



**Daffodil**  
*International*  
**University**

Faculty of Science and Information Technology

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## PROJECT ON

# KNIT GARMENTS MERCHANDISING

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## Introduction

The term 'Textile' is a Latin word originated from the word 'texere' which means 'to weave'. Textile refers to a flexible material comprising of a network of natural or artificial fibers, known as yarn. Textiles are formed by weaving, knitting, crocheting, knotting and pressing fibers together. Bangladesh is one of the leading readymade garments exporters of the world. Every year Bangladesh exports more than one third of the total garments requirement of the RMG market of the world. At present there are about 4500 garments factories running in Bangladesh. Growth of garments factories started in Bangladesh around 1980. At that time garment production & export business was unknown to us. Foreign currency earning through garments export \$3.24 million which was not countable in percentage of the total national foreign currency earnings. Afterwards, tremendous growth of garment factory, garments productions, garments export, the percentages of foreign currency earning through garments export reached to \$ 14 billion around 80% of the national foreign currency earnings, in 2010-11 financial year. It is believed that RMG business is very versatile, volatile and dynamic. Therefore this field needs R&D very much. One of the important tasks of RMG business is generate an efficient and effective merchandising department. Today RMG business is highly comparative. Slightly under and over price may lead to serious consequences on business. Therefore attempt has been made to compare various merchandising process. In this connection the merchandising of some buying houses, factories were studied and comparative features were discussed. At present Bangladesh is producing & exporting more than 60 items of garments. The most common items are shirt, trouser, jacket, and sportswear. T-shirt, polo shirt, ladies wear, sweater, socks, hats etc. This products item is exported in USA, Canada, Japan, Australia Middle East and many other countries in the world. Bangladesh is one of the important & comparative garments exporting country in the world market. Cheapest labor cost is the biggest advantage for Bangladeshi garments producers & exporters. Bangladesh is an under developing country. The department and process of the country largely depends on export performance. In the garment and textile industry, merchandisers play a vital role for the execution of export orders. There are large numbers of merchandising personnel who are working in the garment and textile sector [1].

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# Abstract

Bangladesh's export earnings carry more than 76% contribution from the Garments, Apparel, and Knitwear Industry. The objective of this thesis is to provide an extensive overview of Garments Merchandising, as well as a reference and guide for its study. The chapters are written for the garments merchandising professional for detailed easing information, who wants an overview or specific information in one particular area.

The book is organized into 11 chapters to provide comprehensive information on all aspects of Garments Merchandising from the initial concept of Garments Marketing, Garments Merchandising, Qualification of a good merchandiser, Merchandising procedure, Chronological process of Merchandising, important document for a Merchandiser, Costing and Consumption, Garments dry process, Garments washing, Inspection, Basic knowledge for a merchandiser, L.C and Other Documentation are included in this paper. This thesis paper contains the most recent technological information regarding industry practice as well as industry standards. The use of photographs and tables will help the reader to understand very easily.

Merchandising plays a great role in our economy. The living standard and prosperity of a nation vary directly with increase the foreign currency of a nation and it's totally depends of a merchandiser who deals not only liaison with the buyer but also directly work in the field of production. Electrical power is an important index of a country's economic and technological progress.

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# 1. Export Garments business in Bangladesh:

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## 1.1 Introduction:

Bangladesh's export earnings carry more than 80% contribution from the Garments, Apparel, and Knitwear Industry. The industry itself is one of the biggest Garments Industry in the world along with Thailand, India, and Mexico.

Starting from Buttons, labels, apparel papers, threads, and all other products are found here. Even services like dying, washing, and ironing are also found in the corners of Industrial areas of Bangladesh.

The garment industry of Bangladesh has been the key export division and a main source of foreign exchange for the last 25 years. At present, the country generates about \$5 billion worth of products each year by exporting garment. The industry provides employment to about 3 million workers of whom 90% are women.

## 1.2 Garments Marketing:

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The factory or company gets the order from the foreign buyers. Or sometimes the buyer give an inquiry(s) of order to the buying house and company gets the it from the buying house. And sometimes the garments factory tries to get the garments order from the buying house or directly from the buyers. However the garments orders are confirmed, the garments factory do the costing of it, and coat the price to the buying house or the buyers. And finally by the discussion and bargaining the order are confirmed.

# 2. Garments Merchandising:

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## 2.1 Definition of Merchandising:

The "Merchandising" is known to the persons specially involved in garments trade. The term merchandising has been derived from the merchandise. Merchandise means goods that are bought & sold.

The term "Merchandising" may be defined as Person who merchandises the goods, specifically for export purposes | Garments merchandising means buying raw materials & accessories, producing garments, maintaining required quality level and exporting the garments within schedule time. From the above definitions, we can say that a person involved in garments merchandising needs a wide range of knowledge & skill to perform his job successfully. The job itself is Technical and general as well.

Merchandiser is he who builds up relationship with the buyer and acts as a seller. He plays a vital role in an organization in a sense that he bears more responsibility than other in regards to execution of an order. The responsibilities that he bears on the jobs are as follows:

- ✓ He represents as a buyer to the factory.
- ✓ He represents as a seller to the buyers.
- ✓ He inspects Quality as a buyer (from the buyer's point of view).
- ✓ He looks into the business to flourish more in future.
- ✓ He tries to offer the deal more competitive without compromising the Quality.
- ✓ His object is to satisfy the buyers to progress more of the future business.
- ✓ His aim is to impress the buyers by means of

(i) Right Product.

(ii) Right Quality.

(iii) Right Quantities.

(iv) Schedule Time

## 2.2 Qualifications of a good Merchandiser :

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- He should be hard worker.
- Should be responsible for the job.
- He should not be bureaucratic.
- Should be smart.
- Should be ability to improve public relation.
- Good command in English and adequate knowledge of technical terms for accurate and efficient communication.
- Knowledge on internet browsing.
- Should able to email communication.
- Good knowledge of fiber, yarn. Fabric, Dyeing, washing, Printing, Finishing, Quality of garments, Dyes, Colorfastness, Garments production, etc.
- Clear conception of the usual potential quality problems in the garments manufacturing.
- Good knowledge of the usual raw materials inspection systems & garments inspection systems.
- Knowledge of the quota system used in each of the producing countries', duty rates, customs regulations, shipping and banking documentation etc.

Merchandiser-A Data Bus between Buyer & Seller.

## 2.3 MERCHANDISING PROCEDURES :

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### Job List of a Merchandiser

#### INQUIRIES:

1. On receiving an inquiry(s) the merchandiser must prepare a checklist and immediately forward all information to 3 factories from the approved factory list for pricing.
2. The merchandiser must make sure that the factory specializes in the item being priced and has worked with the client before.
  - 2a. Selection of supplier should be based on their previous performance, efficiency, delivery, etc.

3. If it is a new client then the merchandiser must discuss the inquiry(s) with the dept. head before sending out the inquiry(s).

3a. In case of a new factory, a factory evaluation should be conducted as per the set standards. Only Synergies Sourcing approved factories can be used for pricing, sampling, etc.

#### QUOTING PRICES:

1. Prices must be sent within 1-2 days of receiving the inquiry.
2. All enquires must be entered in to the new development sheet.
3. Based on the lowest price the merchandiser must order proto sample. Min. 2 pieces must be ordered. One sample for the customer and one office sample.
4. Before quoting any prices to the customer. The merchandiser should get all prices approved by the Head of Merchandising or Managing Director.
5. If renegotiation is required then involve the dept. head, Head of Merchandising and Managing Director so that the best prices are finalized with the factories.
6. Final quoted price must be updated on the new development sheet.

#### PROTO SAMPLES:

Upon receipt of buyer's specification, a thorough check should be conducted for precision. Obtain explanation from buyer for anything considered vague.

Forward the specification sheets/Pattern to the selected supplier with all the explanation of specifications & technicalities on as & when received basis & update records.

Ensure timely availability of fabric.

Follow-up with the supplier to provide the sample latest within 2 days for local accessories & fabrics, in case of imported items maximum 12 days.

Upon receipt of the sample from the supplier thoroughly check the styling, measurement (if any), stitching, quality of the fabric, fabric construction/GSM, hand feel, washing standard, finishing of the sample & accessories if any & ensure compliance of the samples as per customer's specifications. The departmental head will give final approval.

At least 5 pieces of each sample should be developed. One for merchandisers, one for the Quality controller, one for production, one for the production manager & one for the buyer.

- Prepare Proto Sample Checking Sheet & attach with the checklist (Format Attached).
- Put duly filled sample card on the sample, format enclosed.
- Forward the samples as & when received basis & advice customer accordingly with all the details of dispatch.
- Follow with the customers for approvals/comments.
- Once approved, advice supplier as well as Head of Quality Control.
- Update Order Checklist, format enclosed.
- Update the excel sheet accordingly, format enclosed.

#### **ORDER PLACEMENT:**

Once an order is placed the merchandise manager should fill out a PO checklist.

All missing information with regards to the PO will be forwarded to the buyer within 1 day of receiving the PO.

A complete PO package must be prepared and sent to the factory within 24 hours of receipt of order from customer with a copy of P.O. to Commercial Department.

Prepare a projected production plan & forward the same to the Head of Quality Control & to the related supplier. The schedule should comprise of expected dates for fabric Quality Check, ILC, IPC, MPC & FRI.

Prepare a projected sample plan & forward the same to the related supplier with a copy to the Head of department.

#### **PO PACKAGE FOR FACTORY:**

A new PO package for the factory must include the following:

- I. Original PO sheet.
- II. Spec. Sketch and workman sheet.
- III. Color print artwork, lab dip, original fabric swatch and original trim card.
- IV. Original sample (If available)

Within 1 day of receipt of a new order the merchandise manager must call for a pre-production internal meeting. The following people must attend this meeting:

- a) Head of Operation.
- b) Merchandise Manager.
- c) Acct. Related Merchandiser.
- d) Head of QA Dept.
- e) QA Personal.
- f) Internal QA Personal.

At the meeting the merchandiser will issue all information with regards to the order. This information includes.

- ❖ PO sheet copy
- ❖ Spec sheet with all related information.
- ❖ Lab dip card, print artwork, trims card, etc.
- ❖ Original fabric swatch (If available)
- ❖ Proto sample.

#### LAB DIP / PRINT STRIKE OFF:

- ✓ Follow up the sample color with the buyer for lab dips.
- ✓ Upon receipt of sample from the buyer, immediately send a replica to the buyer.
- ✓ Follow-up with the buyer for approved of the sample.
- ✓ Obtain maximum numbers of lab dips 3 per color.
- ✓ Follow with the buyer for approvals/comments.
- ✓ If sample are ok then go for the next process, if the buyer are not satisfied then the whole process are start again.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

#### SIZE SET SAMPLES:

- ✓ Follow-up with the Size Set options with actual fabric.
- ✓ At least 5 pieces of each sample should be developed. One for merchandisers, one for the Quality controller, one for production, one for the production manager & one for the buyer.

- ✓ Thoroughly check the styling, measurement (if any), stitching, quality of the fabric, fabric construction/GSM, hand feel, washing standard, finishing of the sample & accessories if any.
- ✓ Prepare size set format sheet & attach with the checklist, format attached.
- ✓ Head of department will give the final approval prior sending the samples to the buyers.
- ✓ Ensure that buyer receives the samples as per their precise requirement.
- ✓ Follow with the buyer for approvals/comments.
- ✓ Upon receipt of approval advise supplier & Quality Control Head.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

Obtain actual production schedule from the supplier. Make sure the schedule is in accordance with the shipment date.

#### **SAMPLE ACCESSORIES:**

- Upon receipt of buyer's accessories, a thorough check should be conducted for precision.
- Factories will be responsible for the selection of accessories supplier.
- Follow-up with the supplier and quality control for prompt delivery of accessories for local max 4 days for imported max 12 days.
- Obtain 4 sets of samples of all accessories with at least 3 different options from the supplier. One for merchandisers, one for the customer, one for the quality control, & one for the suppliers for future references.
- Upon receipt of samples from the supplier, match these against buyer specifications.
- Thoroughly check with the original/instructions received from the buyer, artwork, color, quality, sewing allowance, bar code, price tags etc.
- Prepare accessories format sheet, format attached.
- Head of department will give the final approval prior sending the samples to the buyers.
- Prepare at least 2 synergies trim/accessories cards. One for buyer & one for merchandiser.

- Ensure that buyer receives the samples as per their precise requirement.
- Update Order Checklist, format enclosed.
- Update the excel sheet accordingly, format enclosed.

### PRE-PRODUCTION SAMPLES:

Follow-up with the buyer for prompt delivery of pre-production sample maximum 2 days.

- ✓ Obtain 4 sets of pre-production samples from the supplier. One for merchandisers, one for the sample store room, one for the quality control, & one for the buyer for future references.
- ✓ Pre-production sample in all size sets should be available to the merchandisers at least 5 days before the start of actual production.
- ✓ Upon receipt of samples from the buyer, match these against buyer specifications.
- ✓ Thoroughly check the styling, measurement, stitching, quality of the fabric, fabric construction/GSM, hand feel, washing standard, finishing of the sample & accessories.
- ✓ Prepare PP sample format sheet, format attached.
- ✓ Head of department will give the final approval prior sending the samples to the buyers.
- ✓ Ensure that buyer receives the samples as per their precise requirement.
- ✓ Follow with the buyer for approvals/comments.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

### DYE LOTS:

- ✓ Follow-up with the supplier and quality control for the delivery of dye lot.
- ✓ Dye Lot should be available (6 X 6, for every roll) to the merchandisers at least 5 days before the start of actual production.
- ✓ Upon receipt of samples from the buyer forward the same to lab for lab test & match these against buyer specifications.

- ✓ Thoroughly see the color standard, color fastness, shrinkage, GSM/construction, hang feel, fabric quality, knitting tension, Lycra etc.
- ✓ Receive Dye Lot sample format sheet from lab, format attached.
- ✓ Head of department will give the final approval prior sending the samples to the buyers.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

### **BULK ACCESSORIES:**

Follow-up with the supplier for the delivery of bulk accessories.

- ✓ These accessories should be available to the merchandisers at least 5 days before the start of actual production.
- ✓ Upon receipt match these against buyer specifications.
- ✓ Thoroughly check the accessories color & quality of trim against buyer's comments.
- ✓ Prepare Bulk Accessories format sheet, format attached.
- ✓ Head of department will give the final approval prior sending the samples to the buyers.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

### **PRODUCTION:**

Once sampling is completed Head of concern Merchandiser forwards the order file to the Head of Quality Control along with the approved sample & a copy of projected production schedule. Make sure the file is forwarded at least 5 days before start of actual production.

A meeting should be conducted between the Head of Merchandising Department, Concern Merchandiser, Head of Quality Control & Quality Control Officer (Production) discussing all the details of order.

Obtain an instruction sheet covering all the required information from the quality control officer & approve.

- ✓ Make sure any new comments are added into the instruction sheet.

- ✓ Regular follow up should be made with the buyer & Quality Control regarding the status of production.
- ✓ Make sure the Quality Control Department conduct all the required inspections i.e. Fabric Quality Testing, ILC, IPC, MPC & FRI for every order. For large volumes make certain, there are more than 1 MPC being conducted by the quality control.
- ✓ Obtain daily production status from Quality Control & forward the same to IT for updating the Web Site latest by 11:00 every morning.
- ✓ Obtain reports of all the inspection conducted i.e. Fabric Quality Testing, ILC, IPC, and MPC & FRI for every order from quality control & keep a copy for record.
- ✓ Update Order Checklist, format enclosed.
- ✓ Update the excel sheet accordingly, format enclosed.

#### SHIPMENT / SALESMAN SAMPLES:

- Inform Head of Quality Control for Shipment Sample.
- Obtain 2 sets of shipment samples from the Quality Control Department of all sizes covering all colors or as specified by the buyer. One or two pieces to be provided to concerned Merchandiser & all remaining to Manager Administration. In case where buyer requires shipment samples receive one complete set from Quality Control.
- Shipment samples should be available to the merchandisers the next day of FRI.
- Upon receipt of samples, conduct a thorough check & match these against buyer specifications.
- Thoroughly check the getup, styling, stitching, fabric quality, fabric construction/ GSM, hand feel, washing standard, finishing, & accessories.
- Prepare Shipment sample format sheet.
- Head of department will give the final approval.
- Ensure that buyer receives the samples as per their precise requirement.
- Forward one set of shipment samples to administration department.
- Keep remaining samples in the department for future use & maintain a register.
- Update Order Checklist, format enclosed.
- Update the excel sheet accordingly, format enclosed.

### DELIVERY & COMMERCIAL DEPT:

Regular follow-up is essential to:

- Ensure goods are handed over to the forwarder.
- Ensure the forwarder books space/flight for timely delivery of goods.
- Ensure staffing of goods is conducted.
- Ensure the date of departure is as per the booking.
- Obtain vessel/flight details from commercial department & advise buyer.
- Receive acknowledgement of goods from buyer.
- Update Order Checklist, format enclosed.
- Update the excel sheet accordingly, format enclosed.

### DOCUMENTATION:

Conduct regular follow up with commercial department & supplier for the timely delivery of all the below mentioned documents to the buyer.

- ❖ Packing List
- ❖ Commercial Invoice
- ❖ GSP
- ❖ Country of Origin Certificate
- ❖ Annexure III for Mexico Shipment (must be obtained 1 month prior shipment)
- ❖ Country of Origin Certificate attested from Argentinean Embassy in India for Argentina shipment (must be obtained 1 month prior shipment)
- ❖ Bill of Lading/Master Airway Bill is sent from supplier's bank to buyer's bank only.
- ❖ Inspection Certificate
- ❖ All these documents are required to be sent to the buyer first via email or fax & then original via courier.
- ❖ Receive acknowledgement of documents from buyer.

# 3. CHRONOLOGICAL PROCESS OF MERCHANDISING :

## **3.1 Sequence of merchandising process:**

**3.1. a.** Salesman Samples, Counter Samples, Approval Samples, Photo samples, Preproduction Samples, Production Samples, Shipping samples.

**3.1. b Swatch**, and Trims, Trim's Related Affairs

Sample: Reference garment corresponds to:

- The artwork (styling) done by designer and/or developer
- Particular purchase order.
- Any revision to the style work.
- Conform to any specific requirement.

### Sequence of Sampling:

1ST Pattern → 2ND Pattern → Counter Sample → Salesman Sample → Photo Sample → Approval Sample (Size Set, Mock-Up) → Pre- Production Sample → Production Sample → Shipping Sample.

### First Pattern:

First pattern is the first physical version of any garment as per the artwork done by designer and for developer.

- ✓ Human Mind → Sketch → Paper Pattern → Sample
- ✓ Purpose : See the design work & test the fitting
- ✓ Status : Nothing specific
- ✓ Material : Available
- ✓ Price : Not confirmed
- ✓ Quantity : 1 (for customer) + 1 (for merchandiser)
- ✓ Delivery : As per urgency

### Second Pattern:

- ❖ Usually designer /developer always ask for some changes to the first pattern.  
Second pattern is made as per comments.

### Counter Sample:

Where first pattern is made on designers artwork, Counter sample is to make not on designer's artwork, has to follow another sample given by the merchandiser.

- ✓ Purpose : See the workmanship & test the factory skill
- ✓ Status : Nothing specific
- ✓ Materials : Available
- ✓ Price : Not confirmed
- ✓ Quantity : 1 (for customer) + 1 (self-keeping)
- ✓ Delivery : As per request

### Salesman Sample:

Salesman sample is made when price is confirmed and orders are on speculation, usually in I size in all color combinations of expected order. Buyer held a meeting with its customer and record their response on order quantity per color, size etc. And finally place order to their vendor.

- Purpose : Sales meeting by retailers, market appraisal & Demand / order forecast
- Status : Final stage of the order confirmation
- Material : Actual
- Price : Confirmed
- Quantity : There is minimum quantity per color combination
- Delivery: Very, important to meet the delivery date.

### Photo Sample:

- ❖ Photo samples are made with actual color and material to be worn by the models on the event of shooting for catalog.

### Approval Sample:

In any discrete period of time, whenever it required any revision in the sample, a new sample is made (sometimes mock-up is workable too) as per new specification. It is sent to buyer for his approval of the conformity that-the revision is done correctly.

**SIZE SET:** Consists of 1 pc from each size for each color combination.

**MOCK UP:** Any part of the garment to make for particular purpose, not complete garment Pre- Production Sample When material for bulk production arrived, factory makes a sample with the actual material and sends to buyer.

### Production Sample:

It is a reference to the buyer that the bulk is being produced as per specifications. Buyer wants to be assured that correct material is sourced & line workmanship conformed to the quality level.

### Shipping Sample:

A sample is kept from every Pre-Shipping inspection to be referred, if required, after the order has been delivered. Usually for any disputes (e.g. Claim) shipping samples is important.

### Swatch:

Swatch is a presentation of all the materials is (Fabric & Accessories) used for any specific style /order. Usually small piece of fabric and each piece of accessories are attached in board paper in a systematic manner. Swatch is very important for production line to make the correct construction of a garment and QC department ensures it. Concerned merchandiser should confirm/approve the swatch.

### **3.2 Trims:**

Trims cover all the items used in the garment except the basic fabric. There are hundreds of items used to manufacture the garments, Proper selection of trims and its quality are very important for styling, otherwise the garment may be rejected or returned by the customers.

Following is a part of list that covers some names of the trims:

- Zipper/Fastener:
- Teeth : Nylon, Vision, Metal
- Color : Tape Color, Teeth Color
- Size: #3, #5, #8 etc.
- Length : As per requirement 18 cm, 72 cm
- End : Close End (C/E), Open End (O/E)
- Slider: One Way, Reversible.

# 4. Important Documents for Garments Merchandiser:

## 4.1 Accessories quotation:

Specimen Local Accessories Price

Company Name and address

To

Company Name

Address

Accessories Quotation:

SL	NAME OF THE ITEMS	QUANTITY	USD RATE	REMARKS
	MANUFACTURER'S ITEM			
01	POLY (EXAP.MEA.17"X 27"),PLAIN POLY(8MM)	1 DOZ	\$ 0.36/YDS	
02	HANGER	X	AFTER SEEING SAMPLE	
03	COTTON POLYESTER DRAWSTRING	1 YDS	\$ 0.028/YDS	
04	TWILL TAPE COTTON/POLYESTER	1YDS	\$ 0.030/YDS	
05	HANGTAG, BARCODE, LABEL	X	AFTER SEEING SAMPLE	
06	7 PLY BOTH SIDE LINER 5PLY BOTH SIDE LINER	PER SQUARE METER	\$ 0.78/S.M	
07	PAPER PRINTED LABEL 2.5"	1DOZ	\$ 0.05/DOZ	
08	SHEETING PRINTED LABEL 2.5"	1DOZ	\$.045/DOZ	
09	STOPER	1 DOZ	\$ 3.90/DOZ	
10	ELASTIC WHITE- W-1/2"	144YDS/ROLL	\$ 3.60/ROLL	
	W-1"	48YDS/ROLL	\$ 1.40/ROLL	
	W-1/2"	48YDS/ROLL	\$ 2.44/ROLL	
	<b>SUPPLY ITEM</b>			
01	ZIPPER PLASTIC(NO# 05 NORMAL PULLAR C/E O/C)	1 DOZ	\$ 1.30/DOZ	
02	SHANK BUTTON	1 GROSS	\$ 2.90/G	
03	SNAP BUTTON	1 GROSS	\$ 4.0/G	
04	NYLON BUTTON(14L AND 16L)	1 GROSS]	\$ 4.2/G	
05	HORN BUTTON(22L AND 24L)	1 GROSS	\$ 32.50/G	
06	COLLAR STAND ( L-18")	100 PCS/BUNDILE	\$ 1.50/BUN	
07	VELCRO TAPE-2.5"	1 YDS	\$ 0.40/YDS	
08	GUM TAPE-2.5"	48 YDS/ ROLL	\$ 0.46/ROLL	
09	SCOTCH TAPE	12 ROLL/PACKET	\$ 2.88/PAC	
10	METAL CLIP	200 PCS/PACKET	\$ 0.40/PAC	
11	TISSUE	500 PCS/PACKET	\$ 2.0/PAC	
12	TAGPIN	500 PCS/PACKET	\$ 2.24/PAC	
13	PP BAND	500YDS/ROLL	\$ 8.0/ROLL	
14	INTERLINIG NON FUSE	100 YDS/ROLL	\$ 25.20/ROLL	
15	REVEIT ANTOIQUE BRUSS	1000 PCS	\$10.98	
16	T/C SOFT	1 YDS	\$0.50	
17	EYE LET	1000 PCS	\$10.80	

**Note:** ALL PRICES TO BE NEGOTIATED

THANKS AND BEST REGARDS

## 4.2 Accessories

- LABELS: Main, Size, Care, Content, price, patch etc.
- BUTTON: Horn, Metal etc.
- ELASTIC: Cotton, Polyester etc.
- EYELET: Antique Matching etc.
- VELCRO : Hook & Pile
- STRING/CORD: Cotton, Polyester etc.
- PLASTIC CLIP
- TAGS : Price tag, Hand Tag
- STICKER : Hook & Pile
- TAGPIN
- HANGER
- POLYBAG
  - Strength: Chemical Mixture
  - Thickness (micron/mm: 1 mm = 1000 micron)
  - Elasticity, Transparent, LDPE (Low Density Poly Ethylene), PP (Poly Propylene)
- BLISTER BAG :(.05 mm) : Loaded capacity is higher than poly bag
- SCOTCH TAPE
- GUMTAPE
- CARTON: 3ply, 5ply, Size (L, W. H)

### 4.2.1 SEWING THREAD:

The thread we choose for any sewing project should be similar in fiber content to that of our fabric. Cotton, polyester & cotton/poly threads are the most widely used.

### 4.3 COSTING SHEET FOR WOVEN SHIRT

Reference No. : GM/COST/2005 Date: 2 march 2005

Garments Description: Men's shirts L/S plus 2 pockets with flaps.

Order sheet Rcvd Date: P/Ratio = M/2 – L/4 – XL/4 –XXL/2 = 12

Fabric Description: Denim 6.05 oz. width: 59/60 inch

DESCRIPTION	CONSUMPTION PER YD/DOZ	UNIT PRICE PER DOZ	UNIT PRICE PER PC.	REMARKS
Fabric 1.60 yds/pcs	\$19.20	\$22.08		\$ 1.15/yd
Interlining		\$0.76		
Readymade color		\$0.50		
Collar Bone 2 Pcs X 2%		\$0.34		
Main Label		\$0.23		
Size Label		\$0.40		
Special Paper Label		\$0.46		
Button 14 L (9pcs+2%)		\$2.00		
Sewing Thread		\$0.60		
Tag		\$0.30		
Collar Stand		\$0.30		
Butter fly		\$0.40		
Neck Board		\$0.06		
Ball pin		\$0.10		
Poly Bag		\$0.10		
Gum Tape		\$0.04		
Master Cartoon with DVR	36Pcs/Cartoon	\$0.55		
Tissue paper		\$1.50		
PP Band		\$0.44		
Total Accessories Cost + 2% wastage		\$4.08		
Embroidery		\$2.20		
Washing		\$2.50		
Screen Print		\$2.10		
Cost Of Manufacturing		\$7		
Total Cost In FOB		\$49.04		
Sea Freight		\$2.83		
Total Cost in C & F		\$51.87		
Invoice Price /pcs		\$3.20		
Extra Cost		\$3.20		
	Total USD	\$58.27		

#### 4.4 PRODUCTION ORDER SHEET

Style #146694 BB

P.O # 5720

Buyer: Alpha Apparels Inc.

01	FACTORY	FRANCES APPARELS LTD
02	ITEM	100% COTTON SHORTALL WITH BUTTER FLY EMB.
03	FABRIC	100% COTTON RING SPUN 10 OZ DENIM
04	CONSTRUCTROR	10 X 10/83 X 46
05	ORDER QTY	3000 DOZNS
06	DELIVERY	JUNE 2012
07	MAIN LABELS	ZANA DI EMBOSSED IN REGULAR COMBO TO BE SEWN AT INSIDE BACK BIB CENTRE ZD#1PC
08	SIZE LABELS	BACK LETTERING IN WHITE GROUND AND CONTAIN: S-M-L-XL-XXL
09	CARE LABELS	BACK LETTERING IN WHITE GROUND AND CONTAIN: RN 74753, 100% COTTON, MADE IN BANGLADESH, SEE REVERSE FOR CARE, MACHINE OR HAND WASH, USING MILD SOAP, NO BLEACH TUMBLE DRY LOW, WARM IRON, PRESSING IF REQUIRED
10	SEWING THREAD	100% COTTON BROWN CONTRAST SEWING THREAD AS: PER COLOR SHADE(B4014),20/3 FOR STOP STITCHING, 20/2 FOR BOBIN, 40/2 FOR BARTAKE, 20/3 FOR EYELET HOLE, 40/2 FOR POCKETING AND HOLE
11	RATIO SCALE	S/2-M/6-L/4 = 12 PCS
12	POCKETING	T/R WHITE POCKETING FABRIC FOR POCKET BAGS
13	ZIPPER	METAL GOLDEN BRASS C.E# 5 WITH AUTO LOCK SIZE-7"
14	EMBROIDERY	MULTICOLOR BUTTERFLY EMB-TO BE DONE IN FRONT BIB POCKET
15	WASHING	DOUBLE STONE WASH-AS PER GIVEN STD
16	BUTTON	ZANA DI EMBOSSED SHANK IN ANTIBRASS COLOR -27L-3PCS AT EACH SIDE OPENING, 2 PCS AT BIB CORNER TTL: 8PCS PER GMT
17	RIVETS	ZANA DI EMBOSSED RIVETS IN ATIBRASS COLOR-1 PCS AT EACH FRONT PKT. 2 PCS AT COIN PKT. TTL: 4PCS PER GMT
18	BUCKLE	REGULAR SHAPE IN ANTIBRASS COLOR 2 PCS PER GMT
19	JOKER TAG	ZANA DI EMBOSSED JOKER TAG TO BE ATTACHED WITH 2 BUTTON STITCH AT FRONT WAIST BAND LEFT SIDE
20	HANG TAG	ZANA DI HANG TAG TO BE ATTACHED WITH THREAD AT FRONT LEFT BELT LOOP
21	PRICE TICKET	TO BE ATTACHED WITH TAG PIN AT LEFT SIDE SEAM BELOW WAIST BAND
22	PACKING	FOR SCALE BREAK SCALE BREAD DOWER
23	SPECIAL INSTRUCTIONS	1. NEED TO HAVE SAMPLE AND TRIMS CARD APPROVAL FROM FRANCE APPARELS TO GO INTO PRODUCTION. 2. FACTORY CAN CUT BULK ONLY AFTER NOTING SHRINKAGE ON A INITIAL CUT OF 100 PCS. 3. NEED TO HAVE PRODUCTION SAMPLES 2 PCS IN M FROM EACH COLOR WITHIN 2 DAYS OF COMING OF THE PRODUCTION. 4. NEED TO HAVE SHIPMENT SAMPLES 2 PCS PER SIZE AT THE TIME OF FINAL INSPECTION. 5. NEED TOP STITCH 7-8 PER INCH

#### 4.5 Pro-forma Invoice:

### COMPANY NAME

COMPANY ADDRESS

### **Pro-forma Invoice**

No. GMC/GT/GIT/025/05

Date:

30/06/2005

For Accounts & Risk of M/s Company and address		Notify M/s Company & address		Quantity Pcs	Unit Price USD	Total USD
Country of origin Bangladesh	Port of loading Chittagong sea port	Final destination Genoport(Italy)	Shipment terms C.N.F by Sea	14,000	3.2	460,880.00
Goods subject to G.S.P From A	Quantity Tolerance +0%-10%	Negotiating period 21 Days from B/L date	L.C Expiry in Bangladesh			
Description of goods						
Men's Shirts L/S having 2 pockets with flaps. 100% cotton Denim 6.50 oz						

- ❖ Colors: Stone Wash as per last order.
- ❖ Label: Woven 'Stormy Life'.
- ❖ Packing: Single Natural Poly bag in 36 Assorted Master Cartoon.
- ❖ Assortment: M/6-L/12-XL/12-XXL/6
- ❖ Shipment date: Within 31/07/2005
- ❖ Partial Shipments: Allowed
- ❖ B/L: Clean Board ocean bill of lading issued to the order of negotiating bank and endorsed to the opening to the opening bank marked freight prepaid.
- ❖ Advising Bank: Public Bank Limited, Kawran Bazar Branch, Dhaka-1215 Bangladesh.
- ❖ Payment at sight by irrevocable and transferable L/C.
- ❖ L/C must be available with any bank in Bangladesh.
- ❖ Insurance on Buyer's account.
- ❖ Clear reimbursement to be allowed.

For and on behalf of

Company Name

Authorized Signature

# 5. Costing and Consumption:

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## 5.1 Before costing parameter:

- 1) **Fabrication:** there are clear idea regarding the fabrication before taking the order from the buyer / buying house. After then, surety that strong source of the followings fabric.
- 2) **Size spec:** Make sure that, get the correct/latest size spec with the measurement of all the sizes, which will be ordered. Many times it is seen that, PO sheet has come with new bigger size which was not during the costing.
- 3) **Fabric color:** Try to know that, how many colors the style has & also try to know that, color wise order qty ratio.
- 4) **Qty:** Take information regarding approximate order qty.
- 5) **Shipment date:** Asked buyer for the shipment date & check with the production department that, they have enough space for shipped out the followings quantity within the require ship date or tell your possible date.
- 6) **Test requirement:** Let know that, the order has any test or not.
- 7) **L/C payments term:** Take a previous l/c copy from them & discuss with commercial people regarding all the terms along with payment terms.
- 8) **Inspection:** Get a confirmation from the buyer that, who will inspected the goods. If third party then who will pay their charges.
- 9) **GSP:** confirm that, buyer has need the GSP or not.

## 5.2 Calculating Fabric Consumption

- 1) **Body Consumption:** Calculate the body fabric consumption at first. If possible calculate it after make the pattern. Be confirmed regarding the dia. Calculate the consumption with adding + 5 GSM extra which fabric is sells in kg (s/j, pique, rib etc). Or reduce 2" (in width) from the both side which are in yards (tricot, taffeta etc). Moreover, if the garments are wash garments then make sure that, the pattern has the wash allowance.

2) **Rib:** Calculate the rib consumption carefully because sometimes the garments have rib at cuff opening & bottom hem. Some people mistakenly do the consumption considering one cuff.

3) **Neck tape:** Calculate the consumption of neck tape.

4) **Appliqué & others fabric:** Make sure that, you are not missing any appliqué & any other fabric.

5) **Estimate the wastage:** Normally we add 9% wastage for the knit items. However, it's may vary depends on how many process the garments have. If it is with only front chest print then 9% is ok but if with allover/rotary print, with heavy wash etc then you must increase the wastage. Moreover, if the garments with pigments dye then add minimum 25 to 30% wastage because in this pigment dye garments reject percentage is very high. For more details regarding consumption click followings link For Knit & for Woven shirt & For Woven Fabric

#### Others item:

1) **Print:** If the garments have print then make sure that, the sample have a clear art work of it. Check that there clearly mentioned the print quality, dimension & placement. Send the art work to your printers for a better price idea. Also let know from printers regarding the difficulties of the followings print. Many times it is seen that, buyer has asked for so many type/kind prints in same body which is so difficult for production. Such as, if buyer asked for Flock + discharge & foil print in at the same artwork then it is not possible for production.

2) **Embroidery:** Discuss with embroidery supplier regarding the embroidery & take price quotation.

3) **Wash:** Take the wash price quotation from washing factory.

4) **Test:** Confirm the charges of test from the testing company.

#### 5.3 Accessories & trims

Calculate the price of accessories individually it will reduce your percentage of mistake. Please find below the list of some accessories item

❖ **Sewing thread:** Confirm that, which thread are need 100% cotton, spun polyester or filaments. Then ensure the count 50/2 or 40/2 or any other denier.

It's may vary on fabrications. Regarding the pigment dye garments we normally used cotton grey color cotton thread. Calculate the sewing thread consumption part by part & add require wastage percentage. For details of Sewing thread consumption Thread Chart & Consumption Formula

- ❖ **Labels:** Take the quotation from your supplier for the entire woven & satin/paper label.
- ❖ **Tape:** Calculate the consumption of tape if it has, such as Velvet, herringbone or canvas etc.
- ❖ **Elastic:** Make sure which denier & width it need. Then take the quotation from supplier.
- ❖ **Zipper:** If the garments have zippers then confirm that, from where you will purchase that. Many time the logo zipper need to import the mold from abroad. Make sure the zipper quality, such metal, nylon or vision zipper. Check the zipper measurement from production department and get prices from zipper supplier.
- ❖ **Button:** Take the button price from your supplier if the garments have it.
- ❖ **Inter lignin:** Calculate the inter lignin price if the garments need.
- ❖ **Patch or badge:** Calculate the patch or badge or others metal item if the garments have.
- ❖ **Finishing item:** Tissue paper, silica gel, hang tag, barcode sticker, back board, h/tag string, scotch tape, security tag calculate the prices of these item.
- ❖ **Hanger:** Take the quotation of hanger.
- ❖ **Poly:** Make the measurement of poly. Confirm the quality & with adhesive or not.
- ❖ **Carton:** Find out the carton measurement & take the prices from carton supplier along with top, bottom & divider.
- ❖ **Gum tape:** Confirm the gum tape quality that, whether it is normal transparent or with any logo. Then take the price quotation.
- ❖ **PP belt:** Take the price quotation of pp belt if buyer asked it.
- ❖ **Carton sticker:** Take quotation for sticker.

#### **5.4 Commercial cost:**

Normally we add 3% of total purchase (Fabric cost+ other item cost + Accessories cost) as commercial cost if the L/c payments terms is as sight. If the l/c is 60 days deferred then you can add 7.5% additional cost of total price and it will be 15% for 90 day deferred.

#### **5.5 COSTING:**

Costing of garments is important task for a garments merchandiser. Overall profit depends on it. All manufacturing Companies sell their product to make profit. The profit on each product sold can be defined as the difference between the selling price of the product and total cost of making the product. Cost therefore plays a very important role in the product making and it is important task for factory which runs for business purposes.

#### **5.6 GRMENTS COSTING:**

There are two types of garments, namely woven and knitted garments. Shirt, trouser, series, bed spreads, blankets, towels and made ups are woven. T-shirts, sweaters, undergarments, pajamas and socks are knits.

Costing is the deciding factor for fixing of prices and the important thing to follow in all stages like purchase, production, marketing, sales, etc. Also update knowledge about everything related to garments, is essential to make perfect costing. Costing includes all the activities like purchase of fabrics and accessories, processing and finishing of fabrics, sewing and packing of garments, transport and conveyance, shipping, over heads, banking charges and commissions, etc.

We must be aware that there are always fluctuations in the costs of raw materials and accessories, charges of knitting, processing, finishing, sewing and packing, charges of transport and conveyance. The method of making costing will vary from style to style. As there are many different styles in garments. Hence let us take men's basic T-shirt style as example which is in regular in use.

Costing of the product is done by the consideration of the following factors: (Costing of product depends on the following matters):

- 1) Amount of raw materials consumed. /Raw material
- 2) Direct labor.
- 3) Indirect labor.
- 4) Factory cost
- 5) Office and administrative cost.
- 6) Sales and distribution cost.
- 7) Profit
- 8) Total utility cost & Depreciation
- 9) Wages & Salary
- 10) Bank liability
- 11) Transport cost Lunch Salary
- 12) Payment
- 13) Entertainment cost
- 14) Miscellaneous cost
- 15) Government cash incentive

### 5.7 PRICE OF THE PRODUCT:

Generally price of product is determined by the required profit adding to the total expenses. So, Price of products= (Direct expenses + Indirect expenses + Factory Overhead) + Required profit

### COSTING OF KNITTING: (Circular knitting)

- M/C depreciation cost = 2.25 taka/kg
- Needle cost = 1.45 taka/kg
- Sinker cost = 0.20 taka/kg
- Lubricant cost = 0.82 taka/kg
- Electricity cost = 0.45 taka/kg
- Spare parts cost = 0.05 taka/kg
- Knitting floor charge = 0.33 taka/kg
- Salary = 1.85 taka/kg
- Others = 0.10 taka/kg

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**Knitting cost** = 7.5 taka/kg

**KNITTING CHARGE OF FOLLOWING FABRIC DESIGNS:**

Design	Rate/kg	Design	Rate/kg
S/J	8.00	Mash Fabric	50.00
S/J Dyed Yarn	20.00	Mini Waffles	35.00
S/J HFL	25.00	S/J(Eng. stripe)	100.00
Pique/ Lacoste	14.00	Lacoste(Eng. stripe)	120.00
1X1 Rib	14.00	FF LY S/J(Eng. stripe)	200.00
Plain interlock	17 .00	HF LY S/J(Eng. stripe)	150.00
2X1 Rib	20.00	FF LY Lacoste(Eng. stripe)	220.00
Fleece	18.00	HF Lycra Lacoste(Eng. stripe)	170.00

**KNITTING CHARGE OF DIFFERENT FABRICS:**

Fabric name	Charge per kg(Tk)
Single Jersey	08-10
Single Jersey with Lycra	30-32
Single Lacoste	15-18
Double Lacoste	16-20
Single Pique	15-18
Double Pique	16-20
1X1 Rib	18-20
Rib with Lycra	32-35
Interlock	28-32
Fleece	25-28

•	White	:	25/28 Tk.
•	Average color	:	80 Tk.
•	Black	:	40/45 Tk.
•	Royal blue	:	120 Tk.
•	TC(solid)	:	100/120 Tk.

Name of fabric process	Charge per kg(Tk)
1. Slitting only	5
2. Stented only	25
3. Compacting only	15
4. Stented + Compacting	35
5. Stented + Compacting+ wash	50
6. Tube Compacting	10

## 5.8 Costing parameters:

- Fabric consumption.
- Gross weight of other components of garment.
- Fabric cost per kg.
- Fabric cost per garment.
- Other charges (print, embroidery, etc.).
- Cost of trims (labels, tags, badges, twill tapes, buttons, bows, etc.).
- CMT charges.
- Cost of accessories (hangers, inner boards, polybags, cartons, etc.).
- Cost of a garment.
- Price of a garment.

## 5.9 Fabric consumption

The garments manufactured in many sizes to fit for everybody. Generally they are in sizes Small (S), Medium (M), Large (L), Extra-large (XL) and Double Extra Large (XXL). The quantity ratio or assortment can be any one of the following approximate ratio. S: M: L: XL: XXL - 1:2:2:2:1

S: M: L: XL: XXL - 1:2:1:2:1

S: M: L: XL: XXL - 1:2:3:2:2

As the price is the same for all these sizes of garments, the author have taken the centre size large (L) for average calculation. Generally, the quantity of L size will be higher or equal to the quantity of each of other sizes.

## 5.10 CM (Cost of manufacturing):

$$\text{We know, CM} = \frac{C \times T}{X}$$

Here, C = Number of machine per line

$$\begin{aligned} X &= \text{total output per line per day} = \text{Hourly output} \times \text{Working hour} \\ &= 100 \times 8 \\ &= 800 \text{ pcs} \end{aligned}$$

T = average cost per machine per day

Again we know,  $T = A/B \times 26$

Here, A= Direct or indirect cost per month

= 60,000

B= Total Number of machine = 200

26= Working day per month

\*\* ,  $T = 60,000 / 200 \times 26 = 11.54$

\*\* CM cost =  $24 \times 11.54 / 800$

= \$ 0.346/ piece

### 5.11 Costing for knitted t-shirt:



Ratio	1	2	2	2	1
Description	S	M	L	XL	XXL
Chest	56	58	60	62	64
Body length	74	76	78	80	82
Sleeve length	22	23	24	25	26

**Description:** Men's Basic T-shirt-short sleeves- 100% Cotton 140 GSM Single jersey - 1

x 1 ribs at neck - solid dyed - light, medium and dark colors in equal ratio.

Sizes: S, M, L, XL, XXL Ratio: 1: 2: 2: 2: 1

Measurements in cm: (Finished garment)

Size: L

Chest - 60 cm

Length - 78 cm

Sleeve length - 24 cm

Neck rib width - 3 cm Hem - 3 cm

Patterns are generally made with the seam allowance and cutting allowance. Generally, 12 cm is added with the total of body length and sleeve length.

That is,

Fabric consumption/pc=

(Body length + Sleeve length + allowance) \* (Chest + allowance) \* 2

\* GSM

---

10000

(70 + 24 + 12) \* (60 + 3) \* 2 \* 140

=

---

10000

= 187 grams

Body & Sleeves: 187 grams

Neck rib: 10 grams (approximately)

Gross weight: 197 grams or 0.197/kg

Fabric consumption/ dozen = 0.197 X 12 = 2.364 kg

Here, fabric price/kg= \$6

Fabric price / dozen = 6 X 2.364 = \$ 14.184

Fabric price/ dozen = \$ 14.184

Per dozen CM cost = \$ 5.5

Per dozen accessories cost = \$5.0

Per dozen overhead cost = \$1.8 (bank handling, carriage, forwarding)

Commission = \$3

---

Total FOB price = \$29.484 (including commission)

Here, total FOB price = \$29.484

Per dozen sea freight = \$ 1.34

---

Total C&F price (Hamburg)/dozen = \$ 30.824

Again, total C&F price / dozen = \$ 30.824

Per dozen insurance cost = \$ 1.3

Total CIF price / dozen = \$ 32.124

\*\* Total CIF price/piece = (32.124÷12) = \$ 2.677

## 5.12 Costing of Men's long sleeve woven shirt:



### Description:

Oxford stand up collar, long sleeve, button sewn, one chest pocket, front pocket, and box pleat at a center back yoke with loop, 100% cotton.

112 X 54

45 X 36

And fabric width = 58"

Total cartoon	Color	Size							total
		39	40	41	42	43	44	45	
		1	2	3	2	2	1	1	
25	White	25	50	75	50	50	25	25	325
35	Yellow	35	70	105	70	70	35	35	420
45	Blue	45	90	135	90	90	45	45	450
50	Black	50	100	150	100	100	50	50	600

### Specification:

	1	2	3	2	2	1	1
Description	S	M	L	XL	XXL	3XL	4XL
1/2 Chest	56	58	60	62	64	66	68
Body length	79	81	81	83	84	85	86
Sleeve length	63	64	64	66	67	68	69

**Fabric consumption formula:**

$$\frac{\left\{ \frac{1}{2} \text{ chest} \times (\text{Body length} + \text{Sleeve length}) \times 2 \right\}}{6.45 \times 36 \times \text{Fabric width}}$$

Here,

$$\text{Body length} = 81\text{cm} + 6\text{cm (SA)}$$

$$= 87\text{cm}$$

$$\text{Sleeve length} = 64\text{cm} + 6\text{cm (SA)}$$

$$\frac{1}{2} \text{ Chest} = 60\text{cm}$$

$$\text{Width} = 58 - 1 = 57$$

$$\begin{aligned} \text{Consumption/ piece} &= \frac{\{60 \times (87+70)\} \times 2}{6.45 \times 57 \times 36} + 5\% \text{ wastage} \\ &= 1.47 \text{ yds} \end{aligned}$$

$$\text{Consumption / dozen} = 1.47 \times 12 = 17.64 \text{ yds}$$

$$\text{Here, fabric price} = \$ 1.60/\text{yds}$$

$$\text{Fabric price / dozen} = 1.60 \times 17.64$$

Here,

$$\text{Fabric price/ dozen} = \$ 28.224$$

$$\text{Per dozen CM cost} = \$ 5.5$$

$$\text{Per dozen accessories cost} = \$ 5.0$$

$$\text{Per dozen overhead cost} = \$ 1.8 \text{ (bank handling, carriage, forwarding)}$$

$$\text{Commission} = \$ 3$$

---

$$\text{Total FOB price} = \$ 43.524 \text{ (including commission)}$$

$$\text{Here, total FOB price} = \$ 43.524$$

$$\text{Per dozen sea freight} = \$ 1.34$$

---

$$\text{Total C\&F price (Hamburg)/dozen} = \$ 44.864$$

$$\text{Again, total C\&F price / dozen} = \$ 44.864$$

$$\text{Per dozen insurance cost} = \$ 1.3$$

---

$$\text{Total CIF price / dozen} = \$ 46.204$$

$$** \text{ Total CIF price/piece} = (46.204 \div 12) = \$ 3.850$$

### 5.13 Consumption Calculation of Woven Basic pants:



Formula:

$$\frac{(\frac{1}{2} \text{ waist} \times \text{Front rise}) + (\frac{1}{2} \text{ Thigh} \times \text{In seam beam length}) \times 4}{36 \times \text{Fabric Width}} \text{ Yds} + 5\% \text{ wastage}$$

Let,

$$\frac{1}{2} \text{ waist} = 28\text{cm}$$

$$\text{Front rise} = 14\text{cm}$$

$$\frac{1}{2} \text{ thigh} = 18\text{cm}$$

$$\text{In seam length} = 72\text{cm}$$

$$\text{Fabric width} = 45''$$

$$\begin{aligned} \text{Consumption / pics} &= \frac{(28 \times 14) + (18 \times 72) \times 4}{6.45 \times 45 \times 36} \text{ yds} + 5\% \text{ wastage} \end{aligned}$$

$$= 0.583 \text{ yds}$$

$$\text{Consumption / dozen} = 0.583 \times 12 = 7 \text{ yds}$$

$$\text{Here, fabric price} = \$ 4.0/\text{yds}$$

$$\text{Fabric price / dozen} = 4 \times 7 = \$ 28$$

Here,

$$\text{Fabric price/ dozen} = \$ 28$$

Per dozen CM cost	= \$ 7.5
Per dozen accessories cost	= \$5.0
Per dozen overhead cost	= \$1.8 (bank handling, carriage, forwarding)
<hr/>	
Commission	= \$3
Total FOB price	= \$45.3 (including commission)
Here, total FOB price	= \$45.3
Per dozen sea freight	= \$ 1.34
<hr/>	
Total C&F price (Hamburg)/dozen	= \$ 46.64
Again, total C&F price / dozen	= \$ 46.64
Per dozen insurance cost	= \$ 1.3
<hr/>	
Total CIF price / dozen	= \$ 47.94
** Total CIF price/piece = (47.94÷12)= \$ 3.995	

#### 5.14 Sewing Thread Consumption:

The sewing threads are carefully removed from a specific length of each different seam. We use the amount taken from these seams to enable us to calculate a ratio, which can then be applied to the total length of each seam. By dividing the amount of thread by the seam length, we get the ratio of thread consumed. If we multiply this factor times the total length of seam, we determine the total thread consumed for that seam. We usually add 15% for wastage of thread due to machine running conditions, thread breaks, repairs, etc.  $540 \text{ cms} \times 1.15 = 621 \text{ cms}$  or 6.21 meters of thread per seam including wastage. Carry out the steps in the above example for each stitch type found in the garment.

#### 5.15 Using sewing Thread Ratio:

An easier method is to use the generally applicable Thread Consumption Ratios for the various stitch types that are listed in the table overleaf. By relating these ratios to the lengths of seams using each stitch type, total thread consumption can be calculated.

Stitch Class	Description	Total Thread Usage cms per cm of seam	No of Needles	% of Needles Thread	% of looper / Under Threads
301	Lock Stitch	2.5	1	50	50
101	Chain stitch	4	1	100	0
401	2-Thread Chain stitch	5.5	1	25	75
304	Zigzag Lockstitch	7	1	50	50
503	2-Thread Over edge stitch	12	1	55	45
504	3-Thread Over edge stitch	14	1	20	80
512	4-Thread Mock-safety stitch	18	2	25	75
516	5-Thread Safety stitch	20	2	20	80
406	3-Thread Covering stitch	18	2	30	70
602	4-Thread Covering stitch	25	2	20	80
605	5-Thread Covering stitch	28	3	30	70

**Example:**

Length of seam = 100 cms or 1 meter

Stitch class 401 = 2-Thread Chain stitch

Total thread usage per cm of seam = 5.5 cms

Total thread consumption = 100 cms x 5.5 = 550 cms

Estimated Needle Thread = 550 x 0.25 = 138 cms

Estimated Looper Thread = 550 x 0.75 = 412 cms

Add 15% wastage = 550 cms x 1.15 = 633 cms or 6.33 meters of thread per seam.

**Sewing Thread Consumption per Body:**

Sewing thread consumption is very important for the garments costing. For quick costing we use our previous idea to calculate the sewing thread cost. Please find below an approximate sewing thread consumption list for some common item. This list is based on minimum wastage. So, at first please check your percent of wastage & and try to control it.

## 5.16 Machine wise and body wise sewing thread consumption:

### Machine wise sewing thread consumption/inch:

1. plain m/c	1 needle	2.5 inch
2. plain m/c	2 needle	5 inch
3. over lock	3 thread	13.25 inch
4. over lock	4 thread	16.75 inch
5. over lock	5 thread	18.75 inch
6. flat lock	3 thread	16.75 inch
7. flat lock	5 thread	22.25 inch
8. bar tack stitching	Per operation	Generally 7 inch
Button hole stitching		7 inch per hole
Button attaching		3 inch per button
Feed of the arm		7 inch for one needle
Kanchai Stitching		7 inch for one needle
Back Tack Stitching		7 inch for one needle

Item	Consumption of Sewing thread/body
Basic T-shirt	125 m
Basic Polo shirt	180 m
Basic L/slv Woven Shirt	125 m
Basic S/slv Woven Shirt	175 m
Classic L/slv Woven Shirt	150 m
Classic S/slv Woven Shirt	350 m
Basic shorts	450 m
Classic Shorts	350 m
Basic L/pants	450 m
Classic L/pants	500 m
Basic Nylon Jogging Suit	350 m
Basic Short all	400 m
Classic Short all	500 m
Basic Overall	450 m
Classic Overall	350 m
Padded Coverall	450 m
Basic Romper	350 m
Classic Romper	450 m
Night Dress	200 m
Pajama Set	450 m
Skirt	300 m
Panty	50 m
Brief	50 m
Brassier	100 m
Corp set	150 m
Tank Top	50 m
Denim 5 Pocket Pants	400 m
Basic Nylon Padded Jacket	350 m
Classic Nylon Padded Jacket	500 m
Denim Jacket	450 m
Twill Jacket	450 m
Basic Nylon Wind Breaker	300 m

# 6. Garments Washing:

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## 6.1 Introduction:

A garment washing is the technique by which the readymade garments are washed or partially dyed in order to obtain desirable motif and outlook along with softness/ hand. After making garments from any color are washed to modify the color and appearance. Washing process of garment is done to create wash look appearance.

## 6.2 Purpose of Washing:

- ✓ By the washing technique, faded/old look, color or tinted affect is created in the garments which also seem the best touch of garments.
- ✓ Washing technique creates new fashion such as tagging, grinding, destroy, Blasting, permanent wrinkle, deep dye, tie dye, P. P spray, hand crapping, P.P spooning etc. This also seems the best touch of garments.
- ✓ The main and important function of washing is to reduce size materials as a result the
- ✓ Garment become size free and become soft hand feel.
- ✓ When these soft garments are touched then it seems to best touch of garments.
- ✓ To attraction the customers/Buyer by different types of Fashionable washing and market developments.
- ✓ Due to washing, shrinkage occurs in the garments. There is no possibility of further shrinkage of the wash garments.
- ✓ Any dirt, spot or germ if added in the garments during manufacturing is also removed due to washing.

## 6.3 Types of Washing:

- ❖ Normal wash/Garments wash/Rinse wash
- ❖ Pigment wash
- ❖ Caustic wash
- ❖ Enzyme wash (Bio wash & Bio polishing)
- ❖ Stone wash

- ❖ Bleach wash (Ice wash& snow wash)
- ❖ Stone Enzyme wash
- ❖ Acid wash
- ❖ Silicon wash

#### 6.4 Machine used in the washing plant are:

- Sample washing Machine (Horizontal / Vertical Type)
- Washing Machine (Side loading)
- Washing Machine (Front loading)
- Hydro extractor Machine
- Dryer Machine (Steam)
- Dryer Machine (Gas)
- Chemical Mixture Machine
- Industrial Oven (Gas/Electric)
- Boiler

#### 6.5 WASHING PROCESS OF NORMAL / GARMENT WASH:

The Normal/Garment washing process of batch of 70 kg Twill/Canvas Garments are described below:

##### First Step:

- Lot size: ..... 70 kg Twill/Canvas Garment.
- Add water at L: R = 1: 8-10..... 560 - 700Liter.
- Machine Running.
- Add detergent at 0.5 gm / liter ..... 280-350 gm.
- Temperature..... Sometime cold & sometime 40°C to 60°C.
- Time ..... 5 to 10 minutes.
- Drop the liquor.
- Cold wash

### **Second Step:**

- ✓ Add water at L: R = 1: 6 ..... 420 liter.
- ✓ Washing machine running.
- ✓ Add Flax softener at 0.6 gm / liter.... 252 gm.
- ✓ Add Acetic Acid at 0.5 gm / liter ..... 210 gm.
- ✓ Time..... 5 to 10 minutes. Drop the liquor.
- ✓ Unload the Garments on trolley.

### **Third Step: Hydro extractor machine:**

- ✓ Hydro-extraction the garments to remove excess water from the washed Garments.

### **Fourth Step: Steam Dryer/Gas Dryer:**

- ❖ Load on steam dryer - 50 kg.
- ❖ Temperature - 60°C - 70°C. Time - 40 - 50 min for dry.
- ❖ Time - 10 - 15 min for cold dry.
- ❖ Load on gas dryer - 50 kg, running the machine.
- ❖ Temperature: - 70°C - 90°C.
- ❖ Time: - 30 - 35 min for dry.
- ❖ Time: - 10 - 15 min for cold dry.

### **Fifth Step:**

- ✓ After drying it will be quality checking and good quality Garments will be delivery to Garments factory.

**NOTE:** - Flax softener (cationic or nonionic) diluted with hot water then use in the machine.

## **6.6 Ultimate affect of Acid wash**

- ✓ During Acid wash, pumice stones are used. By the action of pumic stones, irregular fading affect is developed on the heavy garments like denims, thick canvas/twill, and sweater.
- ✓ The pumice stones act brushing action on the garment fabric surface.

- ✓ The area where more brushing action takes place there more discolor or fading affect is developed and the area where less brushing action takes place less brushing action and takes place less fading affect will be developed.
- ✓ The multi-layer fabric areas like collar, calf, pocket, placket, and side seam etc. area will be brushed more than the single layer areas.
- ✓ As a result irregular fading affect will be developed on the garments fabric surface.
- ✓ Thus in this way fading affect may be developed on the garment by acid wash technique.

### ACID WASH PROCESS:

A processor Acid wash of 60 kg batch of Denim Trouser as mentioned below:-

#### First Step: - Pretreatment/Desiring.

- ✓ Add water at L: R = 1: 10 ..... 600 liter.
- ✓ Start Machine.
- ✓ Add desiring agent at 1 gm/liter ... 600 gms.
- ✓ Add detergent at 1 gm/liter..... 600 gms.
- ✓ Temperature..... 60°C.
- ✓ Time..... 20 min.
- ✓ Drop the liquor.
- ✓ Rinse one for 3 minutes (cold).

#### Second Step: - Hot wash

- ✓ Add water at L: R = 1: 10 ..... 600 liter.
- ✓ Temperature..... 60°C.
- ✓ Time..... 5 min.
- ✓ Drop the liquor.
- ✓ Here hot wash is used to remove the adhering materials from the garment surface.
- ✓ Unload the garments from the washing m/c in the trolley.
- ✓ Load the pretreated garments in the dryer m/c.
- ✓ Dry the garment completely & unload the garments.

- ✓ The pumice stones used for acid wash need to pre-treat in the following chemical solution:-
- ✓ Water ..... 100 liter.
- ✓ Potassium per manganite..... 1000 gms.
- ✓ Phosphoric Acid..... 250 grms.
- ✓ Stir the solution in a stainless steel tub with dry pumice stone.
- ✓ Soak the stones with the chemical solution 10 to 15 minutes.
- ✓ The stones will pick up the solution. Then the soaked stones are dried in the open air for..... 2 to 3 hrs.
- ✓ Then pre-treated garment 30 to 40 kg per batch load in the dry washing machine.
- ✓ Load the per-treated stones (about 50 kg) in washing machine.
- ✓ Start machine running for each batch..... 7 to 10 min.
- ✓ Stop machine running.
- ✓ Unload the treated garment separately. Pumice stones with P.P. solution hit on garment surface as a result fading will be developed.
- ✓ Then load the stones treated garment in another washing machine.

### Third Step: - Wash for cleaning

- ✓ Batch wt ..... 70 kg.
- ✓ Add water at L: R = 1: 8..... 560 liter.
- ✓ Add detergent at 1 gm/liter ..... 560 gms.
- ✓ Temperature ..... 40°c - 50°c.
- ✓ Time .....10 min.
- ✓ Drop the liquor.
- ✓ Here detergent is used to remove the breaking stone dust and chemicals from the garment **surface**.

### Fourth Step: - Whitening/Neutralization.

- ✓ Add water at L: R = 1: 8 ..... 560 liter.
- ✓ Machine running.
- ✓ Add Metabisulphite at 5 gm/liter ..... 2800 gms.
- ✓ Cold temperature.

- ✓ Time 5 min.
- ✓ Drop the liquor.

#### Fifth Step:-

- ✓ Add water at L: R = 1: 7..... 490 liter.
- ✓ Machine running.
- ✓ Add Acetic acid at 0.6 gm/liter..... 294 gms.
- ✓ Add Softener at 1 gm/liter..... 490 gms.
- ✓ Then unload the garments.

#### Sixth Step: - Hydro extractor machine.

- ✓ Hydro-extractor is used machine to remove excess water from the garments.

#### Seventh Step: - Dryer machine:

After hydro extraction the garments are sent to drying m/c for complete drying.

#### Eighth Step: - Quality & Delivery:

After drying the garments go to quality checking & rectify washing fault and then good one

### 6.7 INTRODUCTION OF PUMIC STONE :

#### Pumic Stone:-

- ✓ The pumice stone are the perforated stones, produced from volcanic explosion.
- ✓ At first these stones are soft but becomes cold, it becomes the stones with rough surface, Pumice stones float on water.
- ✓ Pumice stones come from Indonesia and Turkey.
- ✓ Indonesia stone color is slightly brown and Turkey stone is white color.
- ✓ Pumice stones are available in 3 size i.e. small 2-3 cm, medium 3-5 cm and large size 5-7 cm.
- ✓ Two to Three times can be used are pumice stone.

Every bag contain 22 kg to 25 kg and price 400/= to 425/=/ bag

### THE ACT OF PUMICE STONES DURING GARMENT WASHING :

- During different garments washing like stone wash, Acid wash, Stone Enzyme wash etc.
- Pumice stones are used to create irregular fading effect on garments.
- The pumice stones act a brushing action on the garment fabric surfaces.
- The areas where more brushing action take place, there more fading or discolor affect will be developed and the areas where less brushing action takes place, there less discolor affect will be developed.
- The multi-layer fabric areas like Collar, Cuff, Pocket, Placket, Side seams etc. areas will be brushed more than the single layer areas.
- As a result irregular fading is developed in the garments by the action of pumice stones.

### STONE WASH:

- A process of stone wash of 60 kg batch of Denim.
- Long Pant as mentioned below:

### First Step : PRE-TREATMENT/DESIZING:

Are same mentioned above?

### Second Step :- HOT WASH:

- Add water at L: R = 1: 9..... 540 liter.
- Temperature..... 60°c.
- Time..... 5 min.

### Third Step:- BLEACHING:

- ✓ Add water at L: R = 1: 8..... 480 liter.'
- ✓ Machine running.
- ✓ Add bleaching powder (k.c.i) at 10 gm/liter ..... 4800 gms.
- ✓ Add soda ash at 5 gm/liter..... 2400 gms.
- ✓ Pumice stone at ½ vol of garments.
- ✓ Temperature ..... 60°c.
- ✓ Time (Depend upon the shade) ..... 12 to 15 min.

- ✓ Drop the liquor.
- ✓ Rinse twice, each 3 minutes

#### Fourth Step :-NEUTRALWASH:

- Add water at L: R = 1: 9..... 540 liter.
- Add sodium hyposulphite at 3 gm/liter ..... 1620 gms.
- Temperature..... 40°C.
- Time (Depend upon the shade) ..... 10 to 12 min.
- Drop the liquor.
- Rinse one.

#### Fifth Step :- SOFT WASH:

- ❖ Add water at L: R = 1: 8..... 480 liter.
- ❖ Add Acetic Acid at 0.6 gm/liter ..... 288 gms.
- ❖ Cationic softener at 1 gm/liter ..... 480 gms.
- ❖ Time..... 5 min.
- ❖ Drop the liquor.
- ❖ Unload the garments to trolley

#### Sixth Step :- Hydro-extractor Machine

- ❖ Hydro-extraction the garment to remove excess water from the washed garments.

#### Seventh Step :- Drying Machine

- Load 40 kg garments.
- Set temperature ..... 75°C to 85°C.
- Time ..... 35 to 40 min.
- Time ..... 10 minutes in cold dry.

#### Eighth Step:

- ✓ After unloading garments from the washing machine then they are sent to hydro-extractor machine to remove excess water from the washed garments.
- ✓ After dryer garment go to quality section for quality checking and good one delivery.

## **6.8 DIFFERENT TYPECS OF WASHING FAULTS**

- ✓ Color shade variation.
- ✓ Crease Marks.
- ✓ After wash whole.
- ✓ Very dark & very light.
- ✓ Bleach Spot.
- ✓ Bottom hem & course edge destroy.
- ✓ Running shading.
- ✓ Over blasting / low Blasting.
- ✓ Over grinding / low grinding.
- ✓ Bad smell due to poor neutralization.
- ✓ Poor hand feel.

# 7. INTRODUCTION OF GARMENTS DYEING:

## 7.1 Garments Dyeing:-

Garments dyeing are a new technology. First this technology applied on woolen and silk garments but now it's applied on polyester, nylon, acrylic and also cotton garments. The garments merchandise should proper knowledge about garments washing. Otherwise it's can't fulfill the buyer's requirement.

In case of garments dyeing the garments are made from grey fabric. And then the garments are dyed in required color and shade. The garments which are dyed in garments dyeing are follows:

- Active wear
- Jeans wear
- Panty hose
- Shirt
- Terry items
- Leisure wear
- Skirt
- Sweater

## 7.2 Advantages of Garments dyeing:

- Lower cost of production for any item of any color and shade.
- Comparatively less time required to produce and supply garments.
- No possibility of shade variation on within the garments.
- Small lots of different items could be produced at lower cost.
- Old garments can be re-dyed and hence becomes like new garments.
- Desiring, scouring, bleaching, dyeing, and finishing could be done in the same machine.
- Comparatively lower capital investment cost to set up a garments dyeing project.
- Requires lower water, steam water and chemical consumption.
- 15% fabric is cut out as wastage during fabric cutting, so wastage cost will be saved.

### **7.3 DIRECT DYEING:**

#### **First Step: - Dyeing**

- Batch size..... 60 kg ready for dyeing garments.
- Water at L: R = 1: 8..... 480Liter.
- Machine Running.
- Temperature ..... 50°-80°c.
- SCARLET. BNL... at 1.00%..... 600 gm.
- Dyes/CBA Orange TGL... at 0.3% ..... 180 gm.
- Salt..... at 20 gm/liter..... 9.60 kg (Light color)  
40 gm/liter ... 19.20 kg (deep color)
- Add Leveling agent at 0.5% ..... 300 gm.
- Time..... 30-50 mins.
- 3 minutes cold water wash.

#### **Second Step: - FIXING.**

- Batch size..... 60 kg.
- Water at L: R = 1: 7..... 420 Liter.
- Running the machine.
- Temperature ..... 50°c.
- Add Fixing agent at 0.8% ..... 480 gm.
- Time..... 10 -15 mts.
- Drop the liquor.

#### **Third Step: - Softening:**

- Batch size..... 60 kg.
- Water at L: R = 1: 7..... 420 Liter.
- Add Acetic Acid at 0.6 gm/liter..... 250 gm.
- Add cationic softener at 1 gm/liter..... 420 gm.
- Time..... 10 mts.
- Drop the liquor.
- Then unload the garments trolley.

#### Fourth Step: - Hydro extractor machine.

- Hydro extractor machine is used to remove excess water from the garments.

#### Fifth Step: - Drying machine.

- Load 50 kg garments to steam dryer.
- Temperature set ..... 70°C.
- Run about..... 40-45 mts.
- After run 10 to 15 mts. for cold dry.
- Sixth Step: - Quality & Delivery.
- After drying the garments go to quality checking & rectify washing fault and then good one delivery.

### **7.4 REACTIVE DYE PROCESS:**

#### First Step: - Dyeing

- ❖ Batch size ..... 60 kg ready for dyeing garments.
- ❖ Water at L: R = 1: 8..... 480 Liter.
- ❖ Machine Running.
- ❖ Red 3BS..... 0.1%..... 60 gm.
- ❖ Blue - /F2RL..... 0.01% ..... 6 gm.
- ❖ Leveling agent at 0.5 gm/liter ..... 240 gm.
- ❖ Salt ..... at 40 gm/liter ..... 19.20 kg (deep shade)at 20 gm/liter ..... 9.60 kg (Light shade)  
Soda ash...at 20 gm/liter ..... 9.60 kg (deep color)at 10 gm/liter .....4.80kg(Light color)
- ❖ Temperature ..... 60°C.
- ❖ Time ..... 40 -60 mts.
- ❖ Drop the liquor.

#### Second Step: - FIXING.

- Batch size..... 60 kg.
- Water at L: R = 1: 8..... 480 Liter.

- Machine running.
- Add Fixing agent at 1 gm/liter.. 480 gm.
- Temperature ..... 50°c.
- Time..... 15 to 20 mts.
- Drop the liquor.

### Third Step: - Softening.

- Batch size..... 60 kg.
- Water at L: R = 1: 7..... 420Liter.
- Add Acetic Acid at 0.6 gm/liter ..... 250 gm.
- Add cationic softener at 1 gm/liter... 420 gm.
- Time..... 10 mts.
- Drop the liquor.
- Then unload the garments trolley.

### Fourth Step: - Hydro extractor machine:

Hydro extractor machine is used to remove excess water from the garments.

### Fifth Step: - Drying machine:

- Load 50 kg garments to steam dryer.
- Temperature set ..... 70°c.
- Run about..... 40-45 mts.
- After run 10 to 15 mts. for cold dry.

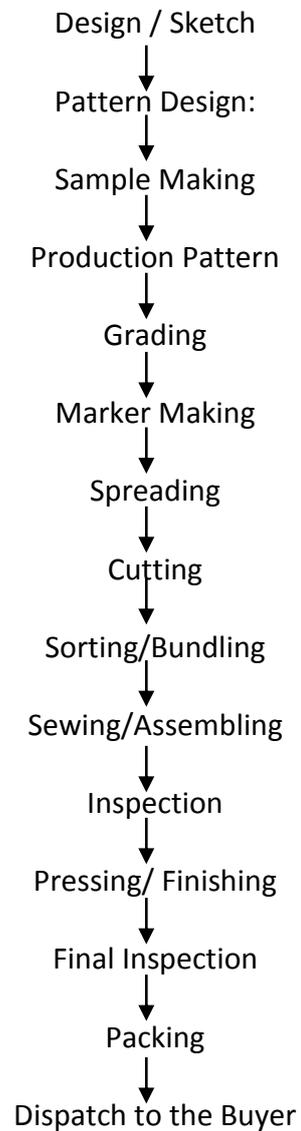
### Sixth Step: - Quality & Delivery.

- ✓ After drying the garments go to quality checking & rectify washing fault and then good one delivery.

# 8. Basic information of a Garments Merchandiser

## 8.1 Flow Chart of Garments Manufacturing:

### Flow chart of Garments Manufacturing



## 8.2 Used fabric and GSM :

Yarn Count	Single Jersey	PK/Lacost (Single)	PK/Lacost (Double)	Lycra S/J	1X1 Rib	2X1 Rib	Lycra Rib	Interlock
40/1	100-115	140-150	150-160	160-170	160-170	120-140	190-200	190-200
36/1	115-125	150-160	160-170	170-180	170-180	140-160	200-210	200-210
34/1	125-135	160-170	170-180	180-190	180-190	160-180	210-220	210-220
32/1	135-145	170-180	180-190	190-200	190-200	180-200	220-230	220-230
30/1	145-155	180-190	190-200	200-210	200-210	200-220	230-250	230-240
28/1	155-165	190-200	200-210	210-220	210-220	220-240	250-270	240-250
26/1	165-175	200-210	210-220	220-230	220-230	240-260	270-290	250-260
24/1	175-185	210-220	220-230	230-240	230-240	260-280	290-310	260-270
22/1	185-195	220-230	230-240	240-250	240-25	280-300	310-330	270-280
20/1	195-210	230-240	240-250	250-260	250-260	300-320	330-350	280-290

## 8.3 Types of Knitted Fabric:

### SINGLE JERSEY

- S/J
- ELASTANE S/J
- YARN DYED S/J
- POLO PIQUE
- SINGLE LACOSTE
- DOUBLE LACOSTE
- THREE THREAD FLEECE
- THREE THREAD ELASTANE FLEECE
- TWO THREAD FLEECE(TERRY FLEECE)

### DOUBLE JERSEY

- 1\*1 RIB
- 1\*1 ELASTANE RIB
- YARN DYED RIB
- 2\*2 RIB
- 2\*2 ELASTANE RIB
- 3\*2 RIB
- 5\*2 RIB
- FLAT BACK RIB
- INTERLOCK
- DROP NEEDLE
- WAFFLE
- MESH
- PANTODIROMA

**Note:** Color yarn yarn brand m/c, gauge, m/c brand and compact ok without compact to be GSM up-down.

### Fabric width:

Two types of fabric width:

- 1) Open width
- 2) Tubular width

### Open width

- Mark line contains for fabric cutting.
- Fabric dyes in open form.
- Open width is double than tubular width.
- For single jersey.

### Tubular width

- No mark line.
- Fabric dyes in tubular form.
- Tubular width =  $\frac{1}{2}$  \* open width.
- For Rib, Interlock

## **8.4 Types of Yarn:**

These yarn can be divided by the types of raw materials which we used for making the yarn.

Such as-

- 100% cotton yarn.
- CVC yarn (In this type of yarn the combination of cotton of polyester can be varied depending on the buyer requirement. such as - 65% cotton + 35% polyester, 60% cotton + 40% Polyester etc. Also mainly in this type of yarn the cotton part is always remain greater than the Polyester). CVC mean cheap value cotton.
- 100% polyester yarn.
- PC yarn (In this type of yarn the cotton part is always remain less than the Polyester). PC means Polyester cotton.
- 100% Viscose yarn.
- Grey Mélange yarn. In this type yarn we used a mixer of cotton & viscose. The percentage of cotton & viscose may vary depends on the requirement of buyer. Such as - 85% cotton + 15% viscose (Dark Grey Mélange), 90% cotton + 10% viscose (Grey Mélange), 95% cotton + 5% viscose ( Light Grey Mélange), 98% cotton + 2% viscose (Ecrú Mélange) etc

### Systems of Count Measurement:

There are two systems for the measurement of count.

- 1) Direct System
- 2) Indirect System

### 1) Direct System

It is used for the measurement of weight per unit length of yarn.

When count increases, fineness decreases. (count ↑ fineness ↓)

Commonly used units in this system of measurement are:-

- 1) Tex (1 Tex = 1g/ 1000m)
- 2) Grex (1 Grex = 1g/ 10,000m)
- 3) Denier (1 Denier = 1g/ 9000m)

### 2) Indirect System:-

It is used for the measurement of length per unit weight of yarn.

When count increases, fineness increases. (count ↑ fineness ↑)

Commonly used subsystems of indirect system are:-

- 1) English System (1 Ne = 1 Hank/ lb.)
- 2) Metric System (1 Nm = 1 Km/ kg)

For cotton yarn, length of 1 Hank = 840 yards.

Whenever the type of count is not mentioned with the count, it is understood

That it is the English count.

**Staple Fiber:** Staple fibers are the fibers of limited strength (1-4 inch approx.). To make a continuous length of yarn from staple fiber, they must be twisted together. The length of staple fibers may be 1 cm to many.

**Filament Fiber:** Filament fibers are of continuous length (more than 5 inch). That is to say the fabrics made from filament fibers are easier to make as the filament length are continuous.

## 8.5 Essential Properties of a fiber:

- Strength,
- Flexibility,
- Cohesiveness,
- Uniformity.

### Other Properties:

- Physical shape,
- Specific gravity,
- Lustier,

- Moisture regain and content,
- Elastic recovery,
- Elongation,
- Resilience,
- Resistance to thermal behavior,
- Resistance to chemicals,
- Resistance to biological agents,
- Resistance to environmental conditions
- Length to Width Ratio: Fibrous material must possess adequate staple or fiber length and the length must be considerably higher (1000 times) than the width of the fiber.

### 8.6 Pantone book:

Buyer's Swatch: may be piece of fabric or C.I. number of any specified '**Pantone book**'.

- There are 4 types of pantone book is available:

1. TP ----- textile paper
2. TC ----- textile cotton
3. TPX --- textile paper for bright
4. TCX --- textile cotton for bright

- The given swatch is measured by the 'Spectrophotometer', which is prepared by reach memory of different dyestuff self-shades.

9.7 International Commercial Term:

### International Commercial Terms:

Group	Term	Stands for
E	EXW	Ex Works
F	FCA	Free Carrier
	FAS	Free Alongside Ship
	FOB	Free On Board
C	CNF	Cost and Freight
	CIF	Cost. Insurance and Freight
	CPT	Carriage Paid To
	CIP	Carriage and Insurance Paid To
D	DAF	Delivered At Frontier
	DES	Delivered Ex Ship
	DEQ	Delivered Ex Quay
	DDU	Delivered Duty Unpaid
	DDP	Delivered Duty Paid

### Ex Works:

Ex means from & Works means factory, mill or warehouse, which is the seller's premise. EXW applies to goods available only at the seller's premises. Buyer is responsible for loading the goods on truck or container at the seller's premises, and for the subsequent costs and risks.

#### Free Carrier:

The delivery of goods on truck, rail car or container at the specified point (depot) of departure, which is usually at seller's expense. The point (depot) at origin may or may not be a customs clearance center. Buyer is responsible for the main carriage/freight, cargo insurance and other costs and risks.

#### Free Alongside Ship:

Goods are placed in the dock shed or at the side of the ship, on the dock or lighter, within reach of its loading equipment so that they can be loaded aboard the ship, at seller's expense. Buyer is responsible for the loading fee, main carriage/freight, cargo insurance, and other costs and risks.

#### Free On Board:

The delivery of goods on board the vessel at the named port of origin (loading), at seller's expense. Buyer is responsible for the main carriage/freight, cargo insurance and other costs and risks. Under the rules of the INCOTERMS 1990, the term FOB is used for ocean freight only. However, in practice, many importers and exporters still use the term FOB in the air freight.

#### Cost and Freight:

The delivery of goods to the named port of destination (discharge) at the seller's expense. Buyer is responsible for the cargo insurance and other costs and risks. The term CFR was formerly written as C&F. Many importers and exporters worldwide still use the term C&F.

#### Cost, Insurance and Freight:

The cargo insurance and delivery of goods to the named port of destination (discharge) at the seller's expense. Buyer is responsible for the import customs clearance and other costs and risks.

# 9. Inspections & Other Garments Related Terms:

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## 9.1 Introduction:

If the merchandiser works with buying offices or buying agents or buyer's liaison offices, there will be many inspections. If we work with the buyers directly, the number of inspections will be limited. The buyer may like to see the inspection in the middle production or final inspection. Sometimes, the buyer may ask any third party (like SGS) to do the inspections. It is better for the merchandiser to take responsibility for these inspections too

Types of Inspection and Description:

## 9.2 Incoming material inspection:

After fabric is received, the same should be inspected for the following purpose

- ✓ GSM
- ✓ Dia
- ✓ Shrinkage
- ✓ Color Streaks
- ✓ Color matching etc.

## 4 point systems:

- ✓ **Amount to select:** Inspect at least 10% of the total rolls of the shipment.
- ✓ **Selection of rolls:** Select at least one roll of each color. If more than one role must be selected, then choose the additional roles in proportion to the total number of roles per color received.

<u>Warp and weft wise defective length</u>	<u>points</u>
3 inches or less:	1 Point
Over 3 inches, but less than 6:	2 Points
Over 6 inches, but less than 9:	3 Points
Over 9 inches:	4 Points
For hole and opening	
1 inch or less	2 points
More than 1 inch	4 points

- ❖ Major woven fabric defects include but are not limited to slubs, holes, missing yarns, yarn variation, end out, soiled yarns, and wrong yarn.
- ❖ Major dye or printing defects are out of register, dye spots, machine stop, color out, color smear, or shading.
- ❖ Acceptance Criteria and Calculation.
- ❖ 40 points per 100 yards is the acceptable defect rate

# of Points per 100 yds = # of penalty points x 100 Yds inspected

### Inspection Procedure:

- Determine the amount to inspect (10%).
- Select the rolls to inspect.
- Put the rolls on the inspection machine or other viewing device.
- Cut off a 6 inch piece across the width off the end of the roll. Mark the right and left side of the strip. Stop the inspection process every 50 yards and use the strip to check for any shading problems. Also make sure to check the end of the roll.
- Inspect for visual defects with the light on at a speed slow enough to find the defects. (The fabric must be checked at a slow rate in order to effectively find flaws). Sometimes you may have to turn the light off to see how a flaw will affect the appearance of a garment.
- Check that the roll contains the correct yardage as stated by the piece goods source.
- Check for skewed, biased, and bowed fabric.
- Mark any defects to the side with colored tape so that they can be easily found and noted.
- Record any defects.

### **2. Sewing thread inspection:**

- a) Thread construction (count, thread ply, number of twist etc.)
- b) Sewing ability (imperfections, finish, color, package density, winding, yardage etc.)

### **3. Zipper inspection:**

The following things should inspect in the zipper:

- ✓ Dimension

- ✓ Chain stops
- ✓ The color of the chain tape
- ✓ Pucker
- ✓ Washing or dry cleaning result
- ✓ Slider

#### 4. Trims inspection:

- ✓ Dimension
- ✓ Color
- ✓ Quality
- ✓ Defects

#### 5. In - process Inspection:

Inspection done in between any process or in between any sewing operations, this may be on partially finished (or) semi-finished garments.

In process inspection includes:

- a) Marker making (pattern, leveling, pattern direction, grain line etc)
- b) Fabric spreading (alignment, tight or loose, static electricity, ply, stripe etc)
- c) Fabric cutting
- d) Fabric sewing
- e) Pressing or finishing

#### 6. Flip checking:

Inspection done in between by the operators or by its assistance during the sewing operations before the garments are bundled.

#### 7. Patrol inspection:

Inspecting activities of a particular area or line. It is called as line supervision.

#### 5. Pre-Final Inspection:

It is done to the final inspection merchandiser or QC or both can do pre-final Inspections. After pre-final inspection if garment are passed. It will send to final Inspection. After final inspection only, the decision of passing or rejecting is made.

### **6.100% Inspection:**

Inspection should be done in 100%. In the inspection center.

### **7. Original of final Inspection:**

First time inspection of the packed merchandise goods is called original inspection. If QC are gratified with the quality of merchandise. We can pass a lot, if quality of merchandise is not up to the standards, rechecking should be done. Again it should be produced for re inspection.

### **8. Final Random Inspection:**

It is random inspection done according to the customers individual requirements. Standard after the shipment have been completed, packed and ready to ship. Size, Color appearance, workmanship, style etc. will be checked against the customer's specification.

### **9.3 AQL (Acceptable Quality Level) :**

Acceptance Quality level (AQL) refers to the maximum number of defective items that could be considered accepted during the random sampling of and inspection. The defects that are found during inspection are classified into 3 categories:

- 1) Critical: Must be 100% accurate. There is no range.
- 2) Major: Normally 2.5%
- 3) Minor : Normally 4%

### **Sampling method:**

- a) Single Sampling method
- b) Double Sampling method
- c) Multiple Sampling method

### **9.4 Inspection Parties:**

#### **a) Internal Quality Controller:**

Inspection done by the Company internal quality control to check the quality parameters before to Final Inspection.

#### **b) Quality represented by buying Agencies:**

Inspection done by buying Agencies quality control to check the customer requirement.

#### **c) Third Party Inspection:**

Inspection done by third party like SGS or ITS.

## 9.5 Import Documentation

In order to release of imported goods from the port / station the following documents to be submitted by a C&F Agents to the customs authority:

- Bill of Entry.
- Copy of bill of lading (BL)
- Copy of invoice.
- Packing List.
- Certificate of Origin (CO).
- UD /UP. (Utilization Declaration/Utilization Permission)
- VBF-6A. (Value Bond Form) Form to be supplied by the C & F agent.
- Bond / stamp (In case of garments industry no stamp is required) the rate of stamp / bond is Tk. 500/- for imported goods worth Tk. 10 lacs.
- Copy of master L / C.
- Letter of credit authorization (LCA)
- Perform invoice.
- Copy of insurance cover note etc.
- PSI (Pre-shipment inspection) Certificate if the industry is not export oriented

## 9.6 Export procedure:

Cargo lifting advice is fixed to custom clearing agent/ Forwarder/ Transportation. Forwarder / clearing agent make arrangements for the custom clearance and booking of the space at earliest vessel. Following documents are required for the custom clearance. Detail is given following;

### 1. INVOICE:

In Invoice following criteria is required.

- ✓ Consignee and Applicant Addresses
- ✓ Garment Description
- ✓ Garment Price and Total Invoice value
- ✓ Net and Gross Weight of Garments
- ✓ PO (purchase order) no.
- ✓ Freight Terms.
- ✓ from # & Date
- ✓ L/C. # (letter of credit)

## **2. PACKING LIST**

There are following details in the packing list required as per buyer's instruction or mentioned in L/C.

- 1) Consignee and applicant addresses
- 2) Product description
- 3) Garment Style and color
- 4) Net and Gross weight of Garments
- 5) No. Of Pieces in the Carton and Carton Dimension also other necessary information, which gives help for the custom clearance.

## **3. Export-FORM:**

E-FORM is issued and attested by the concerned bank (Islamic bank Bangladesh Ltd.)

## **4. BILL OF ENTRY**

Applicable only in case of the imported material used in the manufacturing of the garments for the export purposes.

## **5. SHIPPING BILL**

The forwarder prepares shipping bill. After the sub Management Information Systems ion of the custom docs, by the forwarder, custom authorities check the docs. And examine the shipment accordingly. They write the report on the backside of the shipping bill and allow the shipment for the export from Bangladesh. All these docs are then returned to the export department.

## **6. VISA PROCESS**

After receiving the Docs from the forwarder, Export Department prepares the Visa docs, which are required for the export of garment to the following countries; USA, CANADA, EUROPEAN countries.

## **7. NEGOTIATION / COLLECTION**

After the completion of the Visa process, we submit the docs in the Bank for the negotiation/ collection. The docs are prepared according to the L/C. or the buyer requirement.

## **8. DOCUMENTS FOR THE BUYER**

Export department also prepare documents for the buyer for the custom clearance of the shipment at the destination.

## **9. PAYMENT PROCEDURE**

After the negotiation/ collection procedure of the docs, bank dispatches the same to L/C opening bank, to realize the payment. Foreign bank is bound to realize the same within the 10 to 15 days. REBATE CLAIM

## **10. COMMERCIAL INVOICE**

In the commercial invoice all the details are mentioned required under conditions of L/C for the custom clearance and other necessary purposes.

## **12. BILL OF LADING/ AIRWAY:**

This is according to the L/C terms and conditions.

### **9.6.1 What Letters Of Credit (L/C) Is?:**

Letters of Credit (L/C) is in general a conditional document extended by the bank in connection with presentation of export value. L/C plays a very dominant role in this matter. On receipt of this document from the buyer, the exporters become sure that they would obtain foreign currency after the peaceful shipment of the consignment directed by the buyer in the L/C. And for monetary transactions in this connection the negotiating banks stand as a symbol of surety for the exporters. Negotiating bank act on behalf of the exporter and is held liable or responsible for realization of exporter's money from the L/C opening bank.

In spite of production of all related documents with the banks, the exporters however, became victims to some unpleasant situations which push them towards the uncertainty of realization of money. This results from the absurdity or ambiguity of L/C. An in most cases from faulty presentation of documents to be required in export connection. So unless exporters have a clear conception and apprehension about export business and be aware beforehand about all these documents, they would certainly face some major troubles. In per export and post export process, exporters will after all, have firsthand knowledge about UC. They must be in the climax of knowledge. It is L/C which act a medium of money during the time of execution of export order and this gives surety to the exporter that their dues would be obtained in due time.

In fact, in the whole export and import process four sides are connected. In absence of any one of them the process cannot take full shape. These four sides are, exporter, Importer, exporter's bank and importers' bank. Principally, the success of import and export business lies in the exchange of proper and accurate correspondence. Any fault in these may cause in total disaster in whole import and export business. So in order to avoid the ambiguous, absurd and understandable correspondences, both the sides are

to exercise special and particular attention. They should remember that the success of export and Import business depends mainly upon the careful execution of these things.

It is seen that inadequate knowledge in this business create some trouble that in the long run, both the sides are put to difficulty for their business i.e. exporters fail to realize their money and importers to get their goods from the exporters' country. In addition to the exporter become harassed to have this just value from the bank. So both the sides should be particular as far as possible about it.

In export business, the first thing to do is to make a sale contract with the buyer. And this may be made in the presence of both of the importer and exporter. In most cases this may not be done formally. Yet, it plays a very significant role in the preliminary stage of export business. If this is not done formally, then exchange of letters, fax and email between them from time to time is taken for granted as the contract of the business. This may be styled as verbal contract. This also leaves importance in the business. These exchange documents are important for this reason that many times these are required by the negotiating bank of the exporters. Any loss of these may bring in fault in the business.

### **9.6.2 Kinds of Letters of Credit (L/C):**

- ✓ Revocable Letter Of Credit.
- ✓ Irrevocable Letter Of Credit
- ✓ Confirmed Letter Of Credit.
- ✓ Confirmed And Irrevocable Letter Of Credit
- ✓ Transferable Or Divisible Letter Of Credit
- ✓ Back To Back Letter Of Credit
- ✓ Red Clause Letter Of Credit
- ✓ Sight Letter Of Credit
- ✓ Revolving Letter Of Credit
- ✓ Stand-By Letter Of Credit

### **9.6.3 Back to Back L/C:**

A back to back letter of credit is a new credit. It is different from the original credit based on which the bank undertakes the risk under the back to back credit. In this case the bank's main surety / security are the original credit. The original credit (selling credit) and the back the back credit although they both from the part of the same business operation. The supplier (beneficiary of the back to back credit) ships goods to the importer or supplies goods to the exporter and presents the document to the bank as is specified in the credit. It is intended that the exporter would substitute his own documents and ships the goods to the importer, if necessary, and present documents for negotiation under the original credit, his liability under the back to back credit would be adjusted out of these proceeds.

Types of Back To Back Letter Of Credit:

### **9.6.4 Master LC:**

For the garments order, the buyer sent a LC is called Master LC. After getting of this LC, the commercial section overviewed it. And there are some important topics that merchandiser should examined it. The important topics are giver below:

- ✓ Does the description of the order is correct or not?
- ✓ Does the order quantity is correct or not?
- ✓ Does the unit price and total price correct or not?
- ✓ Does the garments delivery date is correct or not?
- ✓ Does the mode of shipment is correct or not?

### **9.6.5 Defective Causes Appeared in the L/Cs :**

- Issuing bank is not reputed
- Advising credit by the advising bank without authentication
- Port of destination Absent;
- Inspection clause;
- Nomination of specific sipping / Airline or nomination of specified vessel by subsequent amendment.

- B/L to blank Endorse, to endorse to 3rd bank, to be endorsed to buyer or 3rd party.
- No specific reimbursement clause;
- Shipment/ presentation period is not sufficient
- Original documents to be sent to buyer or nominated agent;
- “Shipper’s load and count is not acceptable” clause;
- L/C shall expire in the country of the issuing bank’
- Negotiation is restricted.

#### Documents Provided by the Bank for Opening L/C:

- ✓ L/C Application Form
- ✓ LCA Form (Letter of Credit Authorization Application Form)
- ✓ IMP Form (Import Permission Form)
- ✓ TM Form
- ✓ Agreement Form
- ✓ Charges of Documents
- ✓ Guarantee Form

#### **9.6.6 Documents required for Opening Back To Back L/C :**

- ❖ Master L/C.
- ❖ Valid Import Registration Certificate (I R C) & Export Registration certificate (ERC).
- ❖ L/C application & LCA form duly filled in & signed.
- ❖ Pro-forma Invoice or Indent.
- ❖ Insurance Cover Note with Money Receipt.
- ❖ IMP Form duly signed.

In addition to the above the following papers/ documents are also required for export oriented garment industries while requesting for opening of back to back L/C:

- ❖ Textile permission.
- ❖ Valid Bonded ware house License.

### 9.6.7 Documentation for Shipment:

Therefore, this is the final of the transaction and an important step. Exporter must prepare his documents to satisfy the following parties:

(i) Exporter must prepare his documents to satisfy The Buyer's Bank who has open the L/C to exporter if it is L/C payment, otherwise exporter will have delay in receiving the proceeds of the goods have shipped.

(ii) Exporter must prepare his documents to satisfy the customs otherwise the customs will make delay in clearing the goods through Customs.

(iii) Exporter must prepare his documents to satisfy the buyer giving him the correct information in all respect, particularly all the packing details in order to enable him to distribute the merchandise correctly to the retail stores.

### 9.7 Commercial Invoice:

This is the document that exporters use to collect money from their buyers. Therefore, it must contain the correct unit price with the indication of FOB the shipping port, or CIF or C&F at the shipping destination. If the terms used are FOB the shipping port, then it is simple and easy. The following example will satisfy the bank and the customs:

Style No.	Quantity	Description	Unit price FOB Bangladesh	Total FOB Amount
1234		Men's 100% Cotton Woven Shirt	US \$ 80000.00	US \$ 80000.00

Based on the above, the customs will impose duty on US\$80000.00.

However, if the terms used are CIF destination, exporter must show how much freight and insurance premium paid so that duty is only imposed on the net FOB value, not the

Style No.	Quantity	Description	Unit price CIF New York	Total CIF Amount
1234		Men's 100% Cotton Woven Shirt	US \$ 86000.00	US \$ 86000.00

total CIF

When exporter shows the above CIF breakdown on the invoice, the customs will impose duty on the FOB value. However please note exporter has to be truthful about the sea

freight amount and insurance premium. Exporter must get them from the Bill of Lading, where the freight amount prepaid is shown, and the insurance premium from the insurance company. Exporter cannot inflate these figures to save duty. Otherwise, Exporter may create delays or even bigger trouble for his buyer.

The second important thing in the preparation of invoice that the invoice must provide a full description of the merchandise so that the customs officer can determine what duty rate he should use.

### Packing List :

There is no hard and fast rule as to how exactly it should be prepared. Exporter can use his own format. As long as he can show the following, it will be acceptable:

The contents of each of the cartons shipped, including the color and size assortment. The measurements and gross weight of each carton. Please note, some garments are subject to duty by percentage of the FOB value only, but some garments are subject to duty by percentage of the FOB value and weight (How much per kg). Therefore on packing list exporter must indicate the gross weight, net weight and net net weight clearly.

### Weight List:

For arrangement of transportation, and for customs purpose, weight information is needed. However, exporter may put it on

- ✓ The invoice.
- ✓ The packing list,
- ✓ The weight list.

However, exporter does not have to repeat it in all these 3 documents to create extra work for his shipping department. He can handle the weight information as follows:

- ✓ If the L/C says such weight information is needed on the invoice, he should follow the L/C and put such information on the invoice, and repeat it on the packing list.
- ✓ If the L/C does not specify the need of weight information on the invoice, he may omit it on the invoice, but put it on the packing list.

- ✓ If the L/C requires a weight list, then he put the weight information on the weight list and repeats it on the packing list, but you may omit it on the invoice.

Weight information should truly be put on the packing list where it belongs, regardless of what the L/C says. However, if the L/C says it should be on the invoice, exporter should follow the L/C too. If the L/C requires a weight list, he should follow it also.

## **9.8 The weight information in question should consist of:**

### **Gross Weight:**

Gross weight means the weight of the goods including all packing materials. Exporter should provide weight per carton and the total weight of the shipment which should be the same as, or similar to that on the Bill of Lading

### **Net Weight:**

Net weight means gross weight less only the export carton and inner boxes if used. Net weight will include the packing materials used for the individual piece of merchandise, For example, the individual poly bag, cardboard and paper hangtag etc.

### **Net (Gross) Weight:**

Net weight means the weight of the merchandise excluding all packing materials. In other words, it is the weight of the garment without hangtag, price ticket or even a piece of pin. He should provide this information for each dz, each carton and for the whole shipment. Based on this information provided, weight duty, if any, will be paid.

If the L/C requires providing Gross weight and net weight, he should know, it is Gross weight and Net weight needed, and he will provide Gross weight and Net Net weight, but call it Net weight on the document.

Net weight is needed for duty purpose; net weight is of no practical purpose it is for reference only.

# CONCLUSION

## Conclusion:

Merchandiser plays a vital role in garments business. The result of the study showing that there are a lot of steps to improve our merchandising management skill will have certain implications for the business community as well as national merchandising panel. The experienced merchandiser is always demandable in every country. It may be an honorable profession for educated person. For development garments sector merchandising management system will have to focus on modern system.

Merchandiser is the most valuable human resources for the progress of the organization. For the development of this valuable resource there are many factors involved. To increase the productivity of an organization effectively, efficient merchandiser will have to develop. Preparation of future business manager should provide for the development of managerial skills regarding to merchandiser function. Colleges and universities offering business administration curriculum would do well to evaluate their courses as they relate to the findings of this study. This direct study indicates the potential utility that could be derived from undertaking more comprehensive investigation covering only the merchandising management. There are consequent developments of newer knowledge can definitely contribute to increase the efficiency of business management and this in turn, will increase the satisfaction of all interested buyer parties, which will be the ultimate goal of business.

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