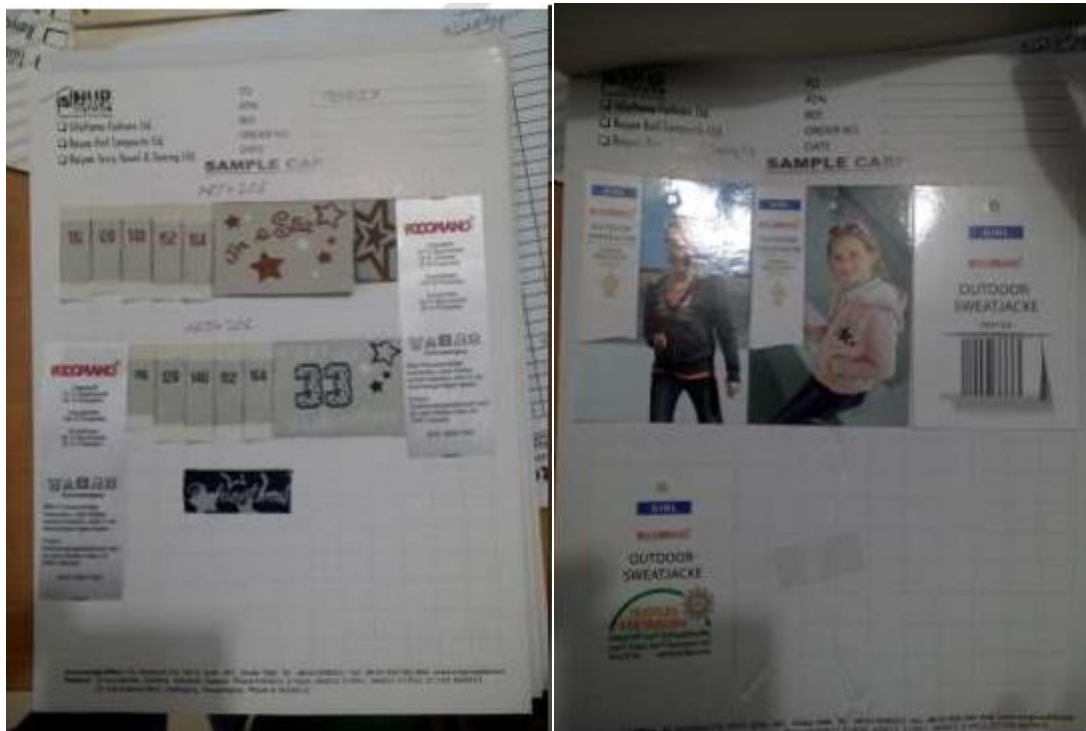


Fig No: 3.6 Swatch of sample

3.2. CUTTING SECTION:

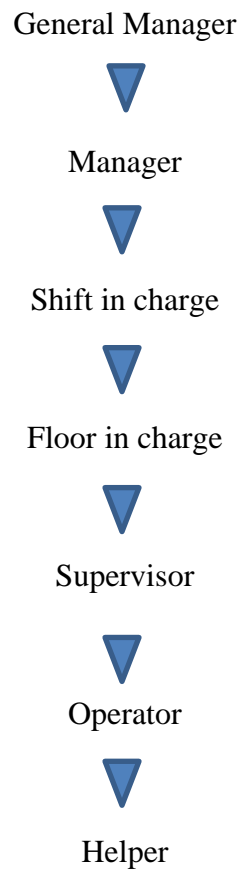
Cutting department is one of the most essential sections for **Nur group** of the cutting section. It has located 1st floor of the 2nd building. The fabric cutting is started after completing the fabric spreading. In cutting section, fabrics are cut according to the pattern.

3.2.2 Cutting Section Layout plant:



Fig No: 3.7 cutting section Layout Plan

3.2.4 Organogram:



3.2.5 Flowchart of cutting section:

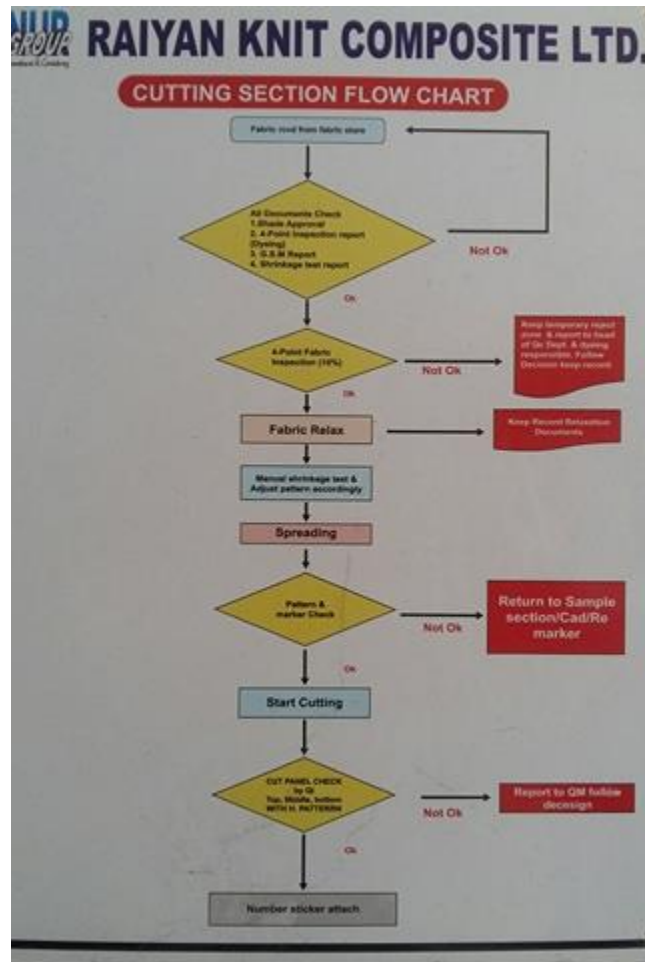


Fig.No: 3.8 Flow chart cutting section

❖ Flow chart Cutting section:

Pattern received from pattern department



Cutting ratio received from merchandiser



Marker making



Fabric received from the store



Fabric Checking



Fabric Spreading



Marker placing on to the lay



Cutting the fabric



Numbering

Checking



Sorting and Bundling



Send to the sewing department

3.2.6 Fabric Cutting:

When the fabrics are received from the dyeing and finishing section, it needs to be checked, because, faulty fabrics can be supplied from dyeing and finishing. But the **cutting section** has to check it. Otherwise the end products will be faulty.

3.2.7 Factors affect the cutting process for fabrics are as follows:

Nature of fabric (grain line shade, twill etc.)

Thickness of fabric.

Design characteristics of finished garment.

Machines and tables used

3.2.8 Types of cutting machine use:

There have three types of cutting machine:

1. Straight knife cutting m/c
2. Round knife cutting m/c
- 3 Band knife cutting m/c

But mostly straight knife cutting m/c is used.



Fig.No:3.9 Straight knife cutting m/c

3.2.9 Fabric inspection:

For fabric inspection 4-point system is used in Nur Groups.

4-point system:

The 4-point system, also called the American Apparel Manufacturers Association (AAMA) point-grading system for determining fabric quality, is widely used by producers of apparel fabrics and by the department of defense in United States and is endorsed by the AAMA as well as ASQC (American Society for Quality Control). The system in which the penalty point of a defect is maximum 40 is called 4-point system of quality control.

Criteria for giving penalty points:

In the following table the penalty evaluation points has been given for different length of fabric defect and dimension of holes.

| Defects length for warp way and weft way | Points No |
|---|------------------|
| Up to 3 inch | 1 |
| 3" – 6 " | 2 |
| 6" – 9" | 3 |
| Above 9" | 4 |

| Defects area for holes and opening | Points No |
|---|------------------|
| 1 " or less than 1" | 2 |
| Above 1 " | 4 |

Table no: 3.3

3.2.10 Fabric inspection report sheet:

SHARIF NUR GROUP

2-4 POINT FABRIC INSPECTION REPORT - KNIT FABRIC

Buyer P.O. **Alchem** Date: **07.02.18**
 Color **Blue-Indigo** Supplier **BIC-6735** Fab. Content **100% Cotton**
 Order No. **0101-016** Total yardage received Fab. Construction **U517**
 Team Cost **347 62101** Total no. of rolls received G.S.M./Weight **160**
101=3462

| St. No | Roll No | TKT No | Dia | L | Actual Length | TKT Width | Actual Width | Calculation for size of Defect | | | | Total Defect Points | Total Points per 100 sq. yds | INSPECTION | | |
|--------|---------|--------|-----|-----|---------------|-----------|--------------|--------------------------------|-------|-------------------------|-------|---------------------|------------------------------|-------------------------|-------|--------------------|
| | | | | | | | | 1 Point (Up to 3") | Total | 2 Point (Between 3"-6") | Total | | | 3 Point (Between 6"-9") | Total | 4 Point (Above 9") |
| A | 01 | 30 | 34" | 325 | 102 | 185cm | 167cm | OLLE | 4 | | | | 4 | 2.45 | Pass | |
| | 02 | 29 | u | u | 101 | u | u | OLLE | 4 | E | E | | 6 | 3.29 | Pass | |
| B | 01 | 25 | u | u | 83 | u | u | OLLE | 4 | | | | 4 | 2.66 | Pass | |
| | 02 | 26 | u | u | 82 | u | u | OLLE | 4 | | | | 4 | 2.54 | Pass | |
| C | 02 | 28 | u | u | 85 | u | u | OLLE | 4 | | F 2 | | 6 | 3.30 | Pass | |
| | 02 | 25 | u | u | 87 | u | u | OLLE | 4 | | | | 4 | 2.54 | Pass | |
| | 03 | 28 | u | u | 84 | u | u | OLLE | 4 | | | | 4 | 2.63 | Pass | |

Calculation formula: Total points = $\frac{36 \text{ inches}}{\text{Fabric width}} \times 100 =$ POINTS PER 100 sq. YARDS

ACCEPTABLE POINTS PER 100 sq. YDS. 28 POINTS - PASS, 29 POINTS - FAIL

| | | | | | | | | | | | |
|-----------------|-----------------|------------------|----------------|------------|--------------|----------------|-------------------|-----------------|-------------------|-----------------|-----------------|
| Defect codes: | | A - Burl mark | | D - Hole | G - End out | J - Knot | M - Skew | P - Dirty Spot | S - Uneven dye | V - Dye streaks | Y - Crease mark |
| B - Bird's eye | E - Drop stitch | H - Missing yarn | K - Run/runner | N - Bowing | O - Oil spot | R - Color Spot | T - Prng. mistake | W - Dye patches | Z - Yarn contrast | | |
| C - Ladder yarn | F - Group yarn | I - Needle line | L - Snarl | | | | U - Line mark | X - Shading | | | |

Q.A. Supervisor: *[Signature]* General Manager: *[Signature]*

Fig.No; 3.10 Fabric inspection report sheet.

3.2.11 Shrinkage Test:

Shrinkage is the process in which a fabric becomes smaller than its original size, usually through the process of laundry. Cotton fabric suffers from two main disadvantages of shrinking and creasing during subsequent washing.

There are two types of shrinkage occurs during washing:

- i. Length wise
- ii. Width wise

Cause: Due to high tension during preparation of fabric which result in excess stretch in yarn. This type of shrinkage is known as London shrinkage. Due to swelling of fibers for fiber structure.

Shrinkage is determined as;

Shrinkage % = (length of fabric before wash)-(length of fabric after wash)/ (length of fabric after wash) *100

3.2.12 Shade band:

Shade band is an important factor before cutting fabric. When fabric is stored in inventory then sample is collected from every roll than a blanket is made from every single pieces. After making blanket it is washed and then shade is checked under shade box and categorized shade. According to this report the fabric is placed on cutting table.

3.2.13 Marker inspection:

In marker inspection it is seen every parts of marker is right or wrong on marker paper

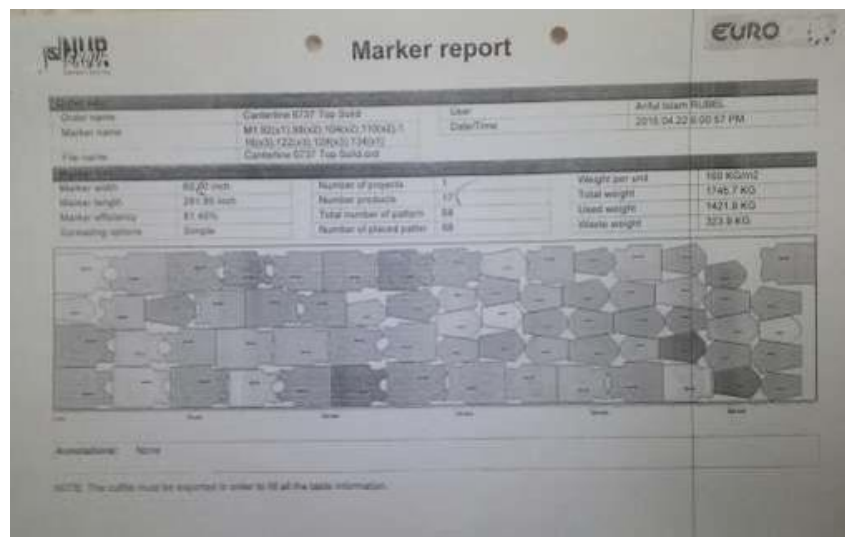


Fig.No: 3.11 Marker inspection report

3.2.14 Parts checking inspection:

In this stage every parts is checked if there is any variation on measurement. If there any fault is found than it is solve.

3.2.15 Bundle inspection input:

At last of cutting every bundle of cutting fabric is checked if there is less of any parts.

3.4. SEWING SECTION:

The sewing section of **Nur group** has located on the 4th floor of the 2nd building. In the apparel industry or clothing industry, sewing section is the main department for garments manufacturing.

When all the garments are complete to cut in the cutting section, all of these cutting parts are sending to sewing department for making garments.

3.4.1 Sewing section Layout Plan:



Fig.No:3.12 sewing section Layout Plan

3.4.1 Organogram:

General Manager



Manager



Shift in charge



Floor in charge



Supervisor

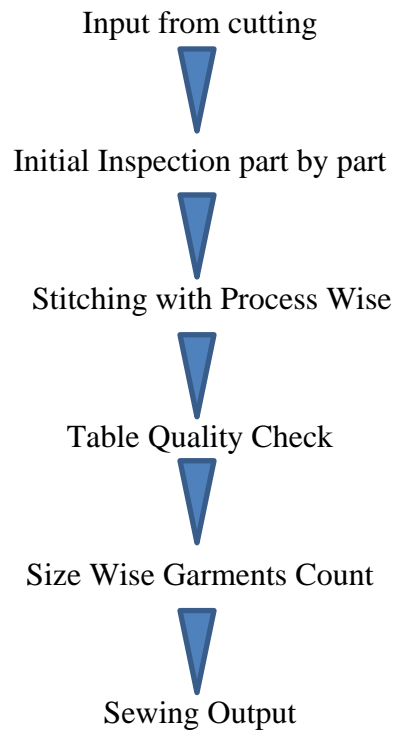


Operator



Helper

3.4.2 Flowchart of sewing section:



Sewing:

The process of joining of fabrics by the use of needle and sewing thread or by other techniques is called sewing.

Elements of sewing:

I. Sewing Thread, II. Needle & III. Sewing Machine

3.4.3 Name of machine used in sewing section:

1. Single needle lock stitch Machine
2. Double needle lock stitch Machine
3. Single needle chain stitch Machine
4. Double needle chain stitch Machine
5. Multi needle chain stitch Machine

6. 3&5 thread over lock Machine
7. Bar tack Machine
8. Button hole Machine
9. Button attaching Machine
10. Snap button attaching Machine
11. Velcro Machine
12. Feed of the arm Machine
13. Fusing Machine

3.4.4 Different types of stitches:

The two main stitches that sewing machines make of which the others are derivatives are lockstitch and chain stitch.

Back tack

Backstitch - a sturdy hand stitch for seams and decoration

Basting stitch (or tacking) - for reinforcement

Blanket stitch

Blind stitch (or hem stitch) - a type of slip stitch used for inconspicuous hems

Buttonhole stitch

Chain stitch - hand or machine stitch for seams or decoration

Cross-stitch - usually used for decoration, but May also be used for seams

Lockstitch - machine stitch, also called straight stitch

Overhand stitch

Over lock

Pad stitch

Padding stitch

Running stitch - a hand stitch for seams and gathering

Sail makers stitch

Slip stitch - a hand stitch for fastening two pieces of fabric together from the right side without the thread showing

Topstitch

Whipstitch (or over sewing or overcast stitch) - for protecting edges

Zigzag stitch

3.4.5 Machine Description:

| No. | Name of Machine | Quantity |
|-----|-------------------------|----------|
| 01 | Plain m/c | 425 |
| 02 | Plain m/c computer | 60 |
| 03 | Vertical m/c | 26 |
| 04 | Two needle lock stitch | 96 |
| 05 | Two needle chain stitch | 58 |
| 06 | One needle chain stitch | 5 |
| 07 | Over lock 6 thread | 97 |
| 08 | Over lock 5 thread | 46 |
| 09 | Over lock 4 thread | 8 |
| 10 | Over lock 3 thread | 17 |
| 11 | Kansai m/c | 31 |
| 12 | Loop m/c | 6 |
| 13 | Bar tack m/c | 49 |
| 14 | Button hole m/c | 29 |
| 15 | Button stitch compute | 27 |
| 16 | Eyelet hole compute | 6 |
| 17 | Flat lock m/c | 6 |
| 18 | Feed of the arm 3N | 57 |

| | | |
|--------------|--------------------|-------------|
| 19 | Feed of the arm 2N | 20 |
| 20 | Snap button m/c | 29 |
| 21 | Zigzag m/c | 3 |
| 22 | Pocket passing | 8 |
| 23 | Thread sucking | 5 |
| 24 | Snap button air | 5 |
| Total | | 1120 |

Table No: 3.4.

3.4.6 Description of Different Type Sewing Machines:

❖ Plain M/c:

Main parts of plain m/c:

Thread stand: Used for hold the thread package.

2) **Spool thread guide:** To guide the thread.

3) **Eye thread guide**

4) **Needle thread tension post:** To control the tension of the thread.

5) **Needle thread take-up lever:** To pull the thread back, after each stitch.

6) **Needle bar:** To hold the needle.

7) **Needle:** To make a stitch.

8) **Presser foot:** To hold the fabric against foot dog's and give pressure according to fabric thickness.

9) **Presser foot lifter:** To lift the presser foot up and lower.

10) **Throat plate:** It is a static component which has slots for the foot dogs and a slot for a needle for zigzag stitch.

- 11) **Stitch density controller:** To increase and decrease the stitch density per inch during s
- 12) **Feed dogs:** To move a fabric forward by a distance equal to the stitch length.
- 13) **Hand wheel:** To raise and lower the needle and take up the lower thread from the bobbin.
- 14) **Bobbin Winder:** To wind the sewing thread automatically into the machine.
- 15) **Bobbin:** To hold the thread inside of the machine.
- 16) **Bobbin cage:** To hold the bobbin in the particular place of the machine.

Application:

- ✓ Bottom hemming
- ✓ Belt top seem stitch
- ✓ Belt joint stitch
- ✓ Loop tack stitch
- ✓ Pocket joint stitch
- ✓ Zipper joint
- ✓ Flap top stitch



Fig: 3.13 over lock m/c

❖ Over lock m/c:

Main parts of over lock m/c:

- 1 **Thread stand:** Used for hold the thread package.
- 2 **Thread package:** To deliver the thread.
- 3 **Thread guide:** To guide the thread.
- 4 **Disc type tensioner:** To proper tension the thread.

- 5 **Thread guides:** To guide the thread.
- 6 **Needles:** To make a stitch.
- 7 **Looper:** To make the loops.
- 8 **Thread cutter:** To cut the thread.

Applications:

- ✓ Over lock stitch



Fig: 3.14 over lock m/c

❖ Bar tack m/c:

Main parts of bar tack m/c:

1. **Bobbin winding:** To wind the sewing thread automatically into the machine.
2. **Bobbin winding spring tensioner:** To tension the thread
3. **Thread guide:** To guide the thread.
4. **Needle:** To make a stitch.

5. **Throat plate:** It is a static component which has slots for the foot dogs and a slot for a needle for zigzag stitch.
6. **Bobbin:** To hold the thread inside of the machine
7. **Bobbin case:** To hold the bobbin in the particular place of the machine.
8. **Tensioner:** To tension the thread

Applications:

- ✓ To create bar tack stitches in garments.
- ✓ Loop attach
- ✓ Fly make
- ✓ Pocket side
- ✓ Front side
- ✓ Back pocketing
- ✓ Zipper lay



Fig.no: 3.15 bar tack m/c

❖ Flat lock m/c

Main parts of Flat lock m/c:

- 1 **Thread stand:** Used for hold the thread package.
- 2 **Thread guides:** To guide the thread
- 3 **Disc type tensioner:** To tension the thread.

- 4 **Pressure feed lever:**To lift the presser foot up and lower.
- 5 **Thread take-up lever:**To pull the thread back, after each stitch.
- 6 **Needle:** To make a stitch.
- 7 **Looper:**To make the loop.

Applications:

- ✓ Zigzag stitch
- ✓ Knit hemming
- ✓ Loop making

❖ Chain stitch m/c:

Main parts of chain stitch M/C:

1. Thread stand: There is four thread stand which holds the bobbin.
2. Thread guide: Which indicates the way of the thread.
3. Tension post: Four needle thread tension post and four looper thread tension post to give uniform tension.
4. Needle thread guide: To guide the way of needle thread.
5. Needle thread take-up lever: To pull the tread after each stitch.
6. Needle clamp: To hold the needle with needle bar.
7. Presser foot: To press the fabric surface.
8. Feed dogs: To move the fabric forward by a distance equal to the stitch length.
9. Roller set up: To pass the fabric forward.

10. **Looper:** To form loop formation.
11. **Throat plate:** Helps the fabric to move forward.
12. **Looper thread take-up lever:** To pull the looper thread back.

Applications:

- ✓ Back rise stitch
- ✓ Back yoke stitch
- ✓ Top sin $\frac{1}{4}$ stitch

❖ Feed off the Arm m/c:

Main parts of the Feed off the Arm m/c:

1. **Thread stand:** Used for hold the thread package.
2. **Thread guides:** To guide the thread
3. **Disc type tensioner:** To tension the thread.
4. **Pressure feed lever:** To lift the presser foot up and lower.
5. **Thread take-up lever:** To pull the thread back, after each stitch.
6. **Needle:** To make a stitch.
7. **Looper:** To make the loop.

➤ Applications:

- Back rise stitch
- Inseam stitch
- Back yoke top sin



Fig.no 3.16 Feed of the Arm M/C

❖ Button Attach m/c:

Main parts of Button Attach:

Thread stand: Used for hold the thread package.

Spool thread guide: To guide the thread.

Eye thread guide:

Needle thread tension post: To control the tension of the thread.

Needle thread take-up lever: To pull the thread back, after each stitch.

Needle bar: To hold the needle.

Needle: To make a stitch.

Presser foot: To hold the fabric against foot dog's and give pressure according to fabric thickness.

Presser foot lifter: To lift the presser foot up and lower.

Throat plate: It is a static component which has slots for the foot dogs and a slot for a needle for zig-zag stitch.

Applications:

- ✓ To make eye late hole in garments.

❖ **Snap Button Attach m/c:**

Components:

Not use any types of thread & needle.

It has button attach stage.

Snap stage has two parts

Applications:

- ✓ To attach snap button in garments.
- ✓ To attach sub button in garments.

3.4.7 Sewing quality planning:

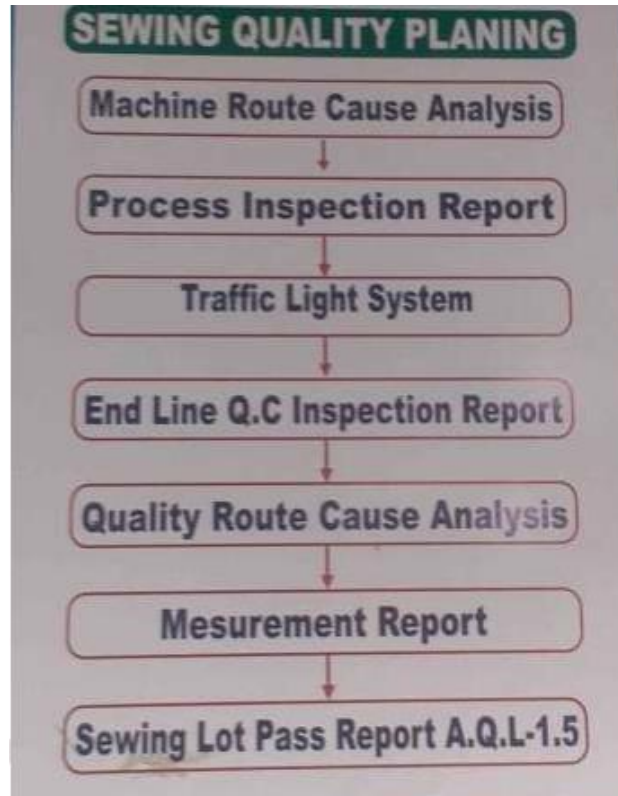


Fig.No: 3.17

3.4.8 Sewing Quality checking points:

- ✓ Skip/Drop/Broken stitch
- ✓ Raw edge
- ✓ Size mistake
- ✓ Uneven hem
- ✓ Uneven cuff
- ✓ Uneven neck
- ✓ Uneven shoulder
- ✓ Uneven placket
- ✓ Uneven pocket

- ✓ Twisting
- ✓ Without care label
- ✓ Open tack
- ✓ Sleeve up-down
- ✓ Stripe up- down
- ✓ Open seam
- ✓ Four point up-down
- ✓ Shading etc

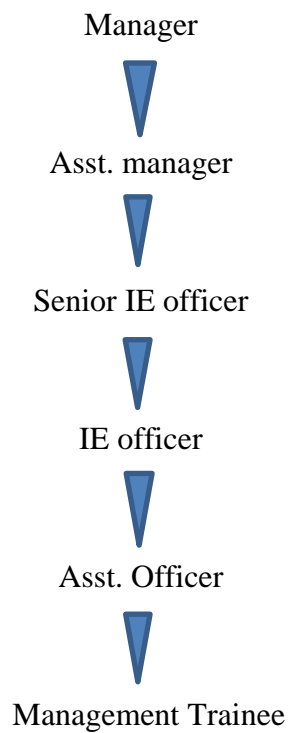
3.4.9 Different type of sewing fault:

- ✓ Skip/ Drop stitch
- ✓ Uneven stitch
- ✓ Over stitch
- ✓ Joint stitch
- ✓ Raw edge
- ✓ Tension loose
- ✓ Broken stitch
- ✓ Puckering
- ✓ Open stitch
- ✓ Oil spot
- ✓ Shading
- ✓ Incorrect stitch per inch
- ✓ Pleat
- ✓ Needle cut
- ✓ Wrong Thread
- ✓ Wrong size/ care label
- ✓ Slanted
- ✓ Wrong button placement
- ✓ Run off stitch

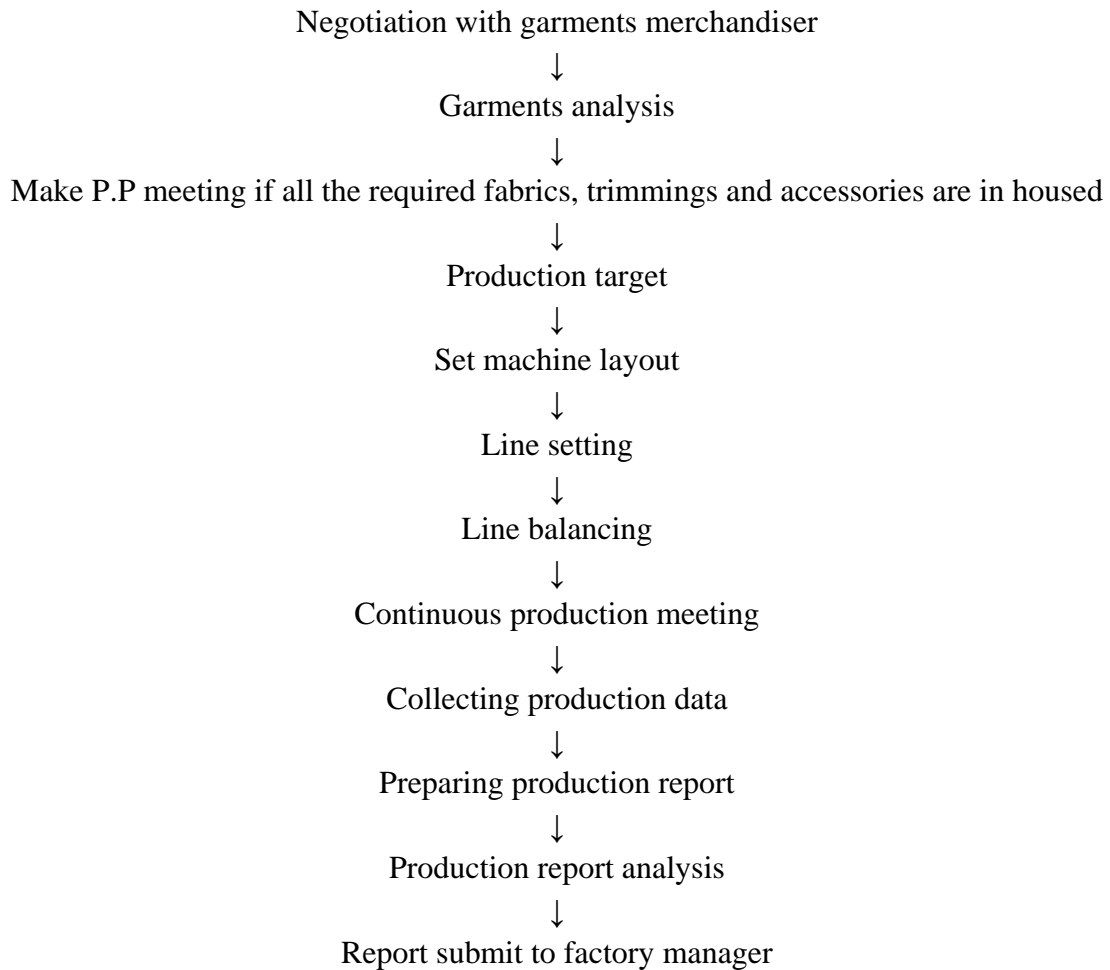
3.5 INDUSTRIAL ENGINEERING:

At present Industrial Engineering (IE) is one of the important department for each garments or textile factory. Today's **Nur group** is run by industrial engineers, where they have to follow a process flow chart. By which they can easily control the whole garments production processes.

3.5.1 Organogram of IE Section:



3.5.2 Process Flow Chart of Industrial Engineering (IE):



3.5.3 Calculation formula:

| SL | Formula |
|----|---|
| 1 | $S.M.V. = \text{Basic Time} + \text{Allowance}$ |
| 2 | $\text{Basic time} = \frac{\text{Observed Time} * \text{Observe Rating}}{\text{Standard rating}}$ |
| 3 | $\text{Line target} = \frac{(\text{No. of man power} * 60)}{SMV}$ |
| 4 | $\text{Efficiency} = \frac{\text{Line Output} * S.M.V}{(\text{Manpower} * \text{Working Hour}) * 60} * 100$ |
| 5 | $\text{Performance} = \frac{\text{Line Output}}{\text{Line Target}} * 100$ |

Table No: 3.6

3.5.4 Major working areas of IE listed below:

- Sample section
- Cutting section
- Sewing section
- Finishing section

3.5.5 Other working areas of IE listed below:

- COC & KPI report
- Bar tack section
- Washing section
- Accessories section

3.5.6 Responsibilities of IE:

Though the time study and motion study are the most common function of Industrial engineer, the some other responsibilities are

- ✓ Planning layouts
- ✓ Monitoring Production flow system
- ✓ Deicide the machines and attachments for all style
- ✓ Pay system
- ✓ Monitoring and improve the operator performance
- ✓ Operator training
- ✓ Production control system
- ✓ Quality control
- ✓ Others

3.5.7 Method Study:

Method study is the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier and more effective methods and reducing costs.

The procedures which need to do follow while doing method study are given as follows. There are seven steps to be followed by industrial engineers to do method study they are,

- ✓ Select the work to be studied
- ✓ Define the objective
- ✓ Record the relevant information and data
- ✓ Examine information and data
- ✓ Develop the improved method
- ✓ Install improved method
- ✓ Maintain the improved method
- ✓ Work measurement

3.5.8 Time Study:

Work measurement is carried out by time study. Time study is a work measurement technique for recording the times and rates of working for elements of a specified job carried out under specified conditions and for analyzing the data so as to obtain the time necessary for carrying out the job at a level of performance. The concept of Rating is fundamental of time study. Rating is the process used by industrial engineer to compare the actual performance of the operator with operator mental concept of normal performance. The rating is the numerical values used to denote the ratio of working. In order to rate the operator there must be a defined level of performance to compare with, an average level. For this the industrial engineers apply the concept of a “Standard operator”. A standard operator is a fully trained and motivated to perform a defined task and is, by definition average in terms of his /her work place.

The steps to do the time study is as follows,

- ✓ Observe the job and analysis to determine the element
- ✓ Rate each element to compare with the accepted standard
- ✓ Use the stopwatch to time each element
- ✓ Average the selected element times
- ✓ Multiply average element time by rating
- ✓ Add the basic time for all the element
- ✓ Add allowances

Here the elements are the small components into which an operation is divided for study purpose. They are selected for the convenience of the observation, measurement and analysis. These elements should be clear and fully describable during the data presentation and analysis that.

3.5.9 Operator Performance:

Basically the operator performance can be monitored with the help of three efficiency factors.

- 1) Single cycle efficiency
- 2) On-standard efficiency
- 3) Global efficiency

Basically the operator performance can be monitored with the help of three efficiency factors.

- 1) Single cycle efficiency
- 2) On-standard efficiency
- 3) Global efficiency

Single cycle efficiency = (Target single cycle time in minutes (SC@100%) / (Average observed single cycle time in minutes (SC average)

Here we are considering the cycle time only.

On-standard efficiency = (Operator production × SAM per piece for the operation) / (Working time in minutes – Off-standard time in minutes)

Here the unproductive time is not considered.

3.5.10 Off-standard Time:

✓

The time spent by an operator at his work under a condition that is not considered as productive. Types of off-standard

- ✓ Machine break down (m/c failure, thread cuts, needle breakage, etc.)
- ✓ Waiting time (No WIP , Waiting for the bundle)
- ✓ Quality problems
- ✓ No feeding
- ✓ Un familiar job (Working other than her regular operation)
- ✓ Training

Global efficiency = (Operator production × SAM per piece for the operation)]/ (Working time in minutes)

Here, the total working time is considered (even unproductive time is also considered).

3.6. FINISHING SECTION:

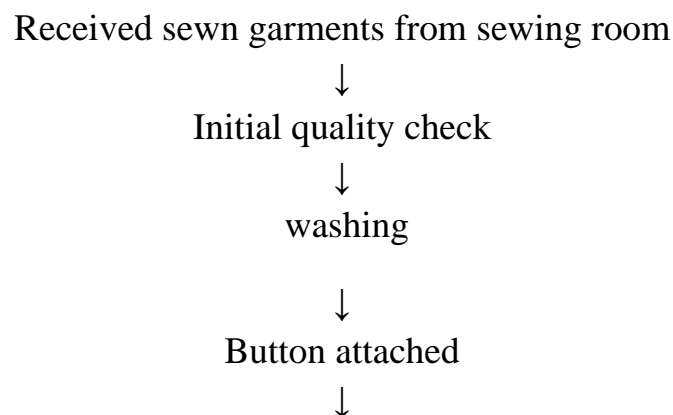
Finishing section is the important section of the Nur group. It has located of the 2nd building on the 4th floor. In the apparel manufacturing industry, finishing department play the vital role for producing complete garments. After completing the sewing performance, garments are passing to the finishing section / department to get the finishing touch, defects free and high quality garment due to inspection.

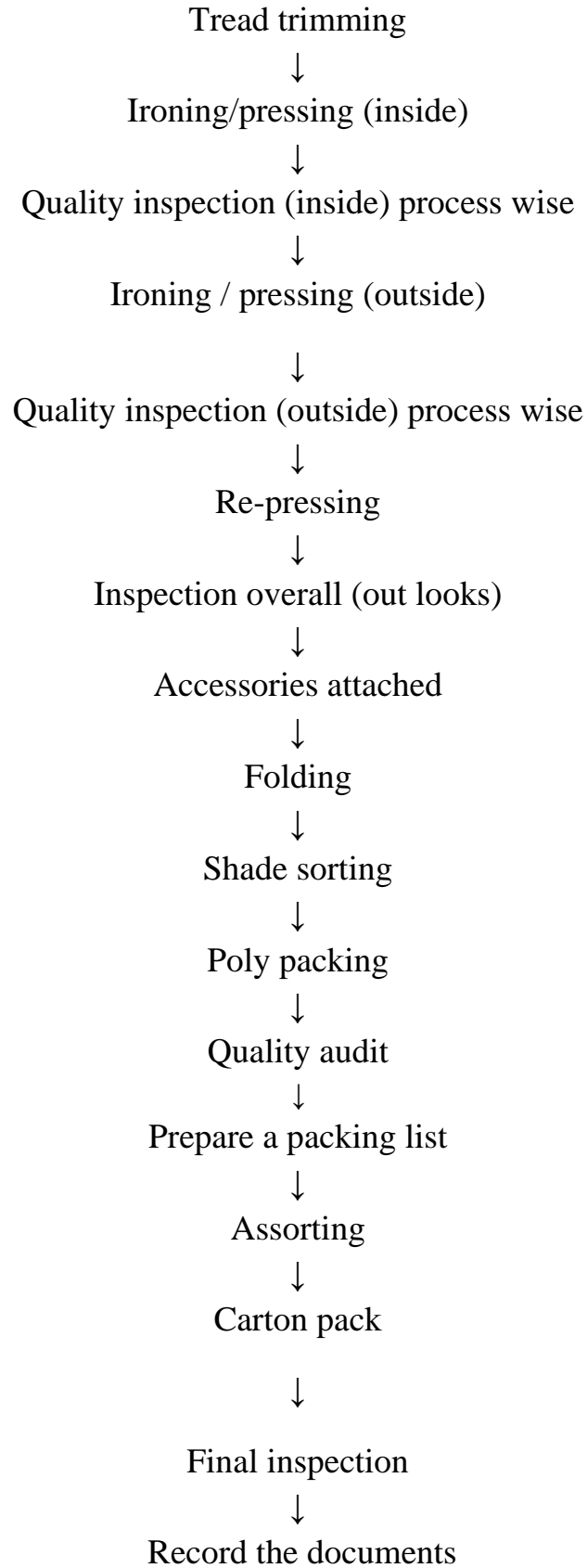
3.6.1 Machine Description of finishing section:

| SL NO | Machine Name | Number Of M/C |
|-------|----------------|---------------|
| 1 | Steam iron | 9 |
| 2 | Metal detector | 2 |
| 3 | Neck press | 2 |
| 4 | Thread sucker | 3 |
| 5 | Heat Iron | 6 |

Table no. 3.7

3.6.2 Process Flow Chart of Garments Finishing:





3.6.3 Garment finishing department's function are discussed below-

Received sewn garments from sewing room:

Here, sewn garments are received from sewing department for finishing the garments.

Initial quality check:

Here stitched garments are initially checked by the quality controller. If their found any repairable or washable defects then garments need repair works in finishing section. But if found major sewing defects, fabric faults then again send to thesewing department for correction.

Washing:

For wash garments, 100% check is required after receiving the garments from the sewing department. Defective garments should be rectified and reject pcs should be sorted out. If there are any faults like oil marks, stains, other dust and spots then garment washing must be needed. Some spots are removed by using spot remover and dust and stains are removed by using machine wash inside the finishing section.

Button attached:

Button, button holes, snap button, eyelets are attached on garment in finishing section.

Tread trimming:

Garment uncut treads are trimmed by helper in finishing section. Otherwise it creates major or minor defects in garment.

Ironing/pressing (inside):

To remove unwanted wrinkles or crease mark, garments are pressed by using steam iron. For getting actual garment measurement vacuum tables are used for garment ironing.

Quality inspection (inside) process wise:

After complete the inside ironing then inspect the quality of garments.

Ironing / pressing (outside):

If the inside garments quality inspection is done then it passes for outside pressing.

Quality inspection (outside) process wise:

Check the outside garments quality like measurement, placement of collar etc.

Re-pressing:

When all the quality (like inside and outside) inspection is complete then garments are placed for re-pressing.

Inspection overall (out looks):

Here, quality inspector ensures the overall out looks of garments.

Accessories attached:

All kinds of garments accessories like hang tag, price tag, barcode etc are attached here.

Folding:

Garments are folded here as following the buyer's instruction.

Shade sorting:

Quality inspector checks the color shade sorting on garments. They calculate a shade number for each sample based on how close its color shade is to the standard.

Poly packing:

After folding and color shade sorting garments are poly packed here as per buyer requirements.

Quality audit:

Quality audit can be performed in the sewing section as well as in the finishing section. It is very effective quality control activity to achieve the quality target. Quality audit is done prior to final inspection.

Prepare a packing list:

In this stage, finishing in-charge prepare packing list for cottoning and garment shipment also. After preparing packing list finishing department inform it with apparel merchandiser.

Assorting:

Before cartooning finishing in-charge must confirm and follow the color and size wise assorting system.

Carton pack:

Here all the garments should pack to send the garments safely in to the buyer.

Final inspection:

If all the above processes are perfectly done, then apparel manufacturers are organized pre-shipment or final inspection on garments. After finished the garments, factory top management, merchandiser, production manager, QC, Finishing inspector and buyers representatives are to do this final inspection.

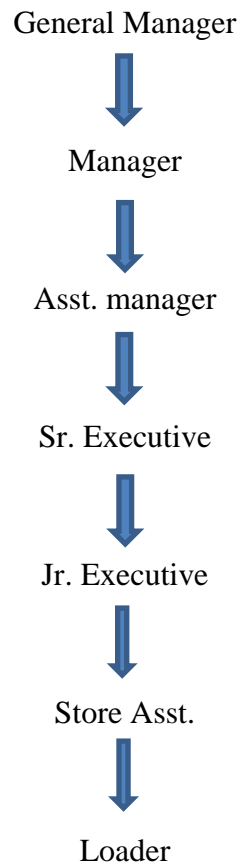
Record the documents:

All details documents about production to shipment must be recorded or file up in the official desk.

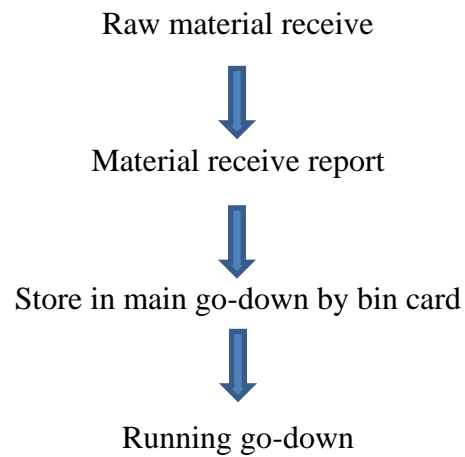
3.6.4 Store section:

Store section is the most important part of the Nur Group. It has located on the 4th floor of the 2nd building beside the cutting section. For a bulk production industry it is essential to maintain a well-organized & well equipped inventory system. The main responsibility of this department is to store all the raw material necessary to produce garments. This department is sub divided into three sections.

3.6.4 Organogram:



3.6.5 Process Flow Chart of Garments store:





Production floor

3.6.6 Grey fabrics store:

All the grey fabrics are stored in the fabric store, near the batch section. Different types of fabrics are listed in the sheet according to the fabric types, quantity & consumer's requirements. Fabrics GSM, shrinkage, diameter & other properties are also taken into consideration. The bathes are prepared by taking the required fabrics from the grey store.

3.6.7 Finished goods:

Nur Group supplies its finished garments to its finished goods store. So, finished garments are stored for short time in the finish store. All the delivered fabrics are noted on the note according to the Lot no., quantity, size, buyer's name, colors, & considering other parameters.

3.6.8 Accessories Store:

According to Buyer and style number, store keeper arranged their rack for inventory. When an order is confirm they communicate with merchandiser / supplier and confirm inventory. Store keepers receive all accessories by counting.

If everything is ok then they give satisfactory comments and if found any kind of problem they mention in Callan sheet. After receive all accessories they give entry in computer & keep arrangein rack for easily searching. Trim card make for different style & buyer wise for smooth work.

3.6.9 Sewing thread:

Different types of sewing treads are available in store room. Such as

- 60/3 (100% polyester)
- 50/3 (core spun yarn)

- 40/3 (100% polyester)
- 20/3 (100% cotton) etc.

3.6.10 Button:

Many types of button are available in store room. Some examples of button are given below.

- Horn button
- Purl button
- Shank button
- Snap button
- Coconut button
- Chalk button

3.6.11 Interlining:

- Types of interlining are available in store room are given below.
- Dot fuse.
- Paper fuse.
- T.C interlining.
- Woven fabric fuse.
- Non fuse etc.

3.6.12 Quality for Inventory/Storage:

Fabrics or other Raw Materials and Accessories should be safe from the following-

- Soiling,
- Mechanical damage,
- Environmental damage due to temp. & R.H% which may cause dimensional changes,
- Fungal Attack,
- Fading due to light exposure,
- Damage during Handling.

3.7 COMPLIANCE:

Compliance is one of the most important thing of Nur Group.Compliance is to provide all possible facilities for the labor and employees of the industry by the management.

3.7.1 List of Compliances Issues:

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

- ✓ Compensation for holiday
- ✓ Leave with wages
- ✓ Health register
- ✓ Time care
- ✓ Accident register
- ✓ Workman register
- ✓ Equal remuneration
- ✓ National festival holiday
- ✓ Overtime register
- ✓ Labor welfare
- ✓ Weekly holiday fund

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3.7.2 Health:

- ✓ Drinking water at least 4.5 L/day/employee
- ✓ Cup availability
- ✓ Drinking water supply
- ✓ Water cooler ,heater available in canteen
- ✓ Drinking water signs in Bangle and English locate min. 20 feet away from work place
- ✓ Drinking water vassal clean at once in a week
- ✓ Water reserve at least once a week
- ✓ Water center in charge person with cleanliness

3.7.3 Toilet:

- ✓ Separate toilet for women and men
- ✓ A seat with proper privacy and lock facility
- ✓ Urinal accommodation
- ✓ Effective water sewage system
- ✓ Soap toilet
- ✓ Water tap
- ✓ Dust bins
- ✓ Toilet white washed one in every four month
- ✓ Daily cleaning log sheet
- ✓ No-smoking signs

3.7.4 Fire:

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

3.7.5 Safety Guard:

- ✓ Metal glows on good conditions
- ✓ Rubber mats & ironers
- ✓ First aid box one
- ✓ Ironers wearing sleepers
- ✓ First trained employees
- ✓ Motor/needle guard
- ✓ Eye guard
- ✓ Nurse
- ✓ Doctor
- ✓ Medicine
- ✓ Medicine issuing register

3.7.6 Salary and wages:

- ✓ Fix wages in considering minimum wages which is declared by the government.
- ✓ Salary and wages given before 7th day of month

3.7.7 UTILITY:

Nur Group is a large project. So, it requires adequate utility services. In Nur Group the following utility services are available.

- ✓ Electricity
- ✓ Gas
- ✓ Water
- ✓ Steam
- ✓ Compressed air

3.7.8 Electricity:

It is not possible to continue the assembly while not electricity. A frequent provide of electricity is extremely a lot of essential to make sure sleek production. In Liz Apparels Ltd. the complete demanded electricity is generated by Own Generator.

3.7.9 Gas:

The gas is supplied to Gas Generator, Boiler.

The source of gas is TITAS Gas Ltd.

3.7.10 Water:

Continuous supply of water for Liz Apparels ltd. is ensured by Water pump. The deep well water is subjected to Water Treatment Plant (WTP) to make sure the water quality parameter suitable for Textile Wet Processing

3.7.11 Description of utility of Nur group:

| Description of m/c | no. of M/C | Capacity |
|--|------------|----------|
| Generated Power: | | |
| Prime power generation , Crasser Gas Generator Model: FGLD 480 Origin: Spain | 1 Unit | 636kW |
| Stand by: Diesel Generator, puma, Origin: England | 1 Unit | 140 kw |
| A. Substation: | | 1000kVA |
| Total connected load | | 1776 kW |
| Air Compressor: | | |
| Kaiser Screw Compressor, Model: AS44, 30 kW,4M3 /MIN. each | 2 Units | 8M3 /MIN |
| Omgersp:-Rand Reciprocating Compressor, Model: SSR ML5057.5kW CAPACITY of air discharge | 1 Unit | 8M3 /MIN |

| | | |
|---|---------|--------------|
| Ingersoll- Rand Reciprocating Compressor, Model: 3000.22 kW | 2 Units | 4.40 M3 /MIN |
| SWAN Reciprocating Compressor, Model: C4080, 10 kW | | 1M3 /MIN |
| Total air discharge capacity | | 21.4M3 /MIN |
| Description of WATER pump: | | |
| Centrifugal pump for water supply to washing others Section | 1 units | 100m3/h |
| 20HP Petrol pump each pump , 1, 000L/min flow rate | 4 Units | 4,000 L/min |
| 10HP petrol pump each pump , 600L/min flow rate | 1 Units | 600 L/min |
| 5.5HP petrol pump each pump , 350L/min flow rate | 1 Units | 350L/min |
| Spare pump motor petrol 20HP | 1 Units | |
| Boiler: | | |
| Clever Brooks Boiler 10 tons /hr | 1 set | |

Table no. 3.8

CHAPTER - 4

IMPACT OF INTERNSHIP

4.1 IMPACT OF INTERNSHIP:

An internship is a practical work experience that can occur between and during any year of college/ varsity. Some internships are paid, but others are unpaid. Your degree program may require an internship, and your college may award academic credit for your experience.

4.1.1 Sample Section:

Understood why sample section is called a mini-industry.

Observed how skilled workers work in sample section.

Learned the process of preparing a pattern for an individual size & design.

4.1.2 Cutting Section:

- ✓ Learned about different type of cutting machines (i.e. Straight knife cutting, Band knife cutting machine etc.)
- ✓ Learned the process of fabric spreading.
- ✓ Observed the process of fabric cutting according to the marker.
- ✓ Understood different process of fabric lay.
- ✓ Realized the use and importance of metal gloves for fabric cutting process through different cutting machines.
- ✓ Observed the panel check process for different type of fabric of different style and design.
- ✓ Understood how numbering and bundling is done.
- ✓ Understood different inspection like parts check, marker report, parts replacement.

4.1.3 Sewing Section:

- ✓ Learned about different parts of a shirt (i.e. Upper front, Lower front, Back part, Facing, Collar, sleeveetc.).
- ✓ Observed different sewing or joining process of different body parts of a shirt.

- ✓ Learned about different type of machines used in a sewing floor (i.e. Single or double needle lock stitch machine , Multi needle chain stitch machine, Over lock machine, Feed of the arm machine etc.)

4.1.4 Industrial engineering:

- ✓ We learn about line balancing.
- ✓ we also learn SMV calculation
- ✓ How can increase productivity by applying IE process

4.1.5 Finishing Section:

- ✓ Observed various type of finishing process after sewing and washing.
- ✓ Observed different type of machines used in finishing section (i.e. Neck press machine, Metal detector machine etc.).
- ✓ Learned about various type of accessories used to attach to the garment (i.e. Security alarm, Hang tag, Price tag, Barcode label etc.).
- ✓ Cleared the conception about different packing type (i.e. Master pack, Blister pack, Coffin pack etc.) and packing ratio.
- ✓ Finally realized why finishing section is unavoidable in garments industry for making the garment attractive and decorative for selling purpose.

4.1.6 Store Section:

- ✓ Understood the necessity & process of inventory.
- ✓ Realized the role of PI (Pro-forma Invoice).
- ✓ Had cleared the conception about fabric inspection method.
- ✓ Learned how to examine AQL in a fabric lot.
- ✓ Learned the procedure of receiving materials & dispatching goods outside of the factory.

4.1.7 Compliance:

- ✓ Different compliance issue that ensure for worker.
- ✓ Safety working environment for worker.

4.1.8 Utility:

- ✓ We can learn different type of generator and compressor.
- ✓ Their cost.

CHAPTER - 5

CONCLUSION

5.1 Conclusion

It was great pressure for us to work in of Nur group which provides us a wide range of scope. All the employees of Nur group tried to give optimum service. From the learn of point of we can say that we are really enjoyed our internship at Nur group from the first day. We are confident that two months internship program at Nur group at this garments factory will definitely helps us to realize our future carrier in the job

5.1.1 Limitation of the Report:

Because of secrecy act the data on costing and marketing activities has not been supplied & hence this report excludes these chapters.

We had a very limited time in spite of our willing to study more details it was not possible to do so.

Some of the points in different chapter are not described as these were not available.

The whole process is not possible to bind in such a small frame as this report, hence our effort spent on summarizing them.