UGC & Govt. Approved
Sonargaon University (SU)
সোনারগাঁও ইউনিভার্সিটি (এসইউ)
WE WILL RISE UP WE WILL SHINE

Faculty of Engineering
Department of Textile Engineering

REPORT ON
Industrial Attachment At
PROMODA TEXTILE LTD
House 10/A, Road:4 Gulshan 1
Dhaka, Bangladesh

Course Title: Industrial Attachment
Course Code: Tex-442.
13B, Shiuli. Summar'21

Submitted By:

Name	**ID**	GROUP
Mir Manajir Ahsan	Tex-1801013078	GROUP-H (AM)
Shahnaz khatun	Tex-1801013023	GROUP-H (AM)
Shuvo Chandro Shill	Tex-1801013048	GROUP-H (AM)
Md. Mahmudul Hasan Sakib	Tex-1801013137	GROUP-H (AM)

Academic Supervisor

Kamrul Hassan Bhuiyan
Lecturer
Department of Textile engineering
Sonargaon University (SU).
146 Mohakhali, Wireless Gate. Dhaka.

This report we have presented in partial fulfillment of the requirement for the Degree of Bachelor of Science in Textile Engineering.

Advance in Apparel Manufacturing Technology
Duration: From 20th August 2021 to 20th October 2021.

DECLARATION

We hereby declare that, this Industrial Attachment on **PROMODA TEXTILES LTD** is done by us under the supervision of **KAMRUL HASSAN BHUIYAN, LECTURER,** Department of Textile Engineering, **Sonargaon University (SU),** Dhaka. We also declare that, this Industrial Attachment report has not been submitted anywhere for award, degree or diploma. We ensure that, any part of this attachment has been presented anywhere.

Mir Manajir Ahsan
Tex-1801013078

Shahnaz khatun
Tex-1801013023

Shuvo Chandra Shill
Tex-1801013048

Md. Mahmudul Hasan Shakib
Tex-1801013137

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WE WILL RISE UP WE WILL SHINE

LETTER OF APPROVAL

This is to certify that Mir **Manajir Ahsan (Tex-1801013078) Shahnaz khatun (Tex-1801013023), Shuvo Chandra Shill (Tex-1801013048), Md. Mahmudul Hasan Shakib (Tex-1801013137) From** BSC Engineering Textile program, 13B(HSC) Batch have successfully completed their Industrial Internship on Apparel Manufacturing Technology under my supervision. I do hereby approve their report. I also recommend accepting their report for partial fulfillment of Bachelor of Science in Textile Engineering (BSCTE) Degree.

Kamrul Hassan Bhuiyan
Lecturer
Department of Textile Engineering
Sonargaon University (SU), Dhaka

ACKNOWLEDGEMENTS

All pleasure goes to the Almighty Allah who has given me the ability and strength to complete this project.

We are grateful to" **Kamrul Hassan Bhuiyan" Lecturer** of Textile Engineering, Sonargaon University (SU), Dhaka., my Academic Supervisor. As well as to "**Md Jahidur Rahman, (Country Head), Promoda Textiles Ltd.** Who have given us the Opportunity to learn on the garment manufacturing process closely?

Being working with them I have not only earned valuable knowledge but was also inspired by their innovativeness which helped to enrich my experience to a greater extent. Their ideas and way of working was truly remarkable. I believe this report could not be finished if they did not help me continuously.

We Are also very much grateful to **PROMODA TEXTILES LTD** Authority/ Management for giving me opportunity to do my internship work in their Company. Last but not the least, thanks go to all the People who have assisted, helped and inspired me to complete this task at various stages.

ABSTRACT

For any technical education, practical experience is almost equal important in association with the theoretical knowledge. By means of practical knowledge it's not possible to apply the theoretical knowledge in the practical field.

Industrial attachment is the first step to professional life of student, especially of technical side. It's an indispensable part of study a practically running processing technology of an industrial unit for a student. University education provides us vast theoretical knowledge as well as more practical attachment, in despite of all these industrial attachment helps us to be familiar with technical support of modern machinery and skills about various processing stages.

This internship provides me sufficient practical knowledge about production management, efficiency, industrial management, pattern, cutting, sampling, washing, Finishing, Costing, purchasing, inventory control, utility and maintenance of machineries and their operation techniques etc. which cannot be achieved successfully by means of theoretical knowledge only.

We were able to study on their different sections and their activities practically. Due to some limitation of the factory, we have found store section, cutting section, sewing section, finishing section and maintenance section, costing section washing section. Here we have also found the sample section but this section isn't fully operational as here only the Development sample, size set and production samples are produced.

TABLE OF CONTENTS

CHAPTER 1

COMPANY INTRODUCTION:

❖ History:

Promoda Textiles Ltd. Is a textile buying company established in Dhaka, the center of textile industry in Bangladesh?
Promoda was founded in 2007, as a joint-venture between Portuguese, Dutch and Bangladeshi textile companies, which have been operating on global markets for more than 20 years.
Promoda creates value for their associates, customers, employees and community by the perfect combination of low prices, excellent quality and on-time delivery, respecting the international labor and environmental laws and planning local conscientious social assistance.
We, Promoda Textiles Ltd., is a joint-venture sourcing company between The Netherlands and Bangladesh. Under our group we have one fabric manufacturing mill, four garments factory, paper mill, IT business, energy, and etc. We are doing all types of garments, namely, knits, woven, and knitwear. By business turnover it is 50% knits, 40% woven and 10% knitwear.

❖ Management:

Chairman: Raein De Heart(netherlands)

Managing Director: Hasan Shibli

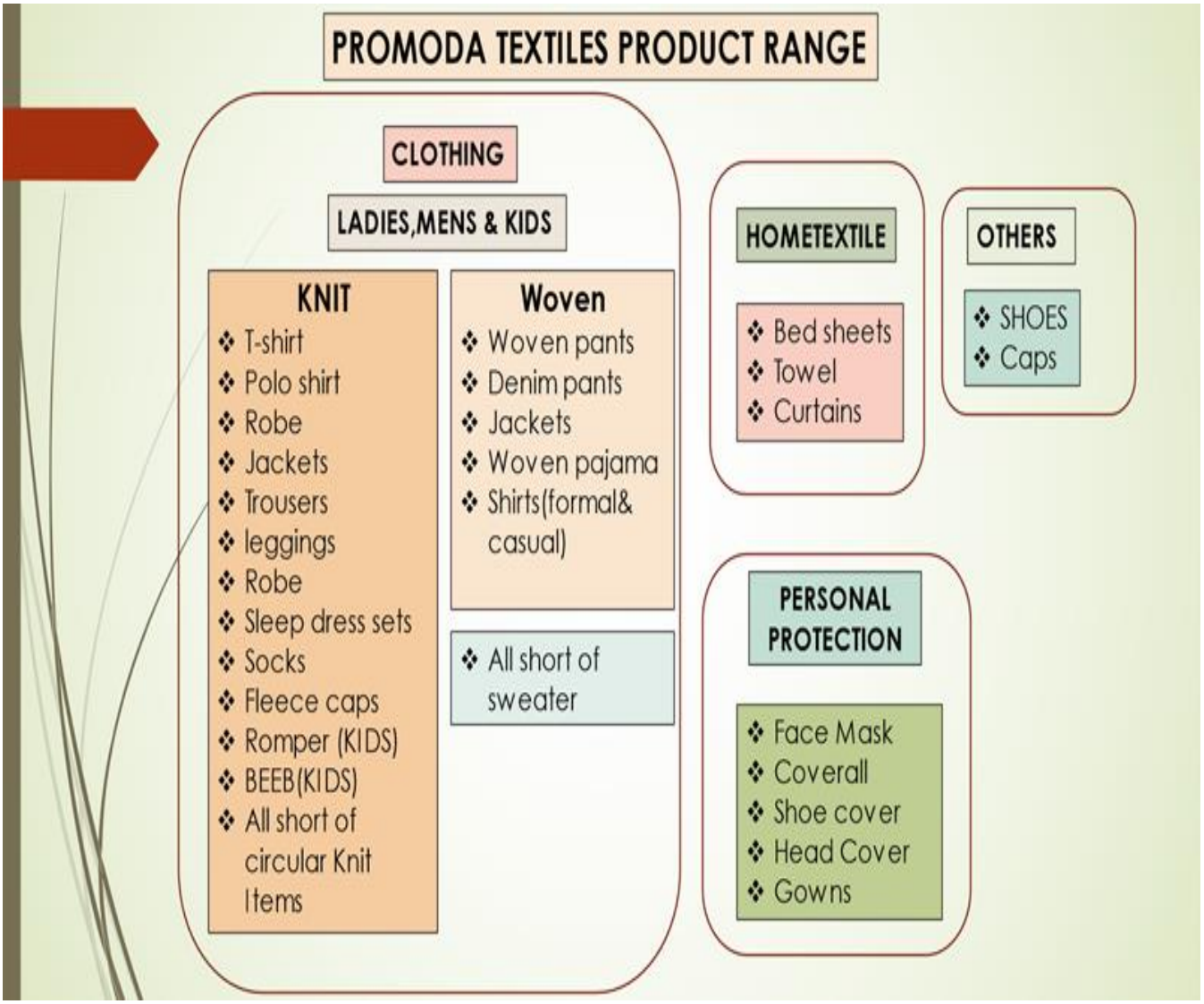
Director Operation: Ashfaque Ahmed

Country Manager: Jahidur rahman

Merchnadising Manager: Shiful Yousuf

❖ Nature of Business

Promod textiles Works as a Buying Office they have customer All over the Worksite are in a continuous Hunt for new customer. And to Explore New Markets. They have all types of garment sourcing. They deal with all sorts of Products.



❖ **Major Clients**

Customers	Country
Cubas	Finland
Intersport	Germany
Tramplion	Germany
Sonar Clothing	Germany
O'Neills	Ireland
Kappa	Italy
HMZ	Netherland
OTCF	Poland
Vistula	Poland
LPP	Poland
Brand BQ	Poland
Halantex	Poland
Fallabella	Spain
WESC	Sweden
ORN	UK
New Yorker	USA

❖ **Export Country:**

Majorly to USA, UK, EU & Japan. Then in addition Australia, Argentina, Austria, Belgium, Brazil, Canada, Chile, China, Columbia, Dubai, France, Germany, Greece, Guam, Hong Kong, Hungary, India, Indonesia, Ireland, Italy, Korea, Kuwait, Lebanon, Libya, Malaysia, Mexico, Morocco, Netherland, Norway, Panama, Peru, Philippine,

Poland, Russia, Saudi Arab, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, Ukraine, Uruguay, Vietnam, etc.

❖ **General Policy:**

It is important for all the employees of the company to follow the duties and obligations set by the company management during his/her working tenure. This includes maintaining attendance, confidentiality, dress code, cleanliness, noise level, working hours, overtime, workplace, working tools/aids, confidentiality, interval for rest, meal and prayer, employment categories, equal employment opportunity, ID badge, smoking, sexual harassment and other etiquettes.

These policies imply that the company management not only values and recognizes the concerned issues, but it also instructs and encourages its employees to become

obliged with the company rules and follow those with sincerity and integrity. These policies also imply that **Promoda gives** high priority to morality, punctuality, congenial working environment and a prospering corporate culture by maintaining set rules with strict adherence the bindings and regulations are not to be taken lenient but would provide all the incumbents enthusiastic drive of abiding those.

The outcome of such initiatives, rulings and actions would result in motivation, retention, and development of the employees and ultimately create a high-performance work environment. The company holds all rights to take necessary action in case of any negligence or violation.

❖ **Values:**

- Adhere to high ethical standards that exceed compliance standards set by our customers.
- Provide equal employee opportunity to all employees;
- Encourage innovation and adopt necessary changes;
- Ensure safe & healthy working environment for all our employees;
- Abide by laws and regulations set by both our customers and the government;
- Assist all employees and their families in need;
- Keep our production environmentally friendly.

❖ **Goals & Beliefs:**

Our goal at Promoda textiles is simple -- extraordinary customer service as we provide our customer's needs in the fashion industry. We accomplish this by taking over the tasks which interfere with an enjoyable, leisurely lifestyle; and by partnering with organizations those have the finest reputations for quality.

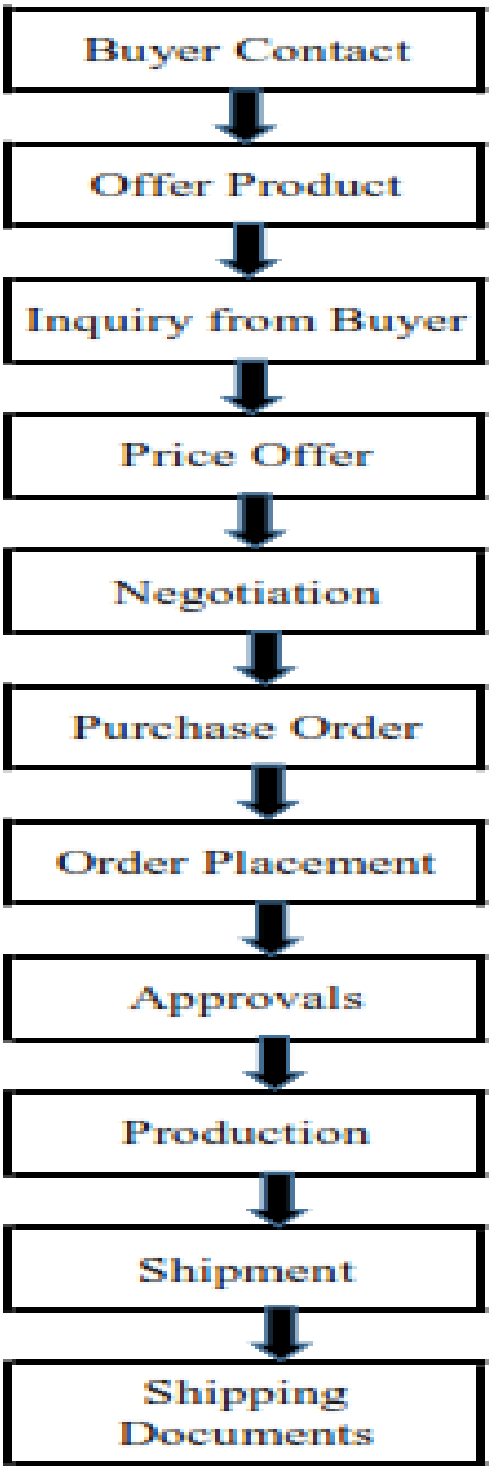
CHAPTER-02

INDUSTRIAL ATTACHMENT

Working Process of Garment

Buying House

2.1 Work Flow of Buying House



2.2 Buyer Contact:

Marketing team works continuously to find new buyers. They are always working actively in social media like buyers. They Visit Different websites to find new buyer. Then they contact the customers. They offer their products. And ask the buyer for inquiries.

2.3 Inquiry:

Once a buyer is convinced, they send developments. These are usually samples, or digital files with technical details. These files consist of all technical details like measurement charts, styling details, sewing instructions, trims and accessories details. A merchandiser needs to go through the files very carefully and offer price.

Below Information is added in an Inquiry

- Product information
- Fabrication
- Fabric weight
- Fabric structure
- Stitching method
- Embellishment details
- Packaging and Decoration Details
- Technical file
- Approximate order Quantity

2.4 Technical files:

All technical details are included in Item's are found in tech file

- Product picture
- Color Details
- Measurement
- Accessories details
- Packing details

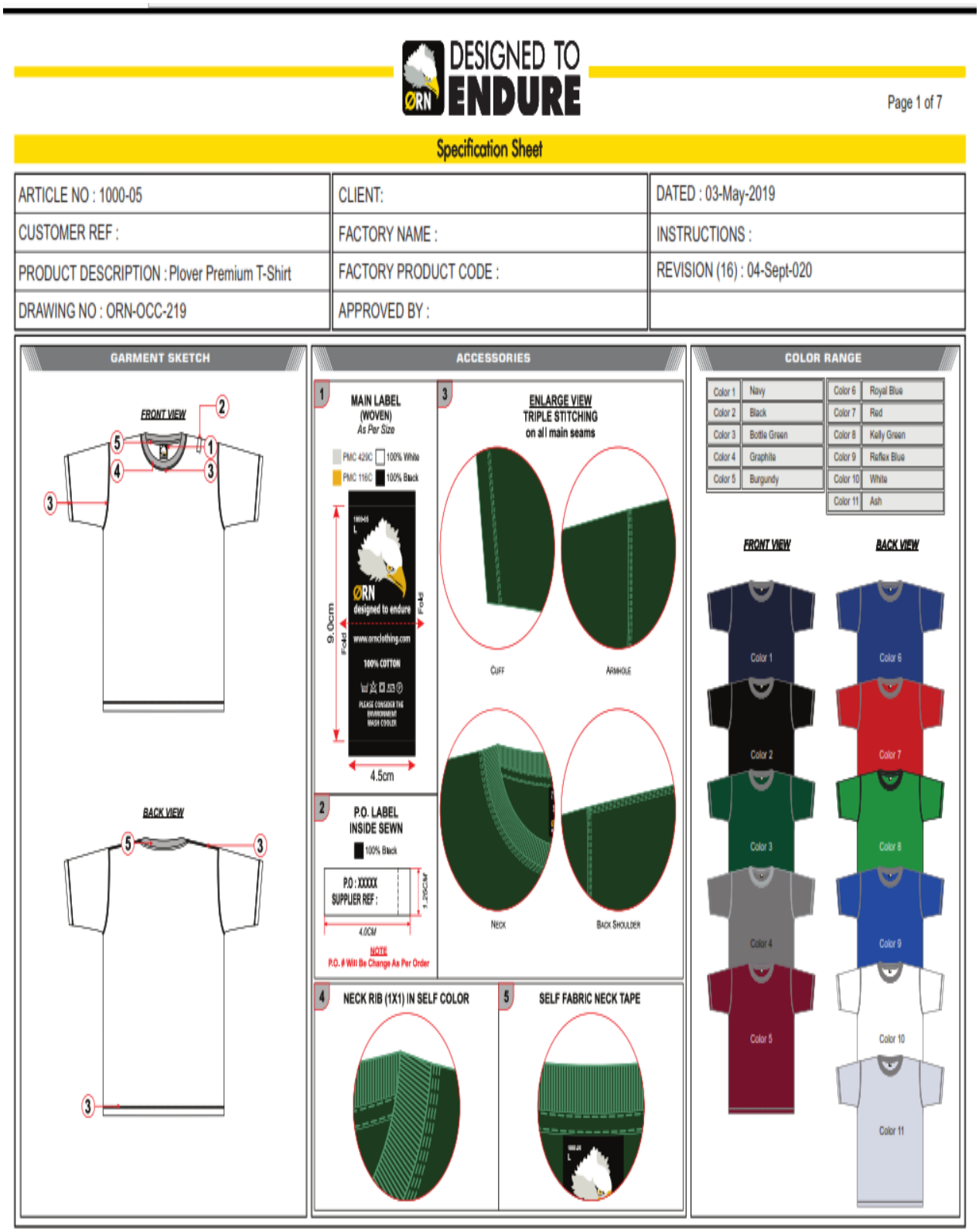


FIG: Technical Files (Overview)

DESIGNED TO ENDURE

Specification Sheet

ARTICLE NO : 1000-05	CLIENT:	DATED : 03-May-2019
CUSTOMER REF :	FACTORY NAME :	INSTRUCTIONS :
PRODUCT DESCRIPTION : Plover Premium T-Shirt	FACTORY PRODUCT CODE :	REVISION (16) : 04-Sept-020
DRAWING NO : ORN-OCC-219	APPROVED BY :	

GARMENT MATERIAL CHART

M. #	MATERIAL NAME	FABRICATION DETAILS	COLOR
1	Main Fabric	Jersey 100% Cotton, 180 GSM	Main
2	Neck Rib	1x1 Cotton Rib	DTM
3	Neck Tape	Self Fabric	DTM
4			
5			
6			
		ACCESSORIES DETAILS	
7	Main Label	Woven Folded Label with Size	4 Color
8	P.O. Label	Printed Label	1 Color
9	Stitching Thread	100% Polyester, 50% 2-Ply / 50% 3-Ply, Self Color.	Self
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
		PACKAGING DETAILS	
23			.
24			.
25			.
26			
27			
28	Poly bag	Plain Polybag For Bulk Packing	Transparent
29	Carton	Printed Master Carton	White
30			
31			

MARKING

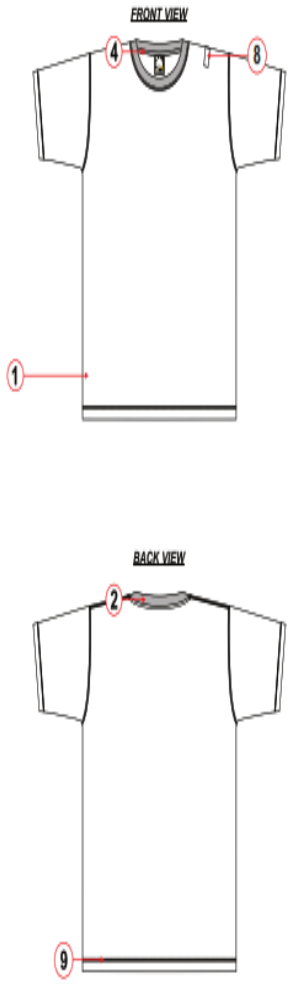


FIG: Technical Files (material List)

DESIGNED TO ENDURE

Specification Sheet

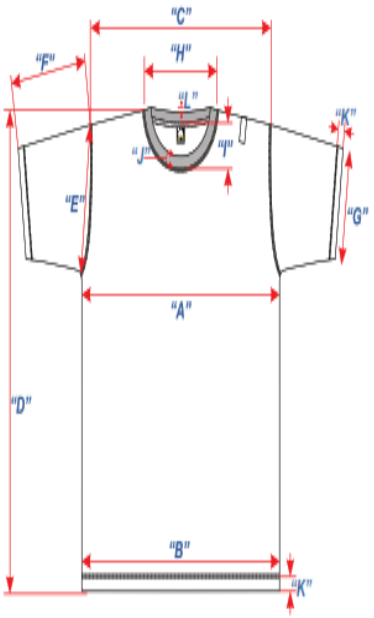
ARTICLE NO : 1000-05	CLIENT:	DATED : 03-May-2019
CUSTOMER REF :	FACTORY NAME :	INSTRUCTIONS :
PRODUCT DESCRIPTION : Plover Premium T-Shirt	FACTORY PRODUCT CODE :	REVISION (16) : 04-Sept-020
DRAWING NO : ORN-OCC-219	APPROVED BY :	

GARMENT SIZE CHART

	MEASUREMENT	XS	S	M	L	XL	2XL	3XL	4XL	5XL	TOLERANCE
A	Chest 1" Below Armhole	18.5	20	21.5	23	24.5	26	27.5	29	30.5	+/-0.5
B	1/2 Bottom	18.5	20	21.5	23	24.5	26	27.5	29	30.5	+/-0.5
C	Across Shoulder (Between Shoulder Point)	17.5	19	20.5	22	23.5	25	26.5	28	29.5	+/-0.5
D	Body Length Neck Point On Shoulder To Hem	28	29	30	31	32	33	34	35	36	+/-0.5
E	Armhole	8	8.5	9	9.5	10	10.5	11	11.5	12	+/-0.25
F	S/S Sleeve Length	7	7.5	8	8.5	9	9.5	10	10.5	11	+/-0.25
G	Sleeve Opening	5.5	6	6.5	7	7.5	8	8.5	9	9.5	+/-0.25
H	Neck Opening (Shoulder Seam To Seam)	6.75	6.75	7	7.25	7.5	7.75	8	8.25	8.5	+/-0.25
I	Front Neck Drop (Seam To Seam)	3.25	3.25	3.5	3.75	3.75	3.75	4.5	4.5	4.5	+/-0.25
J	Neck Rib	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	+/-0.125
K	Sleeve + Bottom Hem	1	1	1	1	1	1	1	1	1	+/-0.125
L	Back Neck Drop	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	+/-0.125

CAUTIONS: (1) All sizes are in INCHES except marked. (2) All size of garments must be within tolerance limit.

MARKING



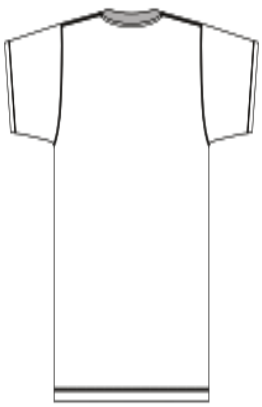


FIG: Technical Files(measurement)

DESIGNED TO ENDURE

Specification Sheet

ARTICLE NO : 1000-05	CLIENT:	DATED : 03-May-2019
CUSTOMER REF :	FACTORY NAME :	INSTRUCTIONS :
PRODUCT DESCRIPTION : Plover Premium T-Shirt	FACTORY PRODUCT CODE :	REVISION (16) : 04-Sept-020
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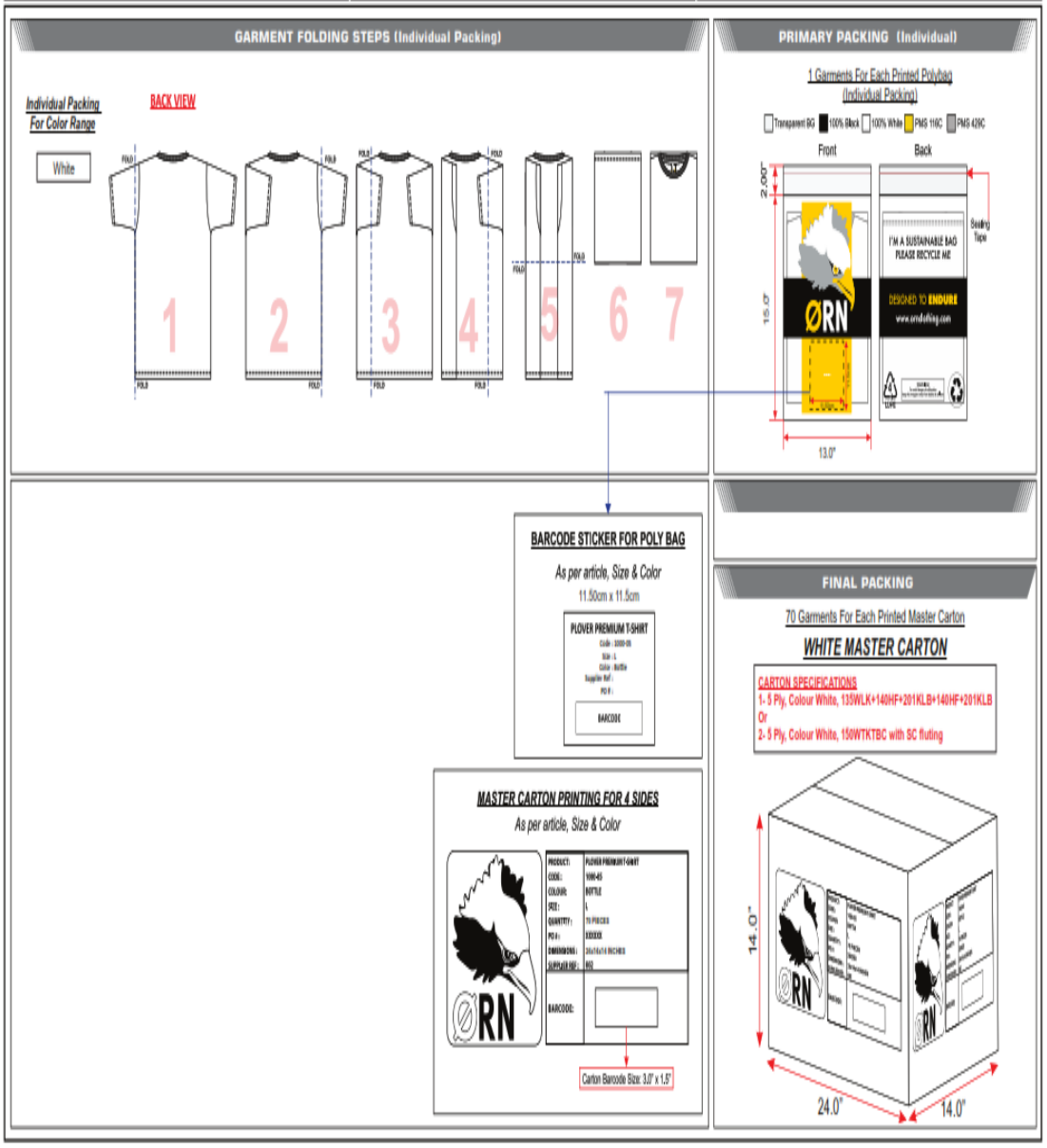


FIG: Technical Files (Packing Details)

2.5 Costing:

Costing is a basic job for a merchandiser. Efficient costing turns an inquiry in to order. Costing is mainly the cost needed to produce a garment. There are few stages of costing

- ✓ Consumption
- ✓ Raw materials unit cost calculation
- ✓ Cost of making calculation
- ✓ Accessories cost calculation
- ✓ Commercial cost calculation
- ✓ Shipment cost according to payment and shipping terms

Merchandiser		cost sheet				Date	
Buyer	meraki	Fabrics Costing	Particulars	Fabric 1	Fabric 2	Fabric 3	FLEECE PULLOVER HOOD
Art. No. / Style No.			Details		1x1 Rib Cotton		
Composition& construction	cvc fleeece	Yarn		$0.00	$0.00	$0.00	
GSM	270	Knitting Charge		$0.00	$0.00	$0.00	
Proposed Qty.		Greige Fabric Cost		$0.00	$0.00	$0.00	
Product	hood	Dyeing Cost		$0.00	$0.00	$0.00	
		Weight Loss on Dyed Fabric%		$0.00	$0.00	$0.00	
		Dyed Fab Cost		$0.00	$0.00	$0.00	
		AOP		$ 0.00	$ 0.00	$ 0.00	
		Loss Due to Printing		$ 0.00	$ 0.00	$ 0.00	
		Final Cost	Total	$ 0.00	$ 0.00	$ 0.00	
		Fabric cost considered on costing		$ 4.80	$ 5.50	$ 4.80	

Fabric 1		2	3
Size Range	XL-6XL	XL-6XL	XL-6XL
Consumption size	4XL	Rib	
Body Length(HPS)	88		
Sleeve Length	66		
Chest	81		
Sub Total	9.13		
1. Extra for Pocket			
2. Extra back Neck			
G.Total	9.13	1.13	1.90
RIB			

Fab price per doz		$4.80	$ 59.20
Embellishment	Print 1	$2.00	$ 2.00
	Print 2	2	$ 2.00
	Emb		0
Wash			$ 0.00
Trims 1			$ 3.09
Packing			$ 1.32
CM		$ 12.00	$ 12.00
Sub Total			$79.60
Promoda Commission		5.00%	$ 3.98
Commercial Cost		1.00%	$ 0.80
upchsrge		0.00%	$ 0.00
G.Total			$ 84.38

TRIMS 1			
Description	Consumpstion doz	Rate	COST
SIZE LABEL			$ -
Main Label	1.05	$ 0.25	$ 0.28
Care Label	1.05	$ 0.10	$ 0.11
patch			$ -
Barcode Sticker	1.05	$ 0.05	$ 0.06
shoulder tape			$ -
Hangtag	1.05	$ 0.20	$ 0.22
Drawcord	1.05	$ 1.20	$ 1.32
Eyelet	2.1	$ 0.50	$ 1.10
Herringbone tape			$ -
Crochet Lace			$ -
Rope			$ -
Others			$ -
	Total		$ 3.09

PACKING			
Description	Consumption	Rate	COST
Hanger			$ -
PCS Poly	1.05	0.6	$ 0.66
back board			$ -
CARTON	0.5	1.2	$ 0.63
Shipping mark	0.5	0.05	$ 0.03
Others			$ -
	Total		$ 1.32

FINAL OFFER per Pc $7.03
Promoda commission per pc $0.33

FIG: Cost Sheet

2.6 Consumption:

Consumption is to calculate the required fabric to produce garments according to buyer requirement.it is calculated based on mid-size of the size range. Measurements are considered from measurement chart given in technical file.
Below are few consumption formula

T-SHIRT:
C = ((((S. L+B.L+S. A) X ((C. L+S.A) X Fabric Author Sight X 12 X 2)/10^7) +wastage percentage

S. L= sleeve length
B. L=body length
C.L=Chest Length
S. A=sewing allowance
Fabric Author sight= Author sight per meter square of fabric in Gram

JOGGER & LEGGING:

C = (((In seam + Back rises') X (half thighs') X 4 X 12 X Few)/ 10^7) +wastage

WOVEN SHIRT:

C = (((S. L+B.L+S. A) X (C. L+S.A) / (F.W X 36)) + wastage

S. L= sleeve length
B. L= Body Length
C.L= Chest length
F. W= fabric width

Woven pant:

C = (((In seam + Back rises') X (half thighs'))/ (Few X 36)) + wastage

Merchant does the consumption based on these formulas**2.7 RAW MATERIALS COSTING:**

It is the cost of raw materials required for the unit order.it is the fabric cost.it can be calculated by adding up yarn cost, knitting cost, dying cost. Or it can be calculated based on price from cost. Or of yarn to get the required fabric Author sight is very important

2.8 NEGOTIATION:

After the Costing merchandiser needs to offer the price to customer. After price is confirmed he needs to negotiate the ordering process. Below are few points that needs to be confirmed through negotiation.

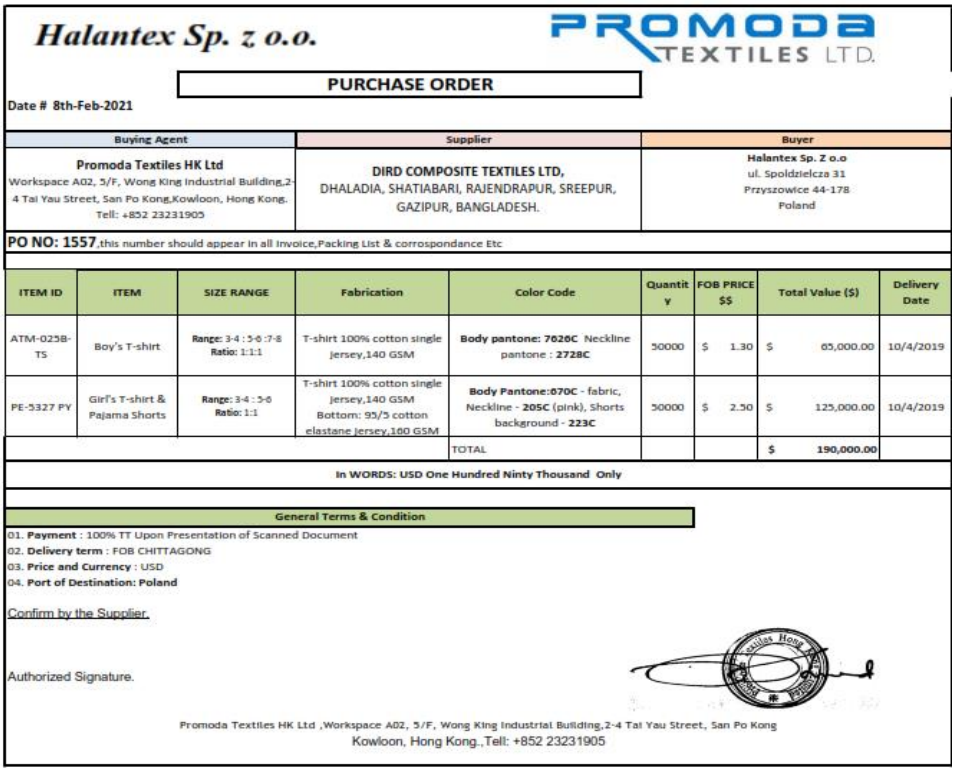
- ✓ Delivery date
- ✓ Order Quantity
- ✓ Quality Manual
- ✓ Inspection AQL
- ✓ Approval Process
- ✓ Testing Requirement
- ✓ Shipping Mode
- ✓ Payment terms
- ✓ Order challenges

2.9 Purchase Order

A purchase Order is issued by Buyer. Order details is given in there. Below information must be included in a purchase order.

- ❖ Manufacturer details
- ❖ Buyer details
- ❖ Item’s description
- ❖ Size wise order Quantity
- ❖ Unit price
- ❖ Total price
- ❖ Delivery terms

- ❖ Delivery port
- ❖ Others details if necessary



Halantex Sp. z o.o.

PROMODA TEXTILES LTD.

PURCHASE ORDER

Date # 8th-Feb-2021

Buying Agent	Supplier	Buyer
Promoda Textiles HK Ltd Workspace A02, 5/F, Wong King Industrial Building,2-4 Tai Yau Street, San Po Kong,Kowloon, Hong Kong. Tell: +852 23231905	**DIRD COMPOSITE TEXTILES LTD,** DHALADIA, SHATIABARI, RAJENDRAPUR, SREEPUR, GAZIPUR, BANGLADESH.	**Halantex Sp. Z o.o** ul. Spoldzielcza 31 Przyszowice 44-178 Poland

PO NO: 1557,this number should appear in all Invoice,Packing List & corrospondance Etc

ITEM ID	ITEM	SIZE RANGE	Fabrication	Color Code	Quantity	FOB PRICE $$	Total Value ($)	Delivery Date
ATM-025B-TS	Boy's T-shirt	**Range:** 3-4 : 5-6 :7-8 **Ratio:** 1:1:1	T-shirt 100% cotton single jersey,140 GSM	**Body pantone: 7626C** Neckline pantone : **2728C**	50000	$ 1.30	$ 65,000.00	10/4/2019
PE-5327 PY	Girl's T-shirt & Pajama Shorts	**Range:** 3-4 : 5-6 **Ratio:** 1:1	T-shirt 100% cotton single jersey,140 GSM Bottom: 95/5 cotton elastane jersey,160 GSM	**Body Pantone:070C** - fabric, Neckline - **205C** (pink), Shorts background - **223C**	50000	$ 2.50	$ 125,000.00	10/4/2019
				TOTAL			$ 190,000.00	

In WORDS: USD One Hundred Ninty Thousand Only

General Terms & Condition

01. **Payment** : 100% TT Upon Presentation of Scanned Document
02. **Delivery term** : FOB CHITTAGONG
03. **Price and Currency** : USD
04. **Port of Destination: Poland**

Confirm by the Supplier.

Authorized Signature.

Promoda Textiles HK Ltd ,Workspace A02, 5/F, Wong King Industrial Building,2-4 Tai Yau Street, San Po Kong
Kowloon, Hong Kong.,Tell: +852 23231905

FIG: Purchase Order

2.10 Order summary

This is a chart that a merchandised must prepare to with order details.

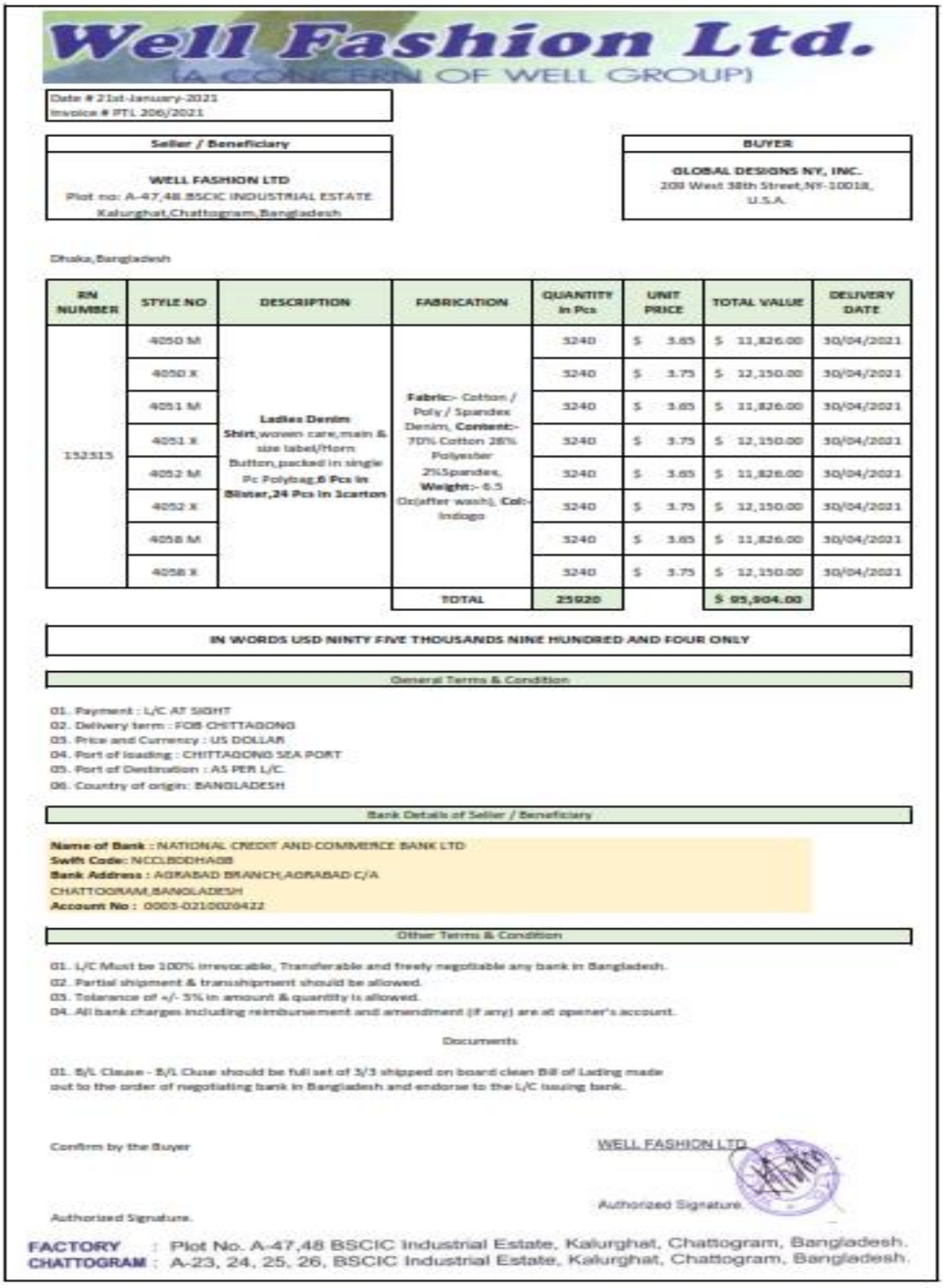
PO No	Item	Color	Size	Quantity
1212	100% cotton men's tee	Black	S	5000
			M	5000
			L	10000
			XL	5000
			2XL	5000
			Total	30000

Chart: Order summary

2.11 Proforma invoice for L/C or Contract

Proforma is the document sent by the supplier to the buyer to Open L/C or Contract for a purchase order. Proforma is prepared against Order. Below information are Prepared in the Proforma Invoice

- ✓ Supplier Details
- ✓ Buyer Details
- ✓ Order Details
- ✓ Unit Price
- ✓ Total Price
- ✓ Item Description
- ✓ Payment terms
- ✓ Banking Details of Both Buyer and Supplier
- ✓ Delivery terms and details
- ✓ Authorization signature
- ✓ Special terms if any
- ✓ Full specification of the order
- ✓ Order Number



Well Fashion Ltd.
(A CONCERN OF WELL GROUP)

Date # 21st-January-2021
Invoice # PTL 206/2021

Seller / Beneficiary	BUYER
WELL FASHION LTD Plot no: A-47,48 BSCIC INDUSTRIAL ESTATE Kalurghat,Chattogram,Bangladesh	GLOBAL DESIGNS NY, INC. 209 West 38th Street,NY-10018, U.S.A.

Dhaka,Bangladesh

PI NUMBER	STYLE NO	DESCRIPTION	FABRICATION	QUANTITY in Pcs	UNIT PRICE	TOTAL VALUE	DELIVERY DATE
152315	4050 M	Ladies Denim Shirt,woven care,main & size label/Horn Button,packed in single Pc Polybag,6 Pcs in Blister,24 Pcs in 1carton	Fabric:- Cotton / Poly / Spandex Denim, Content:- 70% Cotton 28% Polyester 2%Spandex, Weight:- 6.5 Oz(after wash), Col:- Indigo	3240	$ 3.65	$ 11,826.00	30/04/2021
	4050 X			3240	$ 3.75	$ 12,150.00	30/04/2021
	4051 M			3240	$ 3.65	$ 11,826.00	30/04/2021
	4051 X			3240	$ 3.75	$ 12,150.00	30/04/2021
	4052 M			3240	$ 3.65	$ 11,826.00	30/04/2021
	4052 X			3240	$ 3.75	$ 12,150.00	30/04/2021
	4058 M			3240	$ 3.65	$ 11,826.00	30/04/2021
	4058 X			3240	$ 3.75	$ 12,150.00	30/04/2021
			TOTAL	25920		$ 95,904.00	

IN WORDS USD NINTY FIVE THOUSANDS NINE HUNDRED AND FOUR ONLY

General Terms & Condition

01. Payment : L/C AT SIGHT
02. Delivery term : FOB CHITTAGONG
03. Price and Currency : US DOLLAR
04. Port of loading : CHITTAGONG SEA PORT
05. Port of Destination : AS PER L/C.
06. Country of origin: BANGLADESH

Bank Details of Seller / Beneficiary

Name of Bank : NATIONAL CREDIT AND COMMERCE BANK LTD
Swift Code: NCCLBDDHA08
Bank Address : AGRABAD BRANCH,AGRABAD C/A
CHATTOGRAM,BANGLADESH
Account No : 0003-0210020422

Other Terms & Condition

01. L/C Must be 100% irrevocable, Transferable and freely negotiable any bank in Bangladesh.
02. Partial shipment & transshipment should be allowed.
03. Tolerance of +/- 5% in amount & quantity is allowed.
04. All bank charges including reimbursement and amendment (if any) are at opener's account.

Documents

01. B/L Clause - B/L Clase should be full set of 3/3 shipped on board clean Bill of Lading made out to the order of negotiating bank in Bangladesh and endorse to the L/C issuing bank.

Confirm by the Buyer

WELL FASHION LTD.

Authorized Signature.

Authorized Signature.

FACTORY : Plot No. A-47,48 BSCIC Industrial Estate, Kalurghat, Chattogram, Bangladesh.
CHATTOGRAM : A-23, 24, 25, 26, BSCIC Industrial Estate, Kalurghat, Chattogram, Bangladesh.

Fig: Proforma Invoice

2.12 Letter of credit

A letter of credit, or "credit letter," is a letter from a bank guaranteeing that a buyer's payment to a seller will be received on time and for the correct amount. In the event that the buyer is unable to make a payment on the purchase, the bank will be required to cover the full or remaining amount of the purchase. It may be offered as a facility. Due to the nature of international dealings, including factors such as distance, differing laws in each country, and difficulty in knowing each party personally, the use of letters of credit has become a very important aspect of international trade.
Because a letter of credit is typically a negotiable instrument, the issuing bank pays the beneficiary or any bank nominated by the beneficiary. If a letter of credit is transferable, the beneficiary may assign another entity, such as a corporate parent or a third party, the right to draw.

Types of Letters of Credit

- **Commercial Letter of Credit:** This is a direct payment method in which the issuing bank makes the payments to the beneficiary. In contrast, a standby letter of credit is a secondary payment method in which the bank pays the beneficiary only when the holder cannot.
- **Revolving Letter of Credit:** This kind of letter allows a customer to make any number of draws within a certain limit during a specific time period.
- **Traveler's Letter of Credit:** For those going abroad, this letter will guarantee that issuing banks will honor drafts made at certain foreign banks.

Type	OUR REFERENCE #	CLIENT REFERENCE #	CCY AMOUNT
ISSIMP	IC6035277HK	WSC101-7	USD 71454.83
TRADING PARTNER		**CTRY**	
BASE TEXTILES LTD		BD	

USER ID: WESCA122.FLAHM857

WELLS FARGO BANK

ISSUING BANK:
WELLS FARGO BANK, N.A.
7/F, CITYPLAZA FOUR
12 TAIKOO WAN ROAD, TAIKOO SHING
ISLAND EAST,HONG KONG
HONG KONG

APPLICANT:
WESC AMERICA, INC
270 LAFAYETTE STREET, STE 500
NEW YORK, NY 10012

UNITED STATES OF AMERICA

BENEFICIARY:
BASE TEXTILES LTD
PLOT NO. 9, CDA INDUSTRIAL AREA,
MOHARA, KALURGHAT,
CHITTAGONG-4221
BANGLADESH

ADVISING BANK:
ONE BANK LIMITED
AGRABAD BRANCH, CHITTAGONG,
ACCT:62582006
SWIFT:ONEBBDDH002
BANGLADESH

APPLICATION FOR IRREVOCABLE DOCUMENTARY LETTER OF CREDIT

LATEST SHIPMENT DATE: 20-JAN-2018
PRESENTATION DAYS: 30
DATE AND PLACE OF EXPIRY: 19-FEB-2018 BENEFICIARY'S COUNTRY

AMOUNT: USD 71454.83
AMOUNT SPECIFICATION:
+/- 5 PERCENT
PLUS OR MINUS IN QUANTITY AND AMOUNT ARE ACCEPTABLE.

ADD CONFIRMATION:
WITHOUT

AVAILABLE BY PRESENTATION OF THE FOLLOWING DOCUMENTS:

BENEFICIARY DRAFT(S) DRAWN ON US AT
SIGHT
FOR 100 PERCENT OF INVOICE VALUE
BEARING THE CLAUSE DRAWN UNDER DOCUMENTARY LETTER OF
CREDIT NUMBER (L/C NUMBER) OF WELLS FARGO BANK

OTHER DOCUMENTS:

.+++.1 ORIGINAL AND 2 PHOTOCOPIES OF SIGNED AND DATED COMMERCIAL INVOICE INDICATING FOR THE ACCOUNT OF ROSENTHAL AND ROSENTHAL INC., C/O WESC AMERICA, INC, 270 LAFAYETTE STREET, STE. 500, NEW YORK, NY, 10012, USA AS BUYER. THE INVOICE MUST INDICATE LETTER OF CREDIT NUMBER, WESC PO NUMBER, GENERAL DESCRIPTION OF THE MERCHANDISE, SHIPPING TERMS, QUANTITY SHIPPED, AND COUNTRY OF ORIGIN.

.+++.1 ORIGINAL AND/OR 2 PHOTOCOPIES OF SIGNED AND DATED DETAILED PACKING LIST INDICATING COMPLETE BREAKDOWN OF

FIG: Letter of Credit Draft

MERCHANDISE BY STYLE NUMBER, COLOR, CONTENTS AND QUANTITY OF EACH CARTON, CARTON NUMBER, TOTAL NET WEIGHT, AND TOTAL GROSS WEIGHT.

.+++.1 PHOTOCOPY FINAL RANDOM INSPECTION REPORT SIGNED BY A REPRESENTATIVE OF (ROSENTHAL APPROVED THIRD PARTY SERVICE PROVIDER), AND REPORT MUST (A) DETAIL DATE OF INSPECTION (B)LOCATION OF INSPECTION, (C) ITEMS INSPECTED (WHICH MUST TIE TO THE COMMERCIAL INVOICE), (D) AQL RESULTS INDICATING FINDINGS ON PACKAGING, LABELING AND CARTON MARKING, AND (E)CERTIFY OVERALL INSPECTION CONCLUSION AS PASS -OR- PENDING WITH NOTES INDICATING REASONS FOR FURTHER PASS APPROVAL.

.+++.1 ORIGINAL AND 1 PHOTOCOPY OF BENEFICIARY CERTIFICATE INDICATING A FULL SET OF DOCUMENTS AS PER LC REQUIREMENTS HAVE BEEN EMAILED TO (A) WESC AMERICA, INC.(APPLICANT) TO SUNIL.RATWANI(AT-SIGN)WESC.COM AND (B) ROSENTHAL AND ROSENTHAL INC. TO POFINANCE(AT-SIGN)ROSENTHALINC.COM . A COPY OF THE SENT EMAIL(S) MESSAGE SHOULD BE ATTACHED.

.+++.FOR OCEAN SHIPMENTS:
(3/3) ORIGINAL ON BOARD OCEAN BILL OF LADING, SHOWING LOADING ON BOARD A NAMED VESSEL, PORT OF LOADING, PORT OF DISCHARGE, PLACE OF DELIVERY, MARKED FREIGHT COLLECT, AND CONSIGNED TO THE ORDER OF WESC AMERICA, INC., 270 LAFAYETTE STREET, STE 500, NEW YORK, NY 10012, USA, INDICATING NOTIFY PARTY (1) STEELE LOGISTICS, 1436 W. COWELS STREET, UNIT B, LONG BEACH, CA, 90813, CONTACT: KRISTIN FLASKERUD, TEL: 562-435-4200, NOTIFY PARTY (2) CREATIVE LOGISTICS SERVICE, 587 INDUSTIAL ROAD, CARLSTADT, NJ, 07072, USA, NOTIFY PARTY (3) ROSENTHAL AND ROSENTHAL INC., 1370 BROADWAY, NEW YORK, NY, 10018, USA, ATTN: MEGAN FLAHERTY EMAIL:POFINANCE(AT-SIGN)ROSENTHALINC.COM.

FOR AIR SHIPMENTS:
(1) COPY NON NEGOTIABLE AIR WAYBILL, SHOWING DATE OF DEPARTURE, AIRPORT OF DEPARTURE, AIRPORT OF DESTINATION, PLACE OF DELIVERY (IF APPLICABLE), MARKED FREIGHT COLLECT, AND CONSIGNED TO WESC AMERICA, INC., 270 LAFAYETTE STREET, STE 500, NEW YORK, NY 10012, USA, INDICATING NOTIFY PARTY (1) STEELE LOGISTICS, 1436 W. COWELS STREET, UNIT B, LONG BEACH, CA, 90813, CONTACT: KRISTIN FLASKERUD, TEL: 562-435-4200, NOTIFY PARTY (2) CREATIVE LOGISTICS SERVICE, 587 INDUSTIAL ROAD, CARLSTADT, NJ, 07072, USA, NOTIFY PARTY (3) ROSENTHAL AND ROSENTHAL INC., 1370 BROADWAY, NEW YORK, NY, 10018, USA, EMAIL:POFINANCE(AT-SIGN)ROSENTHALINC.COM.

.+++.1 ORIGINAL AND 1 PHOTOCOPY OF CERTIFICATE OF ORIGIN, STAMPED BY AUTHORITY IN ISSUING COUNTRY, AND SHOWING TERMS SIMILAR TO THE TRANSPORT DOCUMENT AND COMMERCIAL INVOICE.

GOODS DESCRIPTION:
LATEST TRANSPORT DOCUMENT DATE FOR OCEAN SHIPMENTS: DECEMBER 30, 2017.
GOODS SHIPPING AFTER DECEMBER 30, 2017 NEED TO BE SENT BY AIR.
LATEST TRANSPORT DOCUMENT DATE FOR AIR SHIPMENTS: JANUARY 20, 2018.
UNDER PROFORMA NUMBER: BTL/102/2017
TOTAL QUANTITY: 11,295 PIECES (PCS)

FIG: Letter of Credit Draft

USD 10.60 PER UNIT, UNDER WESC ORDER NUMBER 32069.

42 PCS OF ITEM CODE 0005127, EDDY DENIM LONG, 72F BLUE RINSE, AT USD 10.60 PER UNIT, UNDER WESC ORDER NUMBER 32069.

62 PCS OF ITEM CODE 0005127, EDDY DENIM LONG, 93H BLACK RINSE, AT USD 10.60 PER UNIT, UNDER WESC ORDER NUMBER 32069.

38 PCS OF ITEM CODE 0005127, EDDY DENIM LONG, 990 CHARCOAL, AT USD 10.60 PER UNIT, UNDER WESC ORDER NUMBER 32052.

... ...

... ...

SHIPPING TERMS: OTH SEE ADDITIONAL CONDITIONS
PARTIAL SHIPMENTS PERMITTED
TRANSHIPMENT PERMITTED
PORT OF LOADING/AIRPORT OF DEPARTURE:
CHITTAGONG PORT OR DHAKA AIRPORT
PORT OF DISCHARGE/AIRPORT OF DESTINATION:
NY OR NJ, USA PORT OR AIRPORT

ISSUING BANK CHARGES ARE FOR
THE ACCOUNT OF THE APPLICANT.
ALL OTHER CHARGES ARE FOR
THE ACCOUNT OF THE BENEFICIARY.

THIS LETTER OF CREDIT IS TRANSFERABLE

ADDITIONAL CONDITIONS:

.+++.SHIPPING TERMS:
FOR OCEAN SHIPMENTS: FOB CHITTAGONG PORT
FOR AIR SHIPMENTS: FCA DHAKA AIRPORT

.+++.ROSENTHAL APPROVED THIRD PARTY INSPECTION SERVICE PROVIDER(S).
BUREAU VERITAS
INTERNATIONAL QUALITY AND TESTING SERVICES (IQTS)
INTERTEK
SGS

.+++.PARTIAL SHIPMENTS ACCEPTABLE PROVIDED ALL GOODS ARE SHIPPED COMPLETE BY LATEST SHIPMENT DATE.

.+++.INSURANCE COVERED BY APPLICANT.

SPECIAL INSTRUCTIONS TO TRADE SERVICES REPRESENTATIVE:
ADVISE DIRECTLY TO THE ONE BANK LIMITED, SWIFT:ONEBBDDH002

OUR REFERENCE #: IC6035277HK

CLIENT REFERENCE #: WSC101-7

FIG: Letter of Credit Draft

2.13 Contracts

In case of TT payment, the Buyer Gives a sales Contract to the Supplier.

PROMODA TEXTILES LTD.

SALSE CONTRACT NO:
SC # PTL 201/2020

SALES CONTRACT

DATE: November 3rd,2020

Applicant:
Promoda Textiles Ltd
House 10A(8th Floor) Road 4
Gulshan 1,Dhaka 1212.

Applicants Bank Details
WOORI BANK
Account Number : CDA964000794
SWIFT: HVBKBDDHXXX
UTTARA BRANCH, Paradise Tower (Ground Floor)
Plot # 11, Sector # 3, UTTARA MODEL TOWN, UTTARA, DHAKA 1230

Buyer
NY TRENDS 4 GLOBAL
209 West 38th Street,NY-10018,
U.S.A.

Exporter's Bank Details
A/C Name: Well Fashion Ltd
A/c no. 0003-0230026422
SWIFT :NCCLBDDHA08
NATIONAL CREDIT AND COMMERCE BANK LTD.
Agrabad Branch, Chittagong, Bangladesh.

Exporter
Well Fashion Ltd
Plot no. A-47,48,
BSCIC Industrial Estate, Kalurghat
Chattogram, Bangladesh.

Both the parties stated above hereby confirmed the following terms & conditions to make the **shipment of the under noted quantity mentioned as below.**

RN NUMBER	STYLE NO	Description	Fabrication	SIZE	Color/Wash	Quantity	Factory Price	Local Commission Promoda	Price With Local Commission(FOB)	Total Value ($)	Delivery Date
152315	4001 J	Ladies Junior Romper,woven care,main & size label/Silver Button(without LOGO),packed in single Pc Polybag,6 Pcs in Blister,24 Pcs in 1carton	100% cotton 11OZ Denim	S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
	4002 J			S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
	4008 J			S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
	4020 J			S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
	4021 J			S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
	4022 J			S	Medium Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				S	Bleach Wash	268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
				M		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				L		576	$4.00	$0.50	$4.50	$2,592.00	30/1/2021
				XL		268	$4.00	$0.50	$4.50	$1,206.00	30/1/2021
			TOTAL			20,736				$ 93,312.00	

Total amount in word USD Ninty Three Thousand Three Hundred and Twelve ONLY.

Local Commission : **10,368 $,in words USD Ten Thousand Three Hundred Sixty Eight Only.**

Page 1 of 2

Fig: Sales Contract

PROMODA TEXTILES LTD.

TERMS & CONDITIONS

1. Terms Of Payment 1. L/C At sight

2.Local Commision has to be sent to Local buying Agent Promoda Textiles Ltd on Below Bank account:
WOORI BANK
Account Number : **CDA0640003794**
SWIFT: HVBKBDDHXXX
UTTARA BRANCH, Paradise Tower (Ground Floor)
Plot # 11, Sector # 3, UTTARA MODEL TOWN, UTTARA, DHAKA 1230
3. SHIPPING MODE IS **FOB**

2.Local Buying Agent : Promoda Textiles Limited
House # 104 8th Floor, Road # 04, Gulshan 1, Dhaka 1212

3. Partial Shipment : Allowed as per written confirmation from the buyer.

4. Trans Shipment : Allowed

7. Delivery Tolerance : + 5% of order Quantity as per packing instruction

5. Insurance : Covered by Beneficiary

6. Goods to be shipped : By Sea / Air

7. Date of Expiry : 30 Days from the Shipment date.

8. DOCUMENTS REQUIRED : (a) Invoice (b) packing list (c) Correct Certificate of origin, GSP from EPB (d) Correct B/L or AWB with correct weight and description (e) Inspection Certificate duly signed by Ashfaque Ahmed to be sent within 7 days of the BL date to buyer. (f) passed Lab Test Report from Authorized lab. (g) Azo Free Test Report On Garments From SGS.

Other Terms & Conditions:

1. Destination Country's chemical regulation.
2. delivery and Shipment manual provided by Victoria are integral part of this contract
3. For sea shipment, Copy of the documents must be submitted within 3 days from BL date
4. For Air shipment, original docs must be ready before air lifting and submit accordingly.
5. Original documents for sea Shipments must be sent within 15 days from on board date. And for AIR shipment, original documents must accompany during air lifting.
6. Subject to client juries discretion, they might randomly inspect the merchandise in their warehouse. Any discrepancy reported from their requested quality/packing/confirmity...might cause for a claim settlement or rejection of merchandise.
7. below are the terms for Delivery
on 1-7 days delay from the shipment delivery will be via Air at factory cost
On 8-14 days delay from the shipment delivery will be via Air at factory cost with 8% discount
On 15-21 days delay from the shipment delivery will be via Air at factory cost with 10% discount
On 22-28 days delay from the shipment delivery will be via Air at factory cost with 15% discount
on More than 28 days shipment will be cancled or via Air at factory cost with 20% discount

This contract is prepared & singed in presence of both the parties as mentioned.

EXPORTER

Authorized Signature

Authorized Signature

Fig: Sales Contract

2.14 APPROVAL:

In this stage the Merchandiser Needs to take all the Quality approvals from Customer. APPROVAL is needed on Below:

- LAB DIP
- FABRIC QUALITY
- EMLISHMENTS
- TRIMS & ACCESSORIES
- SAMPLES

2.14.1 LAB DIP

This is the color swatch done for the color approvals. Dye house lab prepare this based on given swatch, color code Or QTX standards.

2.14.2 FABRIC APPROVAL:

Getting the fabric Quality approval. And to do the required Quality testing on fabric is a prior work for merchandiser. Below points are tested.

- Dimensional stability (shrinkage & spirality)
- Fabric Composition
- Color fastness
- Piling tendency
- Hand feel
- Appearance

2.14.3 EMBELLISHMENTS:

To make a product lucrative Prints, Embroidery etc. are used. These are the Embroidery of these needs to be approved before sampling or during sampling. Merchandiser needs to check the below for embellishments

- Size
- Hand feel
- Color
- Durability according to Standar

2.14.4 Samples:

There are many types of samples that needs to be make in an order execution. Below are Few.

- **Proto Sample / First sample:**

  The first sample that is developed from the design sketch or the design concept is known as proto sample. Proto samples are also known as the first sample. The proto samples are normally made of matching fabric quality (weight and fabric types), as during proto sample development actual fabric are not available with the factory. The proto sample in made in one size. Number of proto samples to be made depend on the buyer's requirement. At least three sample should be made – 2 samples to send to the buyer for approval. Out of these 2 samples, buyer keeps one sample and send back to the second sample to the factory. Third sample should be made as a factory's counter sample of proto. In case a third-party buying house is involved in sample development, one additional sample may be required.

- **Fit Sample**

  Garment fit is one of the most important parameters in garment design. Fit sample is developed according to the spec sheet measurement and design sketch. Purpose of developing FIT sample is checking the garment fit on the dress form or on the human model. The measurement specifications are verified using the FIT sample and measurement are corrected as per fit requirement. Fit sample is developed after the proto sample and prior to size set sample. Like the proto sample, the fit sample is made for the middle size. 2-3 samples are developed for the fit sample. Normally, the sample resubmission rate is higher in FIT sample compared to other approval.

- **Size set Sample**

  The objective of the size set sample is checking the garment fit of multiple sizes. The size set samples are normally made for jump sizes. Like S, L, XXL. A number of samples required for size set depend on the buyer's requirement. Pattern grading is checked in size set sample. If the technical team found some sizes are not giving correct fit, they do

correction on the pattern grading until they get the correct fit. After the size set approval, the supplier can develop the PP sample. Size set samples are made using actual fabric. In case actual fabric is not available, the similar quality fabric can be used. (Final decision for fabric quality is buyers')

❖ **Salesman sample (SMS)**

Salesman sample is developed using original fabrics. Salesman samples, known as SMS, are developed for displaying the design in the retail stores. The purpose of displaying samples in the store is forecasting the order volume. Salesman samples are also known as the marketing sample.

❖ **Preproduction sample (PP Sample)**

The PP sample is made with actual fabric. The PP sample is made by the factory in the production line. All the development samples are made in the sampling room

❖ **Gold seal sample**

An approved sample for bulk production. The PP sample can be called as sealed if buyer sealed it. Some buyers and factory used to call the approved PP sample as the sealed sample. Gold seal sample also known as a Sealed sample. Buyer seals the approved using colored tag, which can't be removed from the garment without damaging the garment. Some buyers give a unique code to each sealed sample, and number if embossed on the tag. Garment sample is sealed by the buyer to avoid tempering the actual approved sample by the factory tea.

❖ **TOP Sample/Production Sample**

TOP is abbreviated as Top of Production. Factory starts bulk production after the PP sample approval. After the bulk production start, few garments are picked randomly from the production output of the first production run for quality checking by the buyer's QA. These samples are known as **Top of Production** sample.

❖ Shipment Sample

Buyers need to keep a random garment piece from the final shipment audit. This sample is referred for packing details, all detailing attached to the finished garment, that will be going to the stores. Factory keeps 3 samples for shipment samples – one for the buyer, the second one for factory and the 3rd one for the buying house merchant. Shipment sample is kept by the buyer as well as by the factory for future reference if any complaint raised by a customer regarding deviation of the product design and product detailing in the sold garment.

❖ Development sample

The development samples are those sample which made until the final factory gets bulk production approval. The proto, fit and size set samples are considered as development sample.

❖ Red Tag Sample/ Sealed sample

A red tag sample is the same as the gold seal sample and sealed sample. A different term of the approved and sealed sample for bulk production approval. A red colored tag is attached in the sealed sample.

2.14 PRODUCTION STAGE:

❖ FABRIC INSPECTION:

- Fabric inspection is done in suitable and safe environment with enough ventilation and proper lighting.
- Fabric passing through the frame must be between 45–60-degree angles to inspector and must be done on appropriate Cool White light 2 F96 fluorescent bulbs above viewing area. Back light can be used as and when needed.
- Fabric speed on inspection machine must not be more than 15 yards per minute.
- Standard approved bulk dye lot standards for all approved lots must be available prior to inspection (if possible)
- Approved standard of bulk dye lot must be available before starting inspection for assessing color, construction, finish and visual appearance.
- Shade continuity within a roll by checking shade variation between center and selvage and the beginning, middle and end of each roll must be evaluated and documented.
- Textiles like knits must be evaluated for weight against standard approved weight.
- Fabric width must be checked from selvage to selvage against standard.
- All defects must be flagged during inspection
- The length of each roll inspected must be compared to length as mentioned on supplier ticketed tag and any deviation must be documented and reported to mill for additional replacement to avoid shortage.
- If yarn dyed or printed fabrics are being inspected the repeat measurement must be done from beginning, middle and end of selected rolls.

❖ PRE-PRODUCTION MEETING

Any product that scheduled for bulk production require pre-production meeting. This is done prior to start garment making. In short it calls PP Meeting in garments industry. Minutes are instant written record of a meeting or hearing. Typically describe the events of the meeting, starting with a list of attendees, a statement of the issues considered by the participants, and related responses or decisions for the issues. People from production actually unaware how final product comes through all the sampling & approvals. For this reason, it is important to give all the relevant information whoever involved in product making so that any kinds of error may not happen & production process goes smoothly meeting achieves following things in short:

- Everyone understands about production process.
- Misunderstanding on product or any other issue can be clarified.
- Critical path is communicated and explained.
- Liaison between buying & factory people.
- Group discussion.
- Strong relationship can be built up.

❖ Pilot run

Purpose of pilot run is to check production techniques and quality requirement. Pilot run pieces are thoroughly checked by factory quality department at every stage of production. Based on the pilot run result bulk production is planned. Through pilot run process, production team learns about the critical operations in the styles, identify potential bottleneck operations. Based on their learning in pilot production run they prepare themselves for bulk production.

- ✓ Pilot must be processed in the production line instead of sampling section
- ✓ All sizes and all colors are included in the pilot quantity (factory may cut jump sizes instead of all sizes).
- ✓ If pilot run is requested by buyer, quality of the pilot run pieces may be checked by buyer QA
- ✓ Pilot run pieces are included in bulk quantity in finishing and are sent with the shipment (if there is no variation than the buyer quality specification)

2.16 FINAL AUDIT/INSPECTION:

Final inspection consists of inspecting finished garments from the buyer's point of view; size measurements, form fitting (putting garments on the proper size manikins to see if they properly fit labeled sizes); and live modeling if necessary (again to see if the **garments properly fit** the labeled sizes). Final inspection in garment industry may occur before or after garments are packed in poly bags and cartons. If it is done

2.17 Shipment:

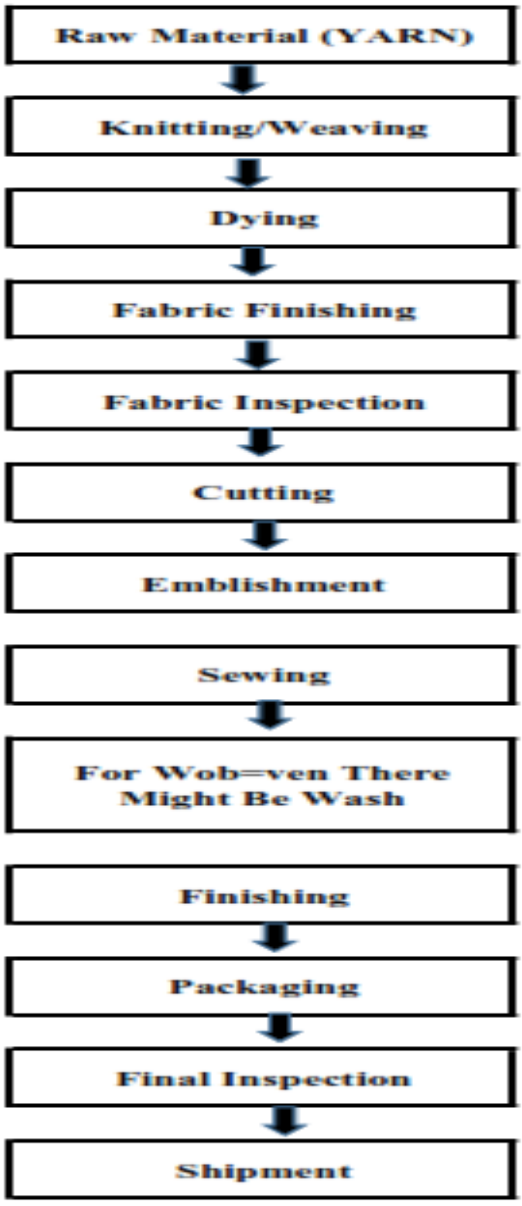
There are three types of shipment process for garments. Which Authors get from order sheet.

- ✓ **Sea by Sea**: Gannt's will go by sea from loading country to destination country.
- ✓ **Sea/ Air**: From loading country garments will be go till Sapor or port Clang (As Singapore and port Clang is the transit point) by sea & will go to last distention by Air.
- ✓ **Air:** By Air: Garments will go by air from loading country to destination country.

CHAPTER 3

3.1 Garments Manufacturing Process:

Knit & Woven are the major Products in terms of manufacturing.garments manufacturing process is same in both case.difference is in the fabric Production Process



3.2 Raw Materials:

Yarn is Ordered and collected according to the Composition and Fabric Weight requirement.

SINGLE JERSEY

YARN COUNT	24 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
20/1	200	230
22/1	190	205
24/1	180	195
26/1	170	180
28/1	150	165
30/1	140	155
32/1	130	140
34/1	120	130
40/1	110	120

YARN COUNT	28 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
26/1	170	180
28/1	160	170
30/1	145	160
32/1	135	145
34/1	125	135
40/1	115	125
44/1	100	115
50/1	90	100

YARN COUNT	20 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
20/1	200	220
40/2	190	210
34/2	230	240
30/2	240	260
26/2	260	280

(1x1) RIB FABRICS

YARN COUNT	18 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	250	280
26/1	230	240
28/1	220	230
30/1	200	210
32/1	180	190
34/1	170	180
40/1	150	160

(2x1) RIB FABRICS

YARN COUNT	18 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	250	260
26/1	240	250
28/1	220	230
30/1	200	220
32/1	180	190

PLAIN INTERLOCK FABRICS

YARN COUNT	24 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
30/1	250	270
32/1	240	260
34/1	230	250
36/1	220	240
38/1	210	230
40/1	190	220

YARN COUNT	26 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
40/1	195	225
42/1	180	200
44/1	175	190
46/1	170	185
48/1	165	180
50/1	160	175

YARN COUNT	28 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
40/1	200	230
60/1	165	180
70/1	135	150
80/1	115	130

YARN COUNT	22 GAUGE	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
26/1	260	280
28/1	250	270
30/1	240	260
32/1	230	250
34/1	220	240

USE 24 GAUGE MACHINE

YARN COUNT	SINGLE P.K	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	200	210
26/1	190	200
28/1	180	190
30/1	170	180
32/1	160	170
34/1	150	160

YARN COUNT	DOUBLE P.K	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	210	220
26/1	200	210
28/1	190	200
30/1	180	190
32/1	170	180
34/1	160	170

YARN COUNT	SINGLE LACOST	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	210	230
26/1	200	220
28/1	190	200
30/1	180	190
32/1	170	180
34/1	160	170

YARN COUNT	DOUBLE LACOST	
	Finish G.S.M.	
	MINIMUM	MAXIMUM
24/1	220	240
26/1	210	230
28/1	200	210
30/1	190	200
32/1	180	190
34/1	170	190

Full Feeder Lycra S/J (24 GAUGE)

Full Feeder Lycra S/J (28 GG)

YARN COUNT	With 20/D Lycra Finish G.S.M.		Lycra Use (%)
	MINIMUM	MAXIMUM	
40/1	170	180	4.50 - 5.00
45/1	160	170	5.00 - 5.50
50/1	150	160	5.50 - 6.00
55/1	130	140	6.00 - 6.50
60/1	120	130	6.50 - 7.00

YARN COUNT	With 20/D Lycra Finish G.S.M.		Lycra Use (%)
	MINIMUM	MAXIMUM	
30/1	200	210	3.00 - 3.50
32/1	190	200	3.50 - 3.75
34/1	180	190	3.75 - 4.00
36/1	170	180	4.00 - 4.25
38/1	165	175	4.25 - 4.50
40/1	150	160	4.50 - 5.00

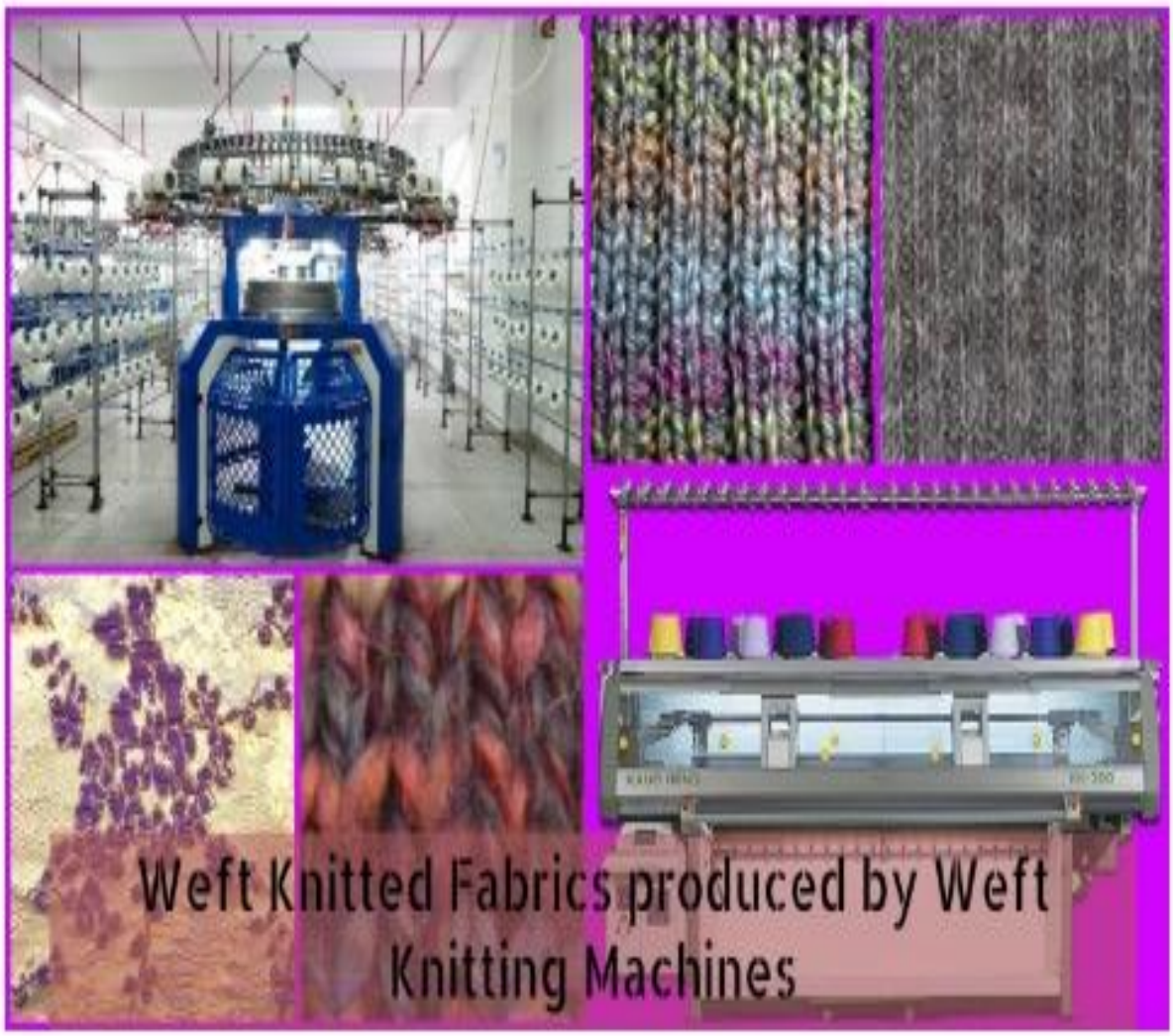
YARN COUNT	With 40/D Lycra Finish G.S.M.		Lycra Use (%)
	MINIMUM	MAXIMUM	
30/1	240	250	6.50 - 7.00
32/1	230	240	7.00 - 7.25
34/1	220	230	7.25 - 7.50
36/1	210	220	7.50 - 7.75
38/1	200	210	7.75 - 8.25
40/1	180	200	8.25 - 9.00

3.3 Knitting:

Knitting is done according to the weight requirement. Below Are few Knitting Machine type and their application

- **Weft Knitting Machine**

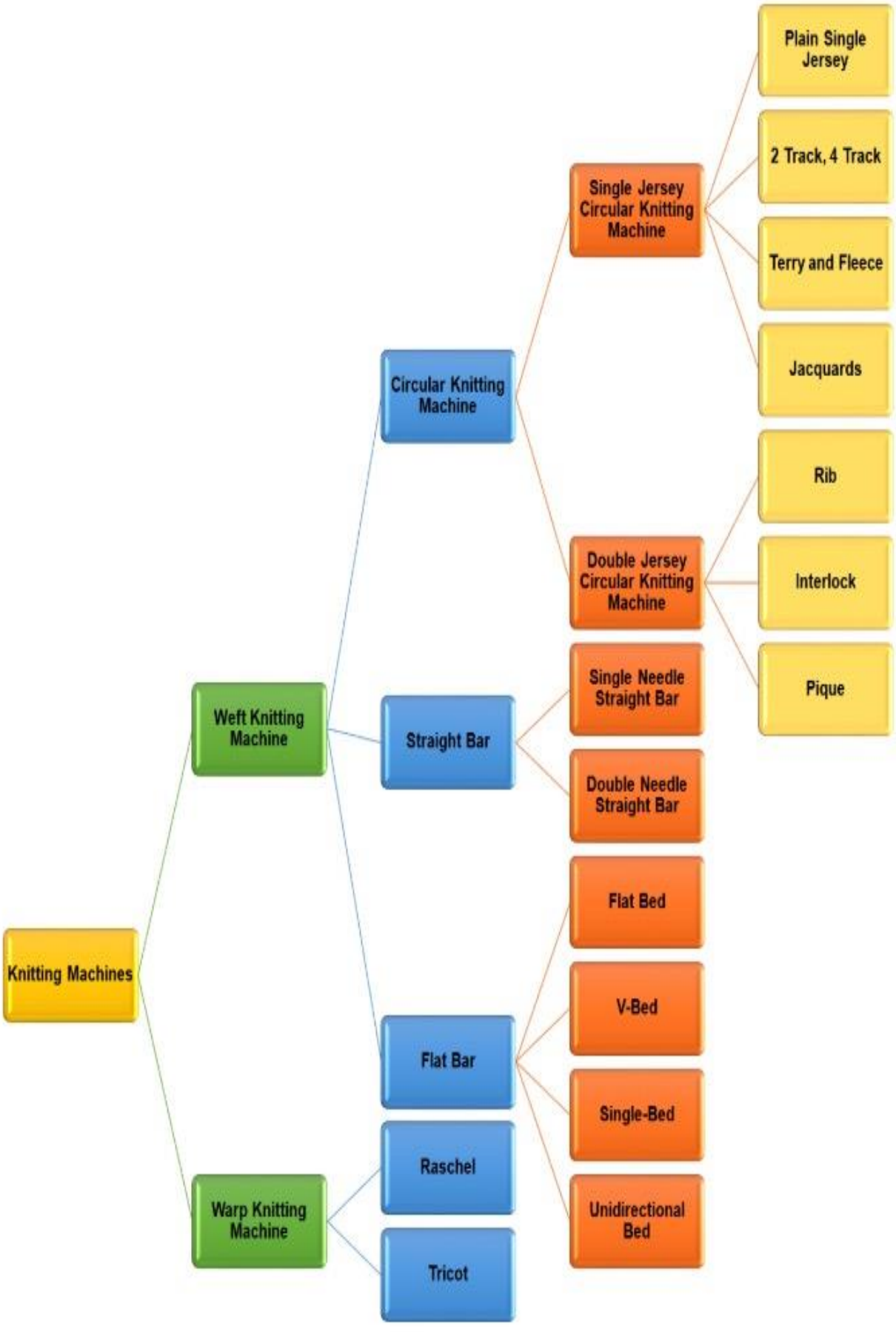
Weft Knitting Machines are used to make weft knitted fabrics by just a single yarn. Knitting in weft is a more common method than warp knitting. In Weft knitting, the looms are knitted horizontally in a circular form from left to right of the fabric. Weft knits are made from a yarn fed into the circular knitting machine needles.



❖ **Warp Knitting Machine**

On the other hand, Warp knitting is done by knitting in a zigzag pattern along the fabric area. While weft knitting is done by knitting across the fabric, Warp knitting is accomplished by running knits through adjacent wales or columns.

Both Warp knitting machines and Weft Knitting machines can be further classified into many types of knitting machines listed below.


Knitting Machines
Weft Knitting Machine
Warp Knitting Machine
Circular Knitting Machine
Straight Bar
Flat Bar
Raschel
Tricot
Single Jersey Circular Knitting Machine
Double Jersey Circular Knitting Machine
Single Needle Straight Bar
Double Needle Straight Bar
Flat Bed
V-Bed
Single-Bed
Unidirectional Bed
Plain Single Jersey
2 Track, 4 Track
Terry and Fleece
Jacquards
Rib
Interlock
Pique

Different type Of Knitting Machin

- **Weft Knitting Machine:**

- **Circular Knitting Machine**

- Single Jersey Circular Knitting Machine
  - ✓ Plain Single Jersey
  - ✓ 2 Track 4 Track
  - ✓ Terry and Fleece
  - ✓ Jacquards

- Double Jersey Circular Knitting Machine
  - ✓ Rib
  - ✓ Interlock
  - ✓ Pique

- **Straight Bar Knitting Machine**

- Single Needle Straight Bar Knitting Machine
- Double Needle Straight Bar Knitting Machine

- Flat Bar Knitting Machine
  - ✓ Flat Bed or V-Bed
  - ✓ Single-Bed
  - ✓ Unidirectional Bed

- **Warp Knitting Machine**

- Raschel Knitting Machine
- Tricot Knitting Machine

❖ Circular Knitting Machine

A Circular Knitting machine is one of the most popular knitting machines in use today. Even hobbyists make use of a small circular knitting machine such as an Adi Express Knitting Machine to create their own knitted pieces such as sweaters, gloves, scarfs and many small diameters sized creations.

Circular Knitting machine

The mechanism of the industrial Circular Knitting Machines used to create apparels in large volumes and fast production rates is simple. Fabrics are knitted in spiral and cast on. The circle of stitches is joined forming seamless tubes. The layers it produces are counted on as the number of rows.

Machines of this type can produce a wide range of diameter from 12 inches to 60 inches. It can knit a variety of sportswear and fashion clothing and apparel in an incredibly fast rate.

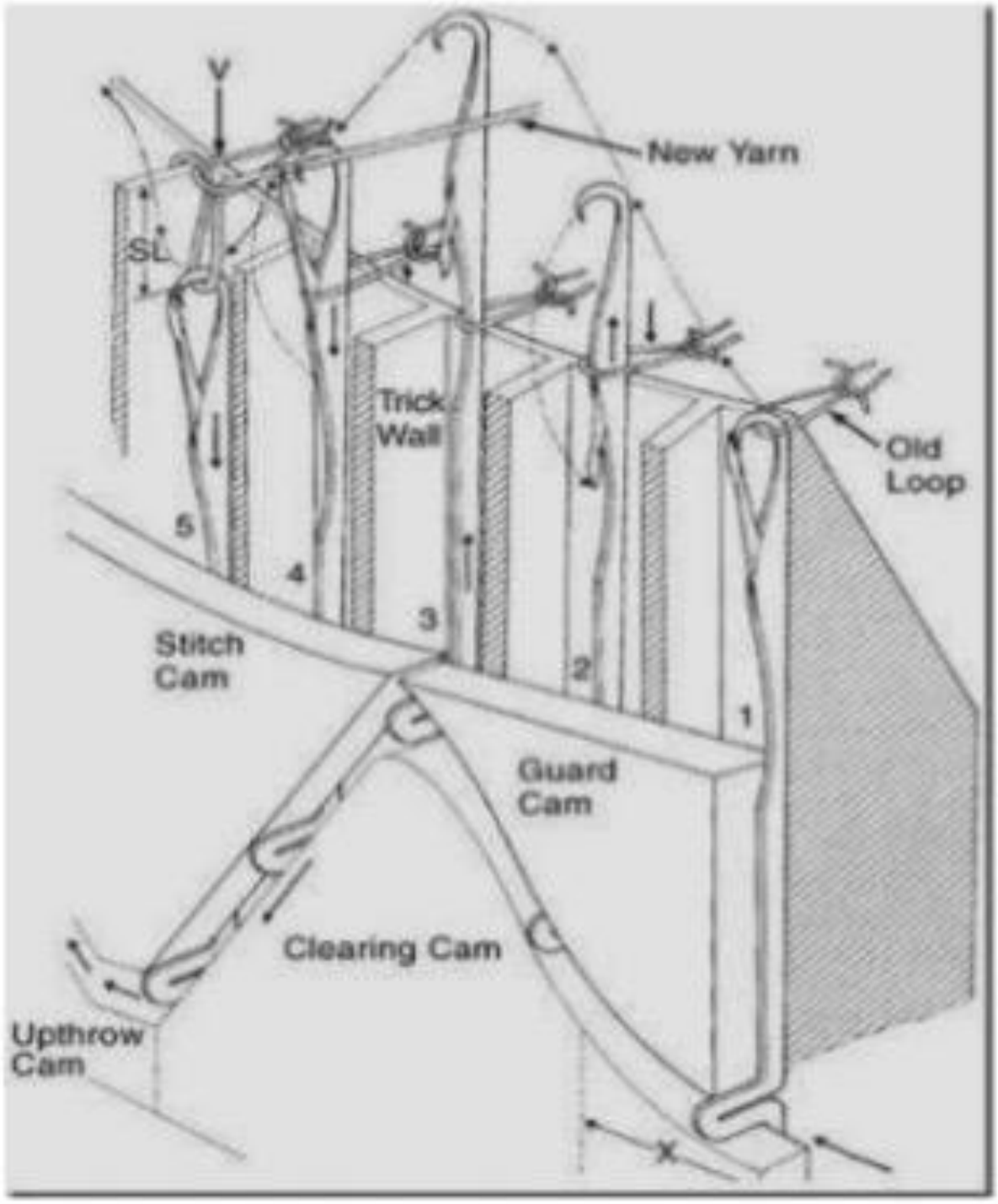
- **Application of Circular Knitting Machine**

This kind of machine is made for manufacturing fabrics of:

- Jackets
- T-shirt
- Ladies' tops
- Casual wear
- Suits
- Dresses
- Bath robes
- Dressing gowns
- Track suits
- Upholstery
- Jogging suits
- Jersey,
- Lily
- Jersey blister
- Single Lacoste

- **Single Jersey Circular Knitting Machine**

The Single Jersey Circular knitting machine is a modern machine and has a simpler design than the Rib Machine (Double Jersey Circular Knitting Machine). Also called Plain Circular Latch Needle Machine, it consists of a set of latch needle and a set of the sinker. Both revolve along different knitting cam systems that cause a calculated and accurate up and down motion. This mechanism also involves the movement of the yarn feeders that are placed at equal intervals along the circumference of the knitting machine cylinder.



Plain Single Jersey Circular Knitting Machine

Simply put, this machine is the simplest circular knitting machine containing only 1 track of cams that produces plain single jersey fabric. Only one set of

latch needle is used. The cylinder, sinker and latch needle revolve along the stationary knitting cam systems producing the desired density, thickness and ideal properties of the fabric.

- **2 Track, 4 Track Single Jersey Circular Knitting Machine or Multi-track Single Jersey Circular Knitting Machine**

Two and Four Track Single Jersey Circular knitting machines can produce a variety of fabric designs for its configuration is specially constructed for high production purposes. Material ranges from cotton, yarn, pique fleece, two-thread fleece, T/C, synthetic fibers and mini-jacquard. With this machine, you can flexibly choose the number of cams for different fabric demands.

- **Terry and Fleece Single Jersey Circular Knitting Machine**

Fleece fabric, like comforters, towels, bathrobes and some winter coats are quickly made with the Terry Single Jersey Circular Knitting Machine.

Terry Knitting Machines makes plain fabric on one side with the back loop inserted with a number of wales (2-3 wales). The back area is brushed as to make the fabric warm and tingly. The threads used can be fine at the top and course for the back.

❖ Jacquard Single Jersey Circular Knitting Machine

Jacquard Single Jersey Circular knitting machine is designed with a three-position needle selection options – knit, tuck, and miss, allowing complex Jacquard fabric patterns to be made.

Jacquard fabric is the most intricately styled fabric as it has a raised texture design that usually include flowers, brocade, matelassé, paisleys, damask and animal patterns.

❖ Double Jersey Circular Knitting Machine

This type of circular knitting machine has two forms, known as Rib Machine or Interlock Machine. In the Double Jersey Circular Knitting Machine, two sets of needles are contained in the machine.

The cylinder has one set and the dial has the other set of the needle. The dial and cylinder needles are arranged in a perpendicular manner. Cylinder cams and Dial cams are two different set of cams takes control of the knitting action. This arrangement can either be interlocked or ribbed while producing the fabric.

❖ Rib Circular Knitting Machine

The most notable feature of the Rib Circular Knitting Machine is the rib structure it forms on the fabric. A rib structure is formed by the face and back loops occurring along the course successively while the loops of the wales remain the same.

Two sets of needles are used in a perpendicular position with each other. Both the dial and cylinder revolve with the cam systems of the feeders remaining stationary. Cylinder needles move vertically while the dial needles move horizontally.

❖ Interlock Circular Knitting Machine

Interlock is a 1×1 rib variant structure. Two sets of needles work in both cylinder and dial that accomplishes at least two processes. With Interlock

Circular Knitting Machines, purl structures can also be made. These Purl fabrics are knitted on specialized machines allowing dual-ended latch needles and special devices of drive them and form intermeshed loops in two directions.

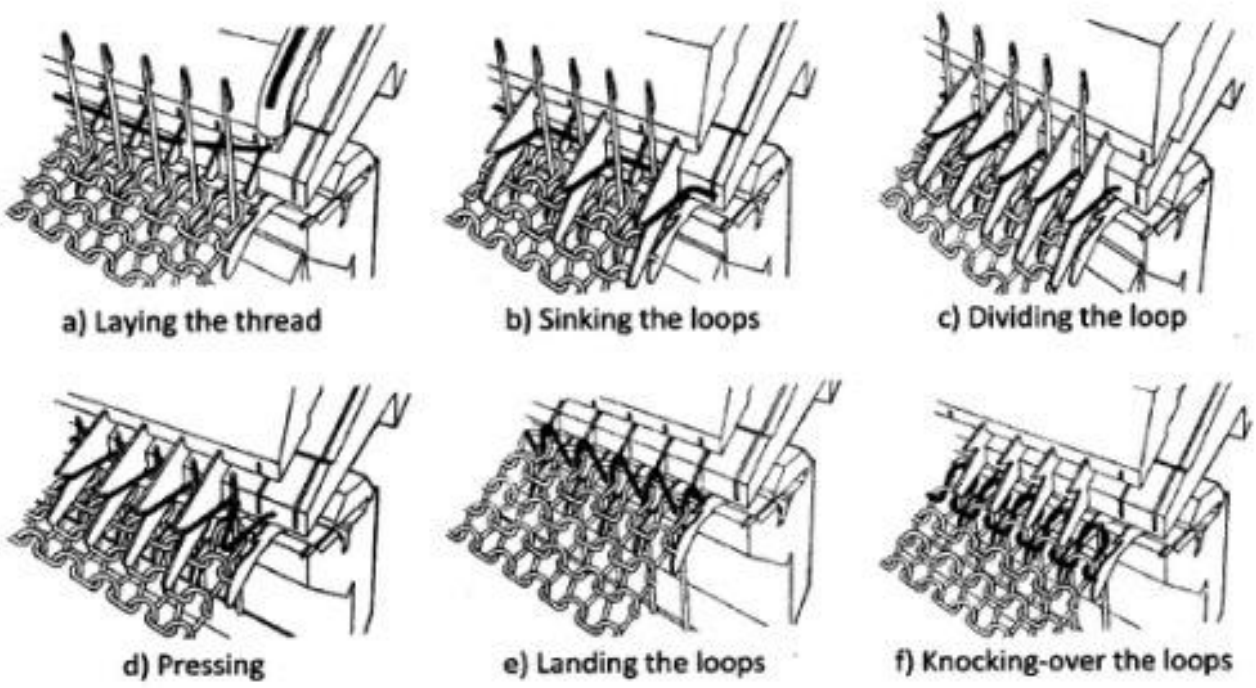
- **Pique Circular Knitting Machine**

Pique Circular Knitting Machines manufacturer textures with the waffle weave look of Pique fabric. This type of fabric differs from your jersey clothing as it has a rough-look texture whereas jerseys have flat and smooth surfaces.

- **Straight Bar Knitting Machine**

Straight Bar Knitting Machine

Straight bar knitting machine have bearded needles on a vertical bar. Movement is controlled by the accurately constructed cam system. Divisions are equally distributed along the length of the machine in a number of heads. Each knitting head can knit separately in a uniform way along the garment panel.



knitting-action-of-plain-straight-bar

- **Single Needle Straight Bar Knitting Machine**

Straight bar frames usually have a single needle bar. This configuration, however, makes it incapable of knitting rib welts.

- **Double Needle Straight Bar Knitting Machine**

Double-needle straight bar knitting machines have horizontal and vertical needle bar for knitting rib welts, but the performance of these machines is much slower than the previous machine type.

❖ **Flat Bar Knitting Machine**

MASTANA-SEMI-COMPUTERIZED-COLLAR-FLAT-KNITTING-MACHINE

Flat Bar Knitting machines are most suitable for flat or 3D creations but is also applicable in creating tubular knits like circular knitting machines. In this type of fabric knitting machine, the needles are arranged on a straight bar. The mechanism follows a back-and-forth movement of the carriage containing the yarn feeders through a horizontal path.

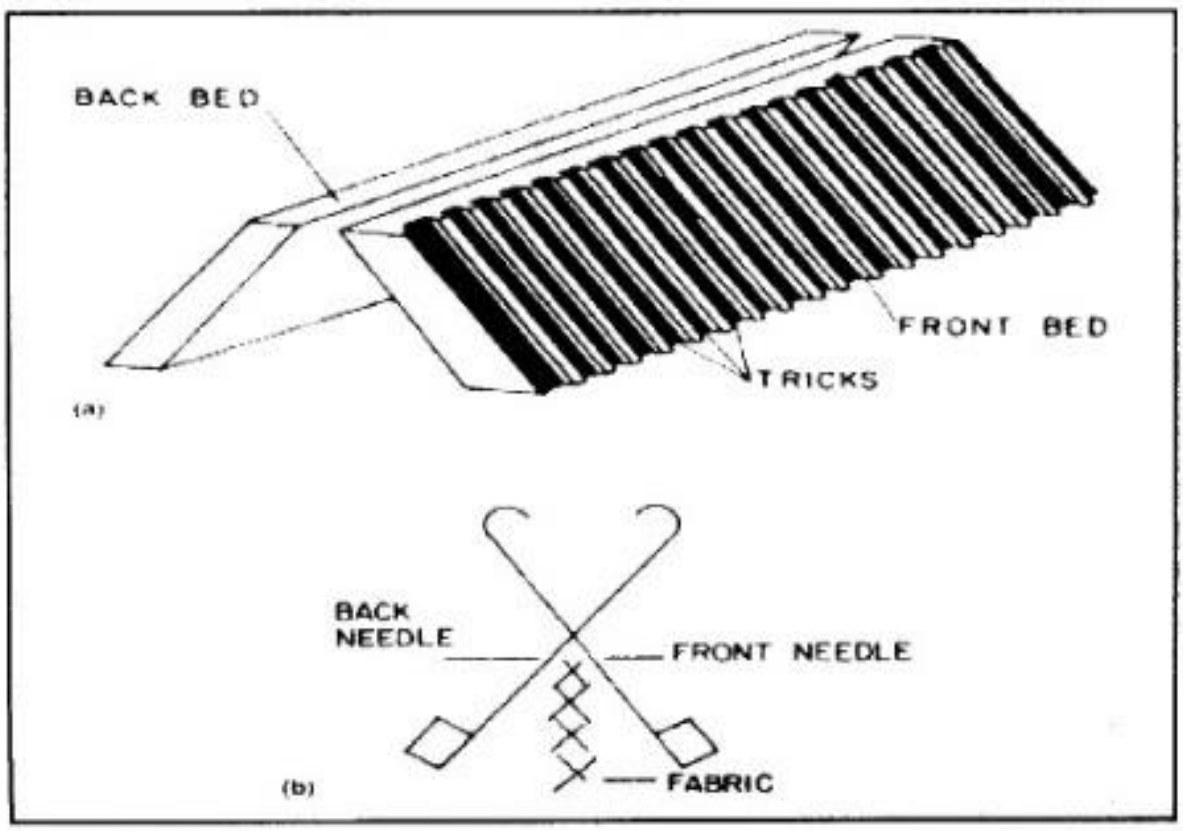
❖ **Application:**

- Collars
- Arm bands
- Sweaters

❖ **Flat Bed or V-Bed Flat Knitting Machine**

A “Flat” or Vee Bed knitting machine has two flat needle beds having an upside-down “V” formation. Needle beds can stretch up to 2.5 meters wide. A forward and backward movement of the carriage known as the Head or Combo works to move the knit, tuck and transfer stitches.

This type of machine can make complex knit designs and sophisticated stitching. Knitting speed can be up to 0.5 m/s.



MAIN-FEATURES-OF-FLAT-KNITTING-MACHINE

❖ **Raschel Warp Knitting Machine**

raschel-warp-knitting-machine

Raschel Warp Knitting Machine makes warp knits to form fabrics. In comparison with the other warp knitting machine, the Tricot, Raschel uses coarser yarns. In fact, there has recently been interest in knitting staple yarns on these machines.

The mechanism is as follows. The warps are twisted and locked with a loop from a succeeding warp. This will then be shifted back by another warp to the preceding layer of knitting. Needles move in a steel plate known as the trick plate. It functions to limit the top level of loops.

The pull of the yarn and sinkers limit the loops. This type of machine has locking belts relatively perpendicular to the plane of the shaking motion or slogging motion.

Application of Raschel Warp Knitting Machine

- Lace fabric and trimmings
- Military fabrics

- Outdoor applications such as backpacks, pockets and pouches
- Bag
- Coats
- Dresses

❖ **Tricot Warp Knitting Machine**

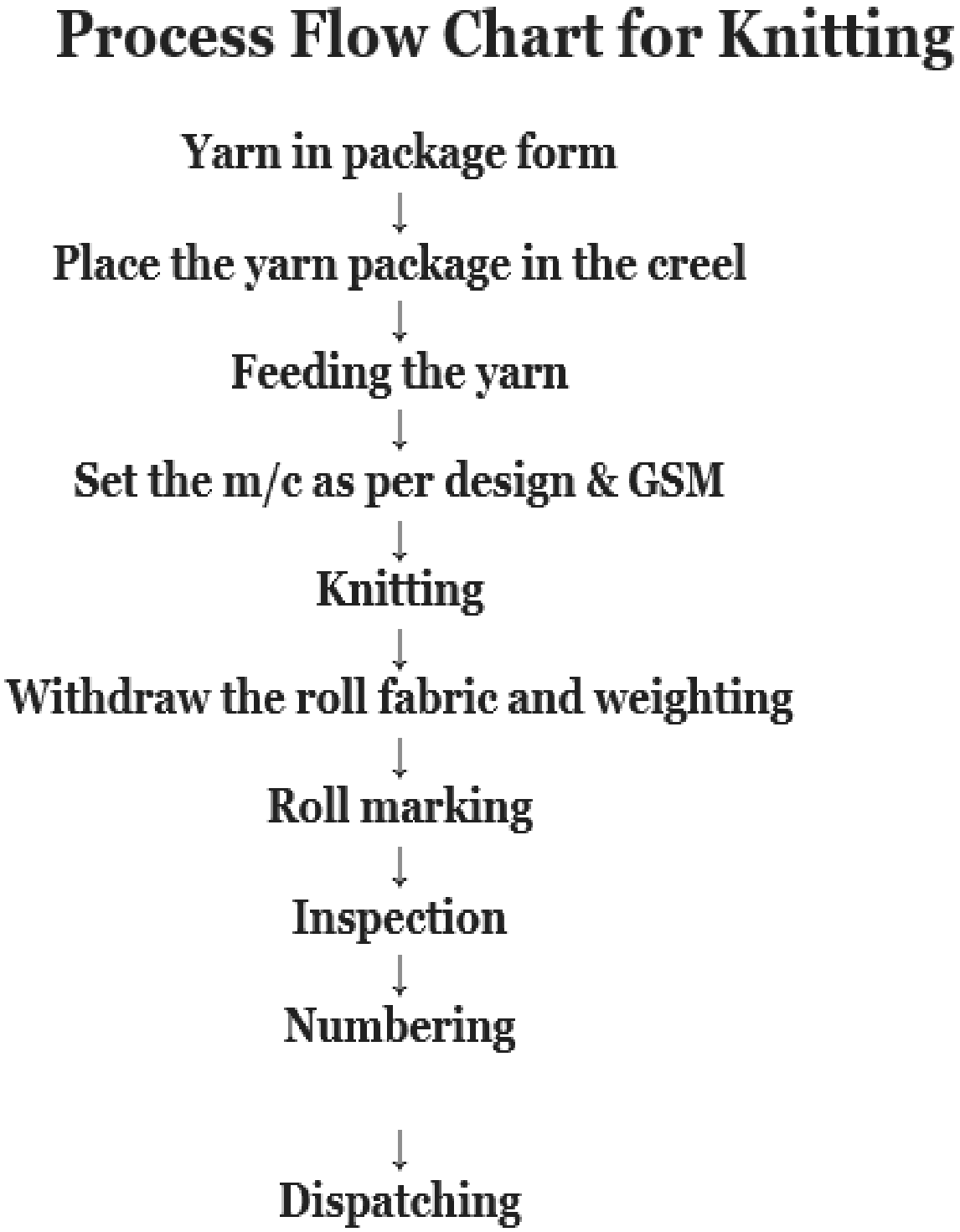
tricot-warp-knitting-machine-working

Tricot machines produce warps knitted fabrics that are finer than Raschel Machines. Compound needles are used in this type of machine. Warp yarns are fed to the needles through the situated guide bars by the slogging motion of the machine.

Application of Tricot Knitting Machines

- Swimwear
- Underwear
- Sportswear
- Gloves

❖ Process Flow Chart Of Knitting



TYPES OF WOVEN FABRIC:

Types of Woven Fabrics

- **Buckram Fabric**

It is a stiff coated fabric made from a lightweight loosely woven fabric, impregnated with adhesives and fillers. This fabric is used as interfacing so as to provide support and shape retention to necklines, collars, belts, cuffs, waistbands, button closures etc. in garments. They are also used as reinforcements for handbags and other articles.

- **Cambric Fabric**

Cambric a lightweight fabric woven in plain weave and produced with a stiff finish. It is suitable for women's dresses and children's dresses that require crispness.

- **Casement Fabric**

Casement is a medium weight cotton fabric made of closely packed thick warp yarns. Generally, it is used for curtains, table linen, upholstery and rarely used for dresses.

- **Cheese Cloth**

It is a popular lightweight sheer fabric having an open weave. It has a low count fabric consisting of carded yarns. Originally it was used for wrapping cheese or meat and hence the name. It is neither strong nor durable. It is finished in a variety of ways that attract the consumer. It is used not only for women's and children's dresses but also for drapery fabrics. Due to its open structure, it does not require much ironing.

- **CHIFFON FABRIC**

Chiffon fabrics are sheer, lightweight fabrics made of hard twisted yarns. Originally these are made in silk fabrics but today they are made from rayon or polyester. They are used for sarees and women's evening wear. The fabrics encounter the problem of shrinkage.

- **Chintz Fabric**

Chintz is a medium weight, plain woven cotton yarn. It is often given a glazed finish which may be temporary or semi-permanent glazed chintz are available in solid color as well as printed with floral prints. These are often made from blends of cotton and polyester or rayon. They are used for skits, dresses, blouses, pajamas, aprons, and draperies.

- **CORDUROY FABRIC**

It is a cut pile fabric available in solid colors. The cut pile fibers are seen in the form of ribs on the surface. It is mainly used for pants, jeans, and shirts.

- **Crepe Fabric**:

A silk fabric is originally characterized by a crinkle, puckered surface formed by highly twisted yarns in the warp or weft or both. By using ordinary yarns similar crepe effects can also be produced. Synthetic fabrics also impart crepe effect finish. It is used for sarees, shirts, women and children's dresses.

- **Denim Fabric**

It was traditionally a yarn dyed, warp-faced cotton twill fabric. Warp is usually colored (mostly blue, maroon, green and brown) and weft is white. This fabric is made of two weights for sportswear and overalls. Its use as jeans has made it very popular and so the nature of denim is also changed to suit the trend. It is often napped, printed and made with stretch yarn.

- **Flannel Fabric**

Flannel is a woolen fabric woven in plain or twill weave having the characteristic soft handle. It looks like a bulky fabric due to the milling that is usually done to this fabric. Flannel fabric is used for suits and pants and infant's clothing.
This fabric is popular as cleaning fabric due to its extreme softness. This is also used to protect children from the cold atmosphere.

- **Gabardine Fabric**

Gabardine is a closely woven, clear finished warp-faced twill fabric. It contains a number of warp yarns than weft yearns and also more durable. It is usually woven in 2/1 or 2/2 twill and has a raised diagonal twill effect on the right side. It largely used for raincoats, suiting's, and sportswear.

- **Georgette Fabric**

Georgette is a sheer lightweight fabric, woven in plain weave. It has a characteristic rough texture produced by hard twisted ply, yarns both in warp and weft. Originally it was made in silk, but today it is produced in rayon and polyester too. It's mainly suitable for women's evening wear.

- **Poplin Fabric**

Poplin is a medium weight, the cotton fabric having a fine weft rib. it is generally used for shirting, dresses, and upholstery.

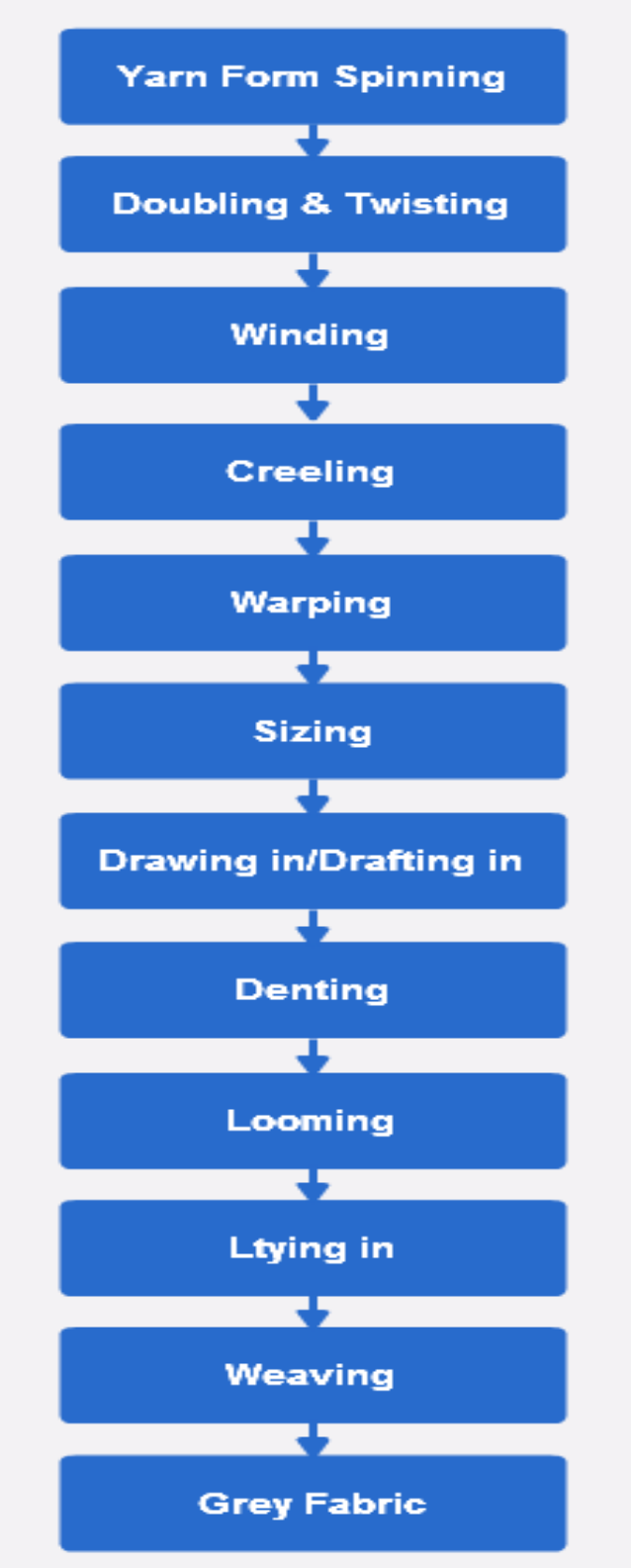
- **Sheeting Fabric**

These are primarily used for bed coverings. They are medium weight, closely woven fabrics woven either in plain or twin weave. Sheeting fabrics are made in different widths. High-quality cotton sheeting's are made in plain weave with a width of 64″ x 58″ and in a twill weave with a width of 60″x72″.

➢ Taffeta Fabric

Taffeta is a smooth, crisp, transparent fabric having a fine rib. Originally it is made with silk fibers but now it is also made of rayon. It has a characteristic finish which produces crispness. It is used as women's evening wear.
(single yarns1x1) full voiles. (ply yarns 2×2) or half voile (double in warp and single in weft 2×1).

WEAVING FLOW CHART:



3.6 DYING/ WET PROCESSING:

FLOW CHART OF TEXTILE WET PROCESSING FOR KNIT FABRIC

Grey fabric inspection
↓
Loading in the machine
↓
Scouring
↓
Bleaching
↓
Dyeing
↓
Hydro extractor / Dewatering
↓
Stitching
↓
Stuttering
↓
Compacting
↓
Final inspection
↓
Delivery

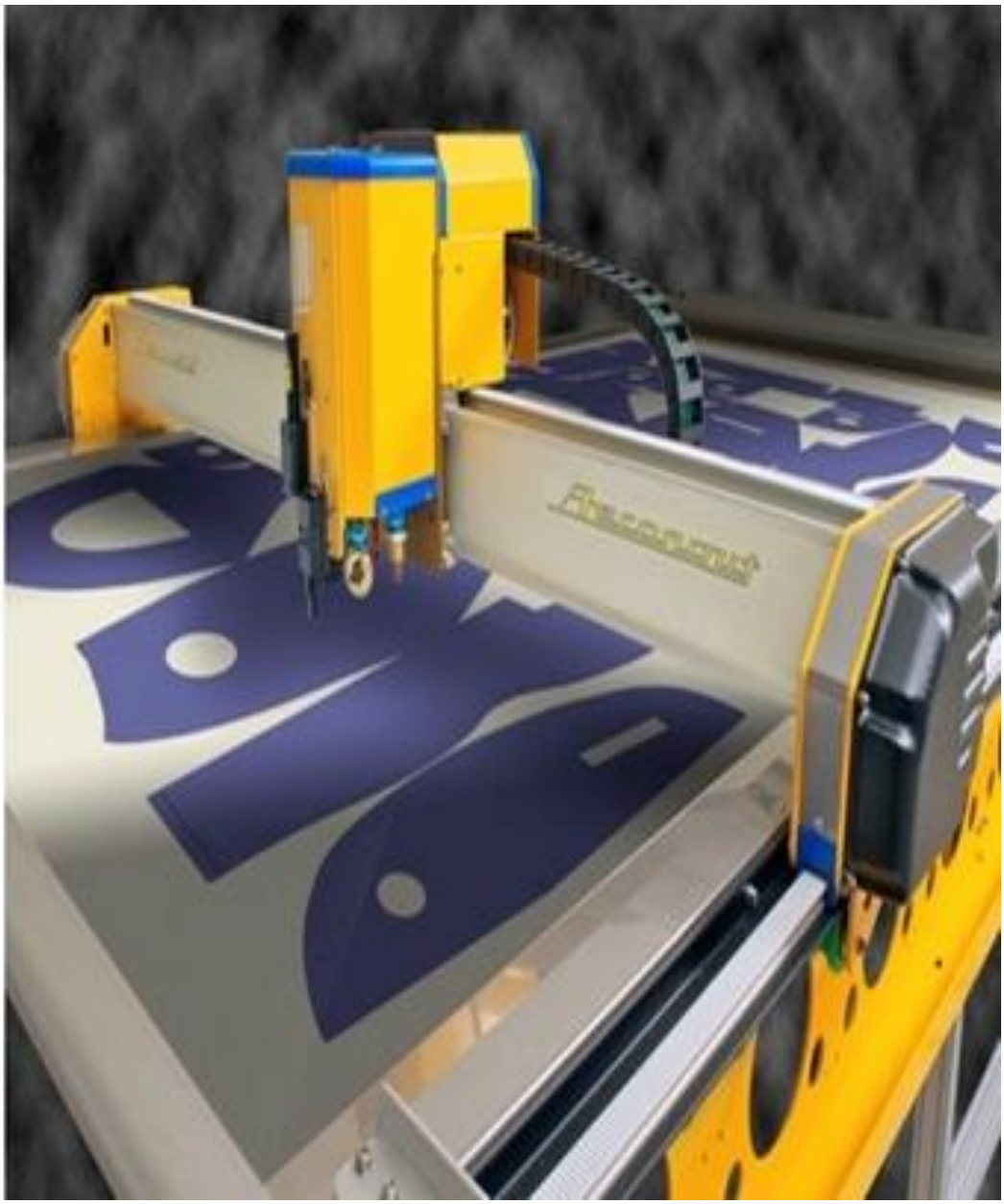
The knitted fabrics undergo a series of different chemical processing treatments. Such as: scouring, bleaching, dyeing, hydro extractor or dewatering, stitching, steering, compacting, softener padding, relax drying, final inspection. These processes are carried out to impart a particular property related to that process like scouring for absorbency, bleaching for whiteness, dyeing to impart color to the fabric. And finishing for improving the softness and handle of the fabric.

The properties of the knitted fabrics are influenced by various parameters. Like raw material, yarn structure, fabric structure, processing stages, and finishing. The process adopted affects the fabric properties and its overall performance. During the finishing process, internal stresses stored during spinning, knitting is removed. The fabrics attain an almost fully relaxed state. By adopting different processes and finishing methods, different kinds of knitted fabric in a sense of aesthetic and utility properties can be produced from the same unfinished fabrics. The knits goods, in contrast to the woven cotton fabrics, are easily starched and their loops would get distorted under the stretching tension of the dyeing cylinders. Special drying machines have, therefore, been developed to dry knitwear with the minimum of tension.

3.7 CUTTING:

Cutting is an important process to make a quality product. Quality full fabric cutting reduces the wastage of fabric and makes the business profitable. To achieve quality full fabric cutting, a few methods have to maintain which are discussed in the following.

Manual Cutting



Computerized Method

❖ Methods of Fabric Cutting:

In the garments industry, there are two available cutting methods, are-

- Manual Method,
- Computerized Method.

3.7.1 Manual Fabric Cutting Method:

Here cutting process is done by using a knife, scissors, drill, etc. The knife is placed in the head of the cutting machine. The manual method is the most used cutting method in the garments industry.

The manual cutting method can be done by using the following equipment:

- ✓ Round knife,
- ✓ Band Knife,
- ✓ Straight Knife,
- ✓ Scissor,
- ✓ Die-cutting,
- ✓ Drill.

Advantage of Manual Cutting Method:

- ✓ Easy process of cutting.
- ✓ Educated manpower is not required.
- ✓ The low-cost knife is enough here to cut the fabric.
- ✓ Low maintenance cost.

The disadvantage of the Manual Cutting Method:

- ✓ Slow process.
- ✓ Not suitable for large scale production.
- ✓ Cutting speed cannot be controlled.
- ✓ The intensity of the accident is very high.
- ✓ Higher labor cost than computerized cutting method.

3.7.2 Computerized Fabric Cutting Method:

In the modern clothing manufacturing industry, the computerized cutting method becomes so much popular day by day due to its higher production and less time-consuming efficiency. Here all programs are loaded into the computer and the computer performs all the activities which are loaded.

The computerized Cutting method can be done by using the following equipment:

- ✓ Straight knife cutting,
- ✓ **Water jet cutting**,
- ✓ Laser beam cutting,
- ✓ Plasma torch cutting.

Advantage of Computerized Cutting Method:

- ✓ Very much effective cutting by a computer-controlled system.
- ✓ Very fast cutting operation.
- ✓ Suitable for large scale production.
- ✓ Cutting speed can be controlled.
- ✓ The intensity of the accident is very low.
- ✓ No need for any marker.
- ✓ Fabrics can be cut 7-8 times higher than the manual cutting method.
- ✓ Low labor cost.

❖ **The disadvantage of the Computerized Cutting Method:**

- ✓ Higher maintenance cost.
- ✓ Skilled and educated manpower is required.
- ✓ So much expensive machine.
- ✓ If the correct disc is not loaded in the computer, then an error will be indicated.

3.7.3 Cutting Section SOP

Each and every garment company always try to make the best adaptable standard operating procedure. You know that cutting section is a very crucial part of garments manufacturing, keep in mind the importance of this section I made a simple Standard Operating Procedure (SOP) for cutting a section of garments so that can make SOP for your company. Now a day's it is mandatory to make SOP and hang it to the working place of each section in the apparel industry for a better understanding of the procedure and to minimize operational error.

Sample form of Cutting Section Standard Operating Procedure is as flows:

Fabrics Relaxation Procedure

- ➢ Spandex fabrics will be relaxed a minimum of 24 hours making unroll in the cutting section.
- ➢ Relaxation date and time must be recorded. After spreading, will relax 2 hours before the cu

BEFORE CUTTING PROCEDURE

Receive marker and quality check by cutting QC.
Fabric Spreading will be done based on Shade chart/Shade grouping provided by the fabric warehouse. Spreading report will be made after spreading with related all necessary data.

Spreading Quality checkpoint: -

- ✓ Table marking
- ✓ Ends
- ✓ Leaning
- ✓ Tension
- ✓ Narrow Goods
- ✓ Remnants
- ✓ Counts
- ✓ Ply High
- ✓ Marker Placing
- ✓ Fabric Flaws

The highest lay for woven fabrics is length 14 meters and height 3 inches.
The Lay chart should be maintaining roll wise.
The quality inspector will control quality inspection during fabrics lay.
Cutting spreader man will spread marker after finishing lay.
For stripe and check fabrics, alignment to be correct by using a hook, thread.
Before cutting cutter, man will attach clamp, Gum taps on the layer.
Shade chart will be hanged during lay.

Cutting Quality checkpoints:

- ✓ Miss cut
- ✓ Rugged Cutting
- ✓ Notches-
- ✓ Matching Plies and pattern check

After Cutting Procedure

- Quality will check every bundle using hard pattern three different positions of the bundle.
- Numbering and bundling separation done by following spreading report and identify each bundle by style, Cutting number, Bundle number, size, Serial number, Shade number, and Parts name.
- 100% cut panel will be inspected
- If any defective panel found, will be replaced from lay chart wise remnants by following shade and pattern grain line.
- The light color bundle will bind with a light color string; deep color bundle will bind with deep color string
- Light color Fabrics will be covered by poly in rack or pallet.
- Then all cut panels will be ready to deliver in sewing.

3.8 Embellishment:

In sewing and crafts an embellishment is the action of adding anything decorative items through the use of the visual arts.

Fabric surface embellishment:
Fabric embellishments are the ornamentation that normally added to fabrics to make them more beautiful and gorgeous, because of the nature of decorative patterns, which they create. Different kinds of surface design techniques are used for embellishing the fabric. Most common materials that can be used for this process include fringe, boutiques, beads, and buttons.

Different Embellishing Techniques:

Surface embellishment:
Surface embellishment is an important component of free form; it is a great way of bringing your personality, style and skills to your work and putting your own stamp on your project. There are 1000's of ways to embellish fabrics, garments and any other items.

Textile embellishment:
Textile embellishment can take many forms, with pattern work following the suggestion of nature, the geometrical abstract, fonts and lettering. It can be perceived as a subtlety, the changing of color, line and texture, or it can be much bolder, using large-scale shapes and patterns. Whatever the technique or suggestion for composition, the end result is always nearly the same, to make something more than it was, to add decoration to enhance its attraction to the individual.

Embellishment in decorative arts:
Embellishment techniques are not only applied on the surface of fabrics and textiles, it is also applying any kind of decorative items. Ceramics, glass, metal, wood in fact all the major and minor decorative arts, used embellishment, as a legitimate tool in which to decoratively enhance their results.

Types of fabric embellishment techniques in sewing and crafts:
Here I will mention the types of embellishment methods that are used to decorate surface design on fabric or garments.

1. Embroidery
2. Quilting
3. Appliqué

4. Patchwork
5. Trimming (Fringe trim, Sewing trim)
6. Lacework (either pre-made or home-made)
7. Piping (made from either self-fabric, contrast fabric, or a simply a cord.)
8. Beads
9. Batik
10. Smocking

Some other embellishment items that are used on garments for enrich beauty. For example:

- Buttons
- Zippers
- Buckles
- Grommets
- Sequins

In addition to the multitude of construction and finishing techniques used, the fabric can also be worked upon or embellished in a variety of ways to enhance its surface. Most embellishing methods, such as embroidery, quilting, applique and bead-work are age-old techniques of decorating fabric and are still largely executed by hand. A specialized industrial sector in trimmings, lacework, embroidery and other embellishments has also developed that uses innovative technology to recreate the hand-worked effects on an industrial scale and pace.

Techniques of Embellishing on Garments:
A few fabric surface embellishing techniques are briefly discussed in below:

Embroidery:
Embellishing fabrics with stitches in yarn or thread, using a needle, is one of the oldest forms of art. While the library of embroidery includes

hundreds of varieties of stitches, they can be categorized broadly into four main techniques – raised work or stump-work where raised effects are created by stitching over pads of wool and cotton; couched work – creating a pattern with cords by sewing them onto the base fabric; Fl at running and filling stitches of which there are hundreds; and counted thread embroidery, e.g. needlepoint and cross stitch, where the stitches are placed over a counted number of threads of the base fabric. Schiffli embroidery is an example of machine embroidery made on the 'Schiffli' machine that works sideways with a thousand needles. This machine embroiders with a top, decorative and a back, binding yarn, and is used for making laces and sheer curtain fabrics. Many embroidery stitches can now be produced in digitized embroidery machines which, for large scale production, have multiple heads to produce a number of identical designs simultaneously using an embroidery software program.

Quilting:

Quilting is the technique of Embellishing fabrics stitching together, by hand or machine, multiple layers of fabric with a filling of cotton, foam or polyester batting in between the layers. Quilting is widely used for making bedspreads, quilts, comforters etc. Single-needle, hand-guided quilting machines are used for making outline quilting, where the stitching lines follow the outlines of the print design, vermicelli, which uses free motion all-over stitching patterns, and trapunto or Italian quilting, a form of 'couching' where a cord inserted and stitched between the fabric layers creates a raised pattern. In mass-scale automated production, multiple-needle machine quilting is used to make simple geometric patterns. In stitch-less quilting, multiple layers of fabric are fused together thermally or by an adhesive, creating the appearance of being stitched.

Applique:
In applique, small pieces of fabric or other material are couched or stitched onto a base fabric. In reverse appliqué, the base fabric is on top of the stitched fabric and the top fabric is cut out to reveal the appliqued fabric underneath.

Patchwork:

Patchwork, used mostly for making bed quilts and cushions, is the technique of creating a fabric layer by joining small pieces of fabric (traditionally scraps of old clothes or textiles) in geometric or abstract patterns. Being a hand-worked technique, it is mostly produced on a small scale.

Trimming:
Two types of trimming are most popularly applied on fabric or garments for decoration. Such as:

- **Fringe trim:** Fringe is an ornamental textile trim, applied to an edge of an item, such as drapery, dress ends, a flag, epaulettes, or decorative tassel, etc.
- **Sewing trim:** sewing Trim or trimming in clothing and home decorating is applied to ornament or Embellishing fabrics such

as gimp, ribbon, ruffles, button, bias tape, etc.

Lacework:

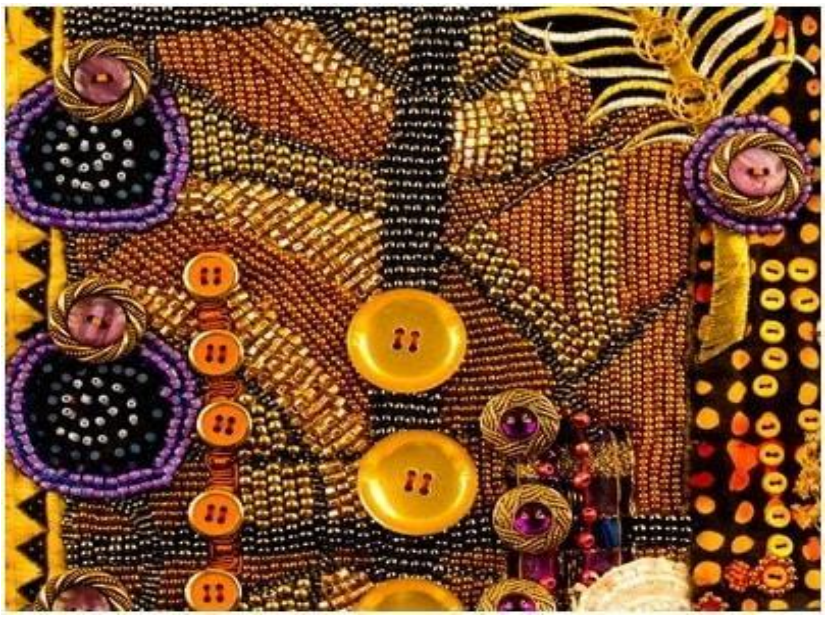
Lace is an openwork fabric, patterned with open holes in the work, made by machine or by hand. Lace is another Embellishing item on fabric. It is the very common and ancient craft to Embellishing fabrics.

PIPING:

Piping is a type of trim or embellishment, which is used to Embellishing fabrics for making different style line. Usually, the fabric strip is cut on the bias, and often it is folded over a cord. It may be made from either self-fabric (the same fabric as the object to be ornamented) or contrasting fabric, or of leather.

BEADS:

Beads are other types of embellishment. Beadwork is made by needle and thread to stitch beads to Embellishing fabrics, suede, or leather.



BATIK:

Batik is a cloth that is traditionally made using a manual wax-resist dyeing technique. For Embellishing fabrics batik is the very popular embellishment technique.

SMOCKING WORK:

Smocking is an embroidery technique, used to gather fabric so that it can stretch. Before elastic, smocking was commonly used in cuffs, bodices, and necklines in garments, where buttons were undesirable.

3.9 FABRIC PRINTING METHODS:

There are many different types of fabric printing methods, and they all yield different results. The type of textile printing used is often based on a number of considerations, from print runs, to durability. We have pulled together some of the most popular, or most commonly used methods, and explained them below.

❖ STAMP PRINTING

This one is pretty much what it says it is. A stamp is created, and that is then used to imprint onto the fabric. Similar to making potato stamps when you were a child, to create beautiful paintings. Your design is cut into the stamp, which is then dipped into the ink and using even pressure, you transfer this from the stamp onto your textile. Although we've come a long way from potato stamping, the level of detail that you can get from stamp printing is limited, so this is not suitable for the more intricate designs.

STAMP PRINTING

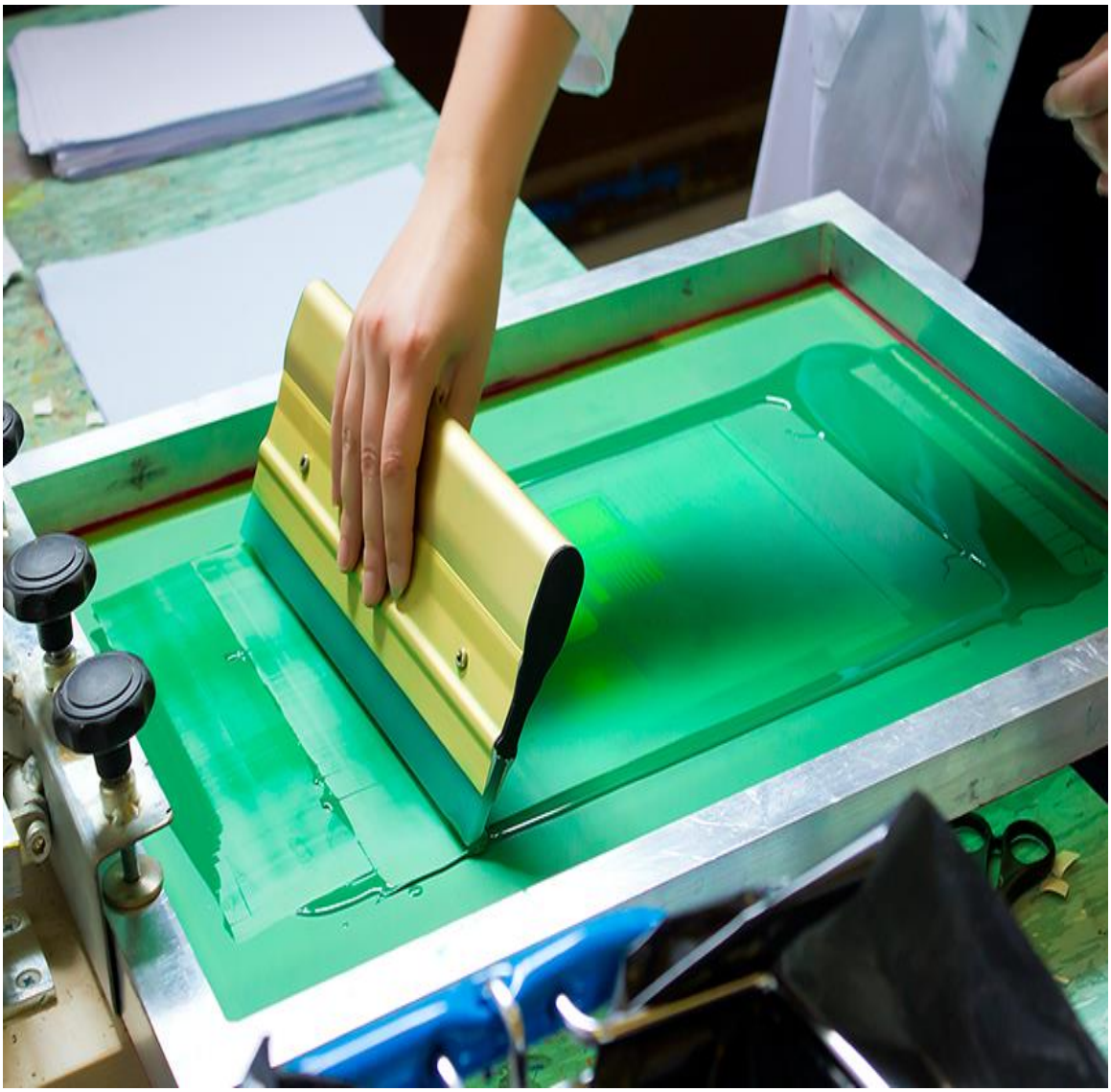
❖ TRANSFER PRINTING

Another method is using transfer paper. This is a specialist paper which can be bought from most stationers, as well as craft shops and even some supermarkets. You can use a standard household printer to print your design onto the transfer paper, which you can then print onto your chosen fabric by using a standard, household steam iron. This can be upscaled and done professionally on larger runs however it will leave a shiny film or surface texture on your fabric. It is not a permanent method of fabric printing as it can crack and peel with multiple washes, and often fades.

TRANSFER PRINTING

SCREEN PRINTING

As we move towards the other end of the scale, we start to see methods which are used more and more commonly within the professional world of textile printing. Silkscreen printing is most common within the business. This method of printing uses a stencil and a nylon mesh to create the print design. A material which is waterproof will be used to block out the spaces that you want your design to appear on, and then those blocked out spaces are flooded with ink. Due to the way that this method is carried out, you can only use one color for each screen, however, it does produce fantastic replications.



Screen Printing

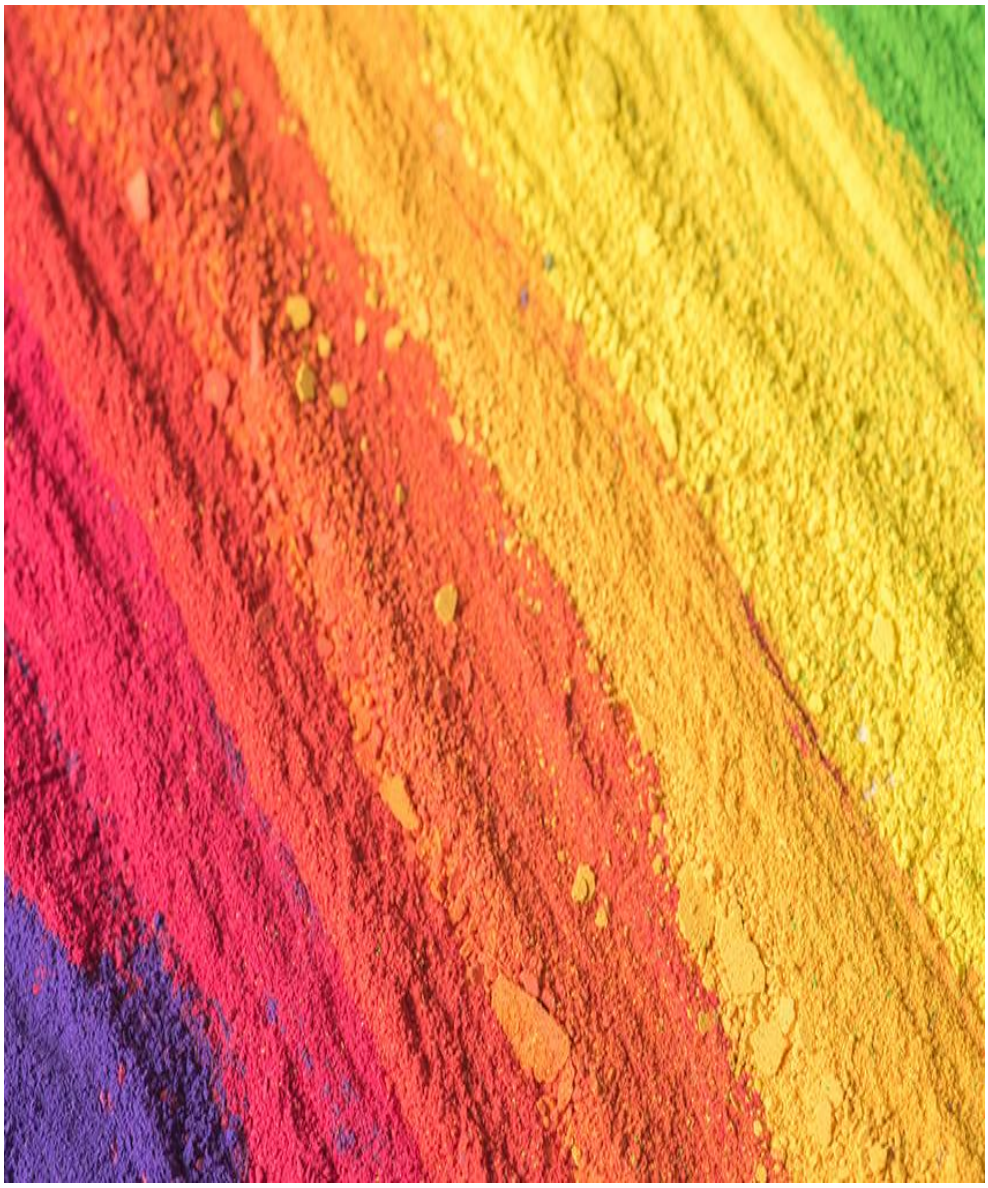
DYE SUBLIMATION

This is a multi-step process which produces some of the best results of all the fabric printing methods. Designs are printed onto a thermal transfer paper, known as dye sublimation paper. This is then used to create the print on the fabric. Both heat and pressure are used to permanently bond the inks to the fibers of the fabric. This leaves your fabric as soft as it was before it was printed on. The deep infusion technique penetrates specialist water-based inks deep into the textile, which makes your print permanent. Perfect for intricate details as well as colors.

Sublimation Printing

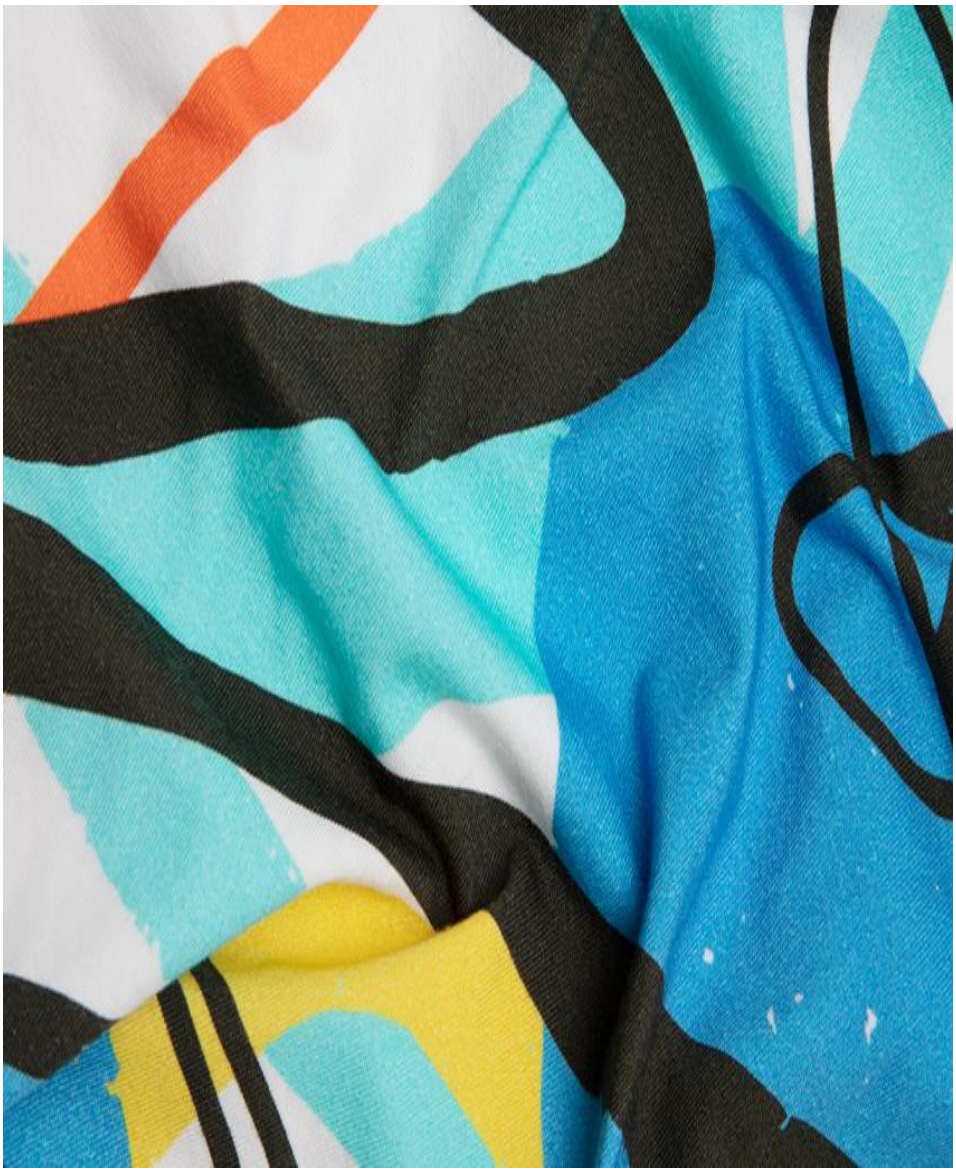
PIGMENT PRINTING

Pigment printing is one of the most popular printing techniques for use on cellulose fibers, making them ideal for use on natural fabrics. It is one of the fabric printing methods which can be used on synthetic materials as well, which makes it pretty versatile. It is a localized technique which involves applying the dyes to the part of the fabric that you want your design to be seen. This is done over and over and slowly builds up the color.



REACTIVE PRINTING

Reactive printing is another of the heat activated fabric printing methods. It is done by pre-coating the fabrics and then and using a binder (similar to that of pigment printing) and a printing additive. It prints a dye or wax onto the fabric, and the heat reaction permanently bonds the image to the textile. Put simply, it is similar to coating the fabric with the design and then steaming it to create a reaction which bonds the design to the material.



REACTIVE PRINTING

SEWING SECTION:

Garments Production is done Here

List of Sewing Machines Used in Garments

- ✓ Single Needle Lock Stitch machine (Plain machine)
- ✓ Double-needle lockstitch machine
- ✓ Three thread Over Lock Machine
- ✓ Four thread overlock machine
- ✓ Five thread overlock machine
- ✓ Six thread Over Lock Machine
- ✓ Flatlock machine
- ✓ Two Needle Vertical machine
- ✓ Single needle Chain stitch machine
- ✓ Two-needle chain stitch machine
- ✓ Kansai machine
- ✓ The feed of the arm
- ✓ Saddle stitch binding sewing machine
- ✓ Bar tack machine
- ✓ Velcro attach machine
- ✓ Velcro automatic cutting machine
- ✓ Buttonhole machine
- ✓ Button stitch machine
- ✓ Eyelet hole machine
- ✓ Snap button attach machine
- ✓ Blind stitch machine
- ✓ Zigzag machine
- ✓ Label cutter machine
- ✓ APW sewing machine
- ✓ Rectangular Sewing machines
- ✓ Embroidery machine
- ✓ Automatic 2-needle Belt-loop Attaching Machine
- ✓ Decorative Stitch Machine
- ✓ Cover stitch machine
- ✓ Round hole machin

DIFFERENT TYPES OF STITCHING:

The basic principle of all machine sewing depends on consistent loop formation. During sewing the needle descends through the fabric to the bottom of its stroke and as the needle rises a loop of sewing thread is formed in the scarf of the needle. This loop of sewing thread is picked up by one of two stitch forming devices namely the hook or the looper. A third stitch forming device known as a spreader is used in some stitch types to carry the sewing thread from one stitch forming device to another.
The sewing machine hook be it rotary or oscillating shuttle interlocks the needle thread with the bobbin thread. A looper, used in chainstitch formations, interloop the thread that it carries with another thread.

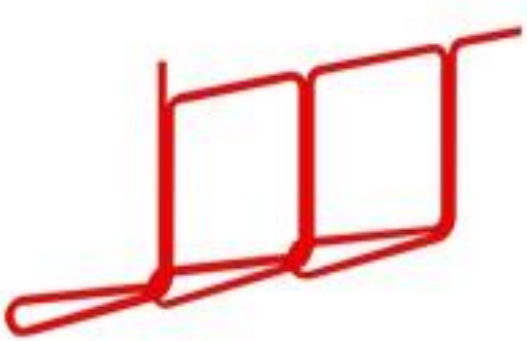
Steps of Stitch Formation

There are five basic steps to the formation of all stitch types. They are:
1. Penetration – the needle penetrates the fabric carrying the needle thread
2. Loop formation – a loop of sewing thread is formed in the scarf of the needle as the needle begins to rise from the bottom of its stroke
3. Conformation – this is where the threads are arranged above, below or around the material being sewn
4. Cast off – is where the needle thread loop is freed from the lower stitch forming device
5. Stitch setting – when the thread is drawn onto or into the material

Stitch Types

101 – Single Thread Chainstitch

The 101 Single thread chainstitch is formed using just one sewing thread introduced by the sewing needle. Stitch Type 101 is most often used for temporary stitching [or basting]. Its main disadvantage is its tendency to run back from the finishing end of the seam.

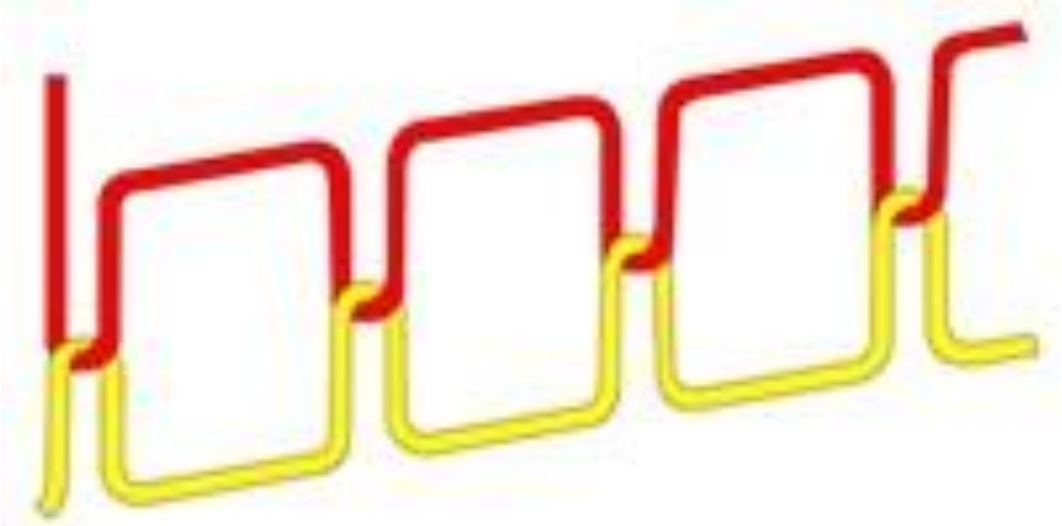


103 – Single Thread Blind hemming

A derivative of stitch type 101 is stitch type 103 known as single thread Blind stitch or Blind hemming. Again, its main disadvantage is seam runback. This stitch is formed by using a curved needle which enters and exits the fabric from the same side carrying a needle thread. The needle thread interloop with a blind looper on the surface of the material. Typical applications are hemming and lapel padding operations.

301 – Lockstitch

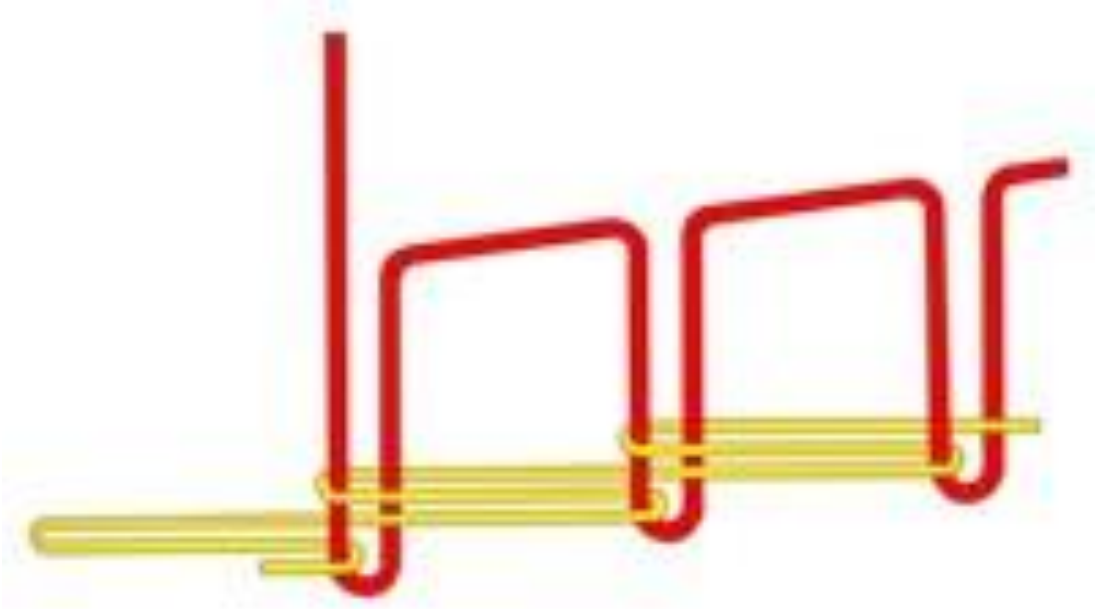
The most common stitch type is without doubt the 301 single needle lockstitches. Its main advantage is that it looks the same on the top as it does on the bottom [it is reversible]. It produces tight, strong, low-bulk seams but its main disadvantages are low elongation and low productivity due to the need to frequently change the under-thread bobbin.



401 – Chainstitch

Higher productivity and greater seam elongation can be achieved by using a 401-single needle chainstitch. The disadvantages of using this stitch type are

that it isn't reversible and being a chainstitch it is prone to seam runback and the seams it produces tend to be bulkier than those created by a lockstitch. It is true to say that the 401 chainstitch has higher elongation than the 301 lockstitch and delivers lower seam pucker when the cause of the pucker is structural jamming.



Multi needle lockstitch and chainstitch

Both 301 lockstitch and 401 chainstitch machines are available to produce multiple rows of stitching. The most common is twin needle but multiple needle chainstitch machines are readily available.

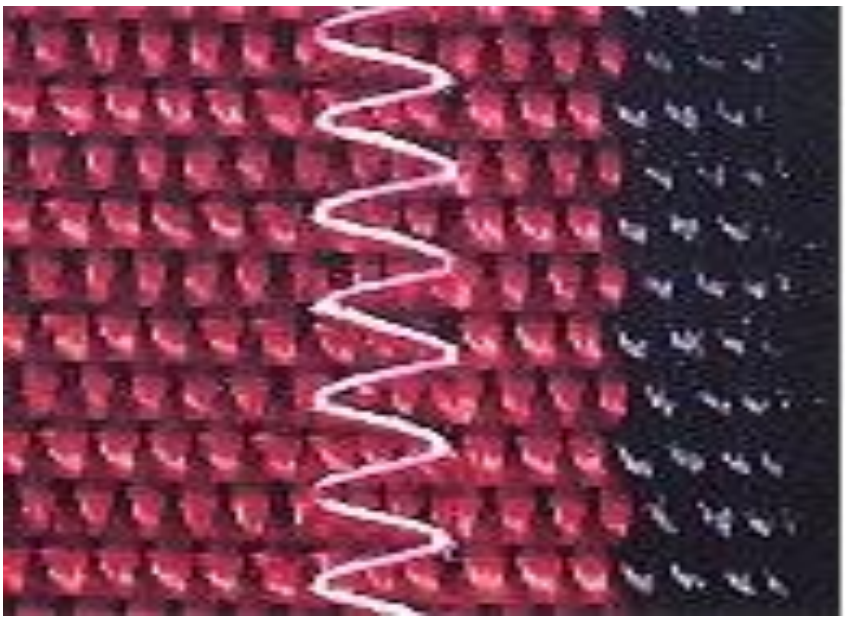
Double Needle Lockstitch

Double Needle Chainstitch

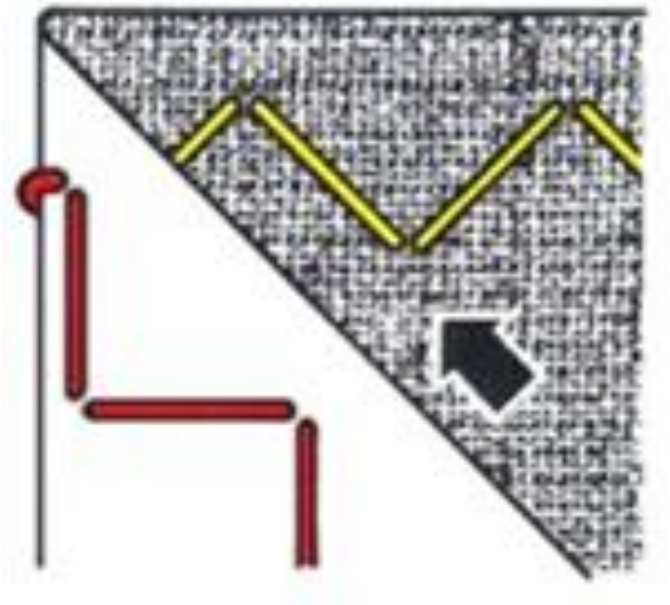
Zig Zag Stitch – Stitch types 304 and 404

Where there is a requirement for higher seam elongation with either lockstitch or chainstitch, a zig zag formation may be used. For example, in corsetry. To produce either zig zag formation the needle bar moves laterally as the material is fed. The main drawback is that the zig zag stitch formation may not deliver the desired appearance.

Zig zag stitch

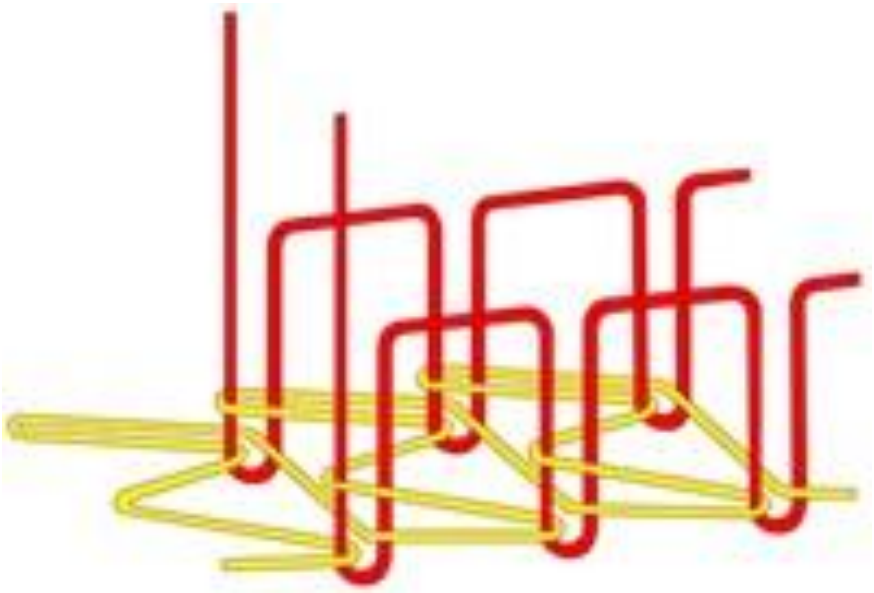


304 stitch



406 – Cover seam

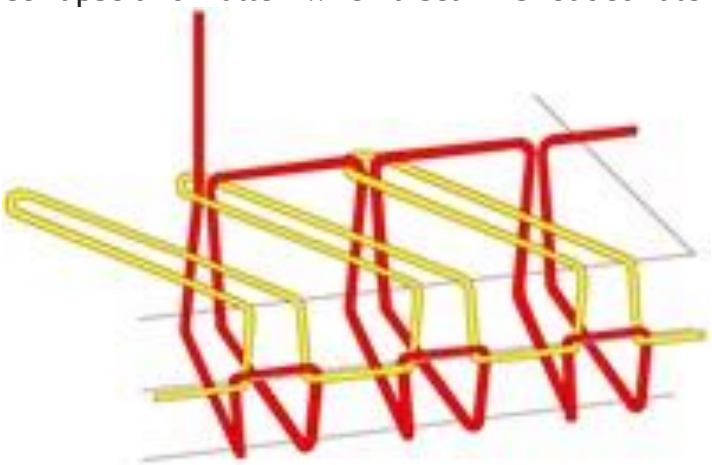
Derivatives of the 401 chainstitch are the chainstitch cover seam stitch formations. The most common of these is the 406 twin needle cover seams. This stitch type is formed using two needle threads and one looper thread and its main uses are hemming of garments made from knitted fabric and elastic/lace attaching on underwear and lingerie.



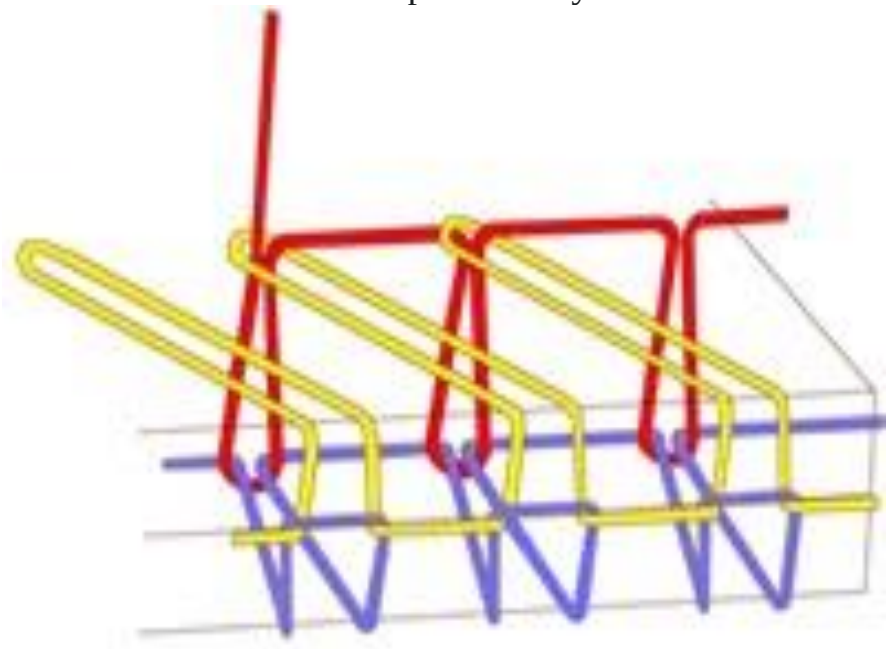
Stitch type 407 cover seam is a three-needle version of this stitch type. A four-needle version is available but it is not in common use.

503 – Two thread overedge (surging)
Overedge stitch formations are all contained under the 500 classification. 503 two thread overedge is the stitch type used for single ply surging and the hemming of tee shirts. This is sometimes known as welting.

Stitch type 503 is not suitable for seaming operations as it is designed to collapse and flatten when a seam is loaded laterally.



504 – Three thread overedge
This stitch type is formed with three thread; it has one needle thread and two looper threads. Stitch type 504 has excellent extension and does not unravel easily. It is generally used for surging to stop fabric fraying and for joining 2 or more plies together. These machines are capable of running at higher speeds which can aid in increased productivity.



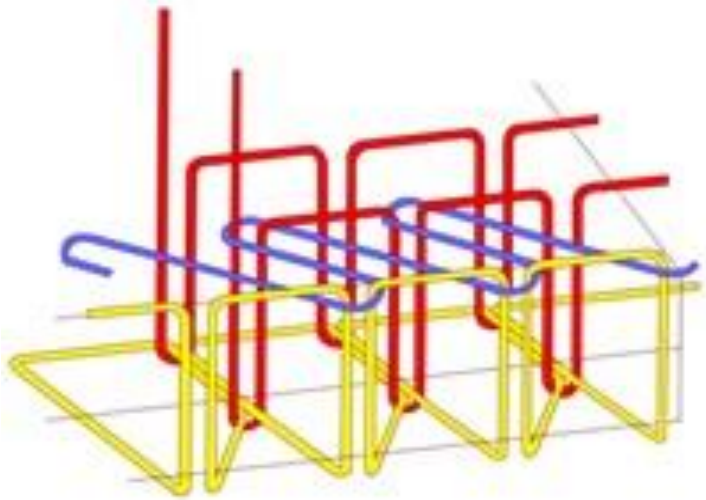
Four thread overedge

For over edge seams requiring greater seam security a four-thread version of stitch type 504 is used. There are three, four thread over edge stitch types.

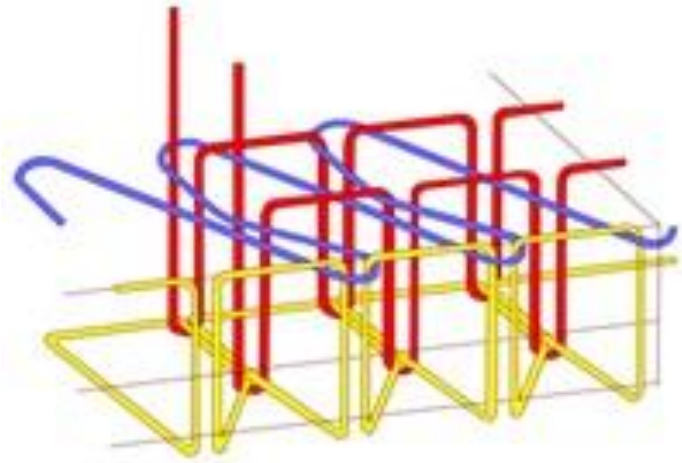
Stitch type 512 is known as four thread mock safety because the upper side of the stitch type resembles the upper side of stitch type 516 which is an overedge true safety stitch. Stitch type 512 is also known as four thread overedge, half cover.

The second overedge stitch type is Stitch type 514. This is known as four thread overedge, full cover. This is because the top looper extends its thread to the left-hand sewing needle whereas stitch type 512 only extends its upper looper thread to the right-hand sewing needle.

Stitch 512



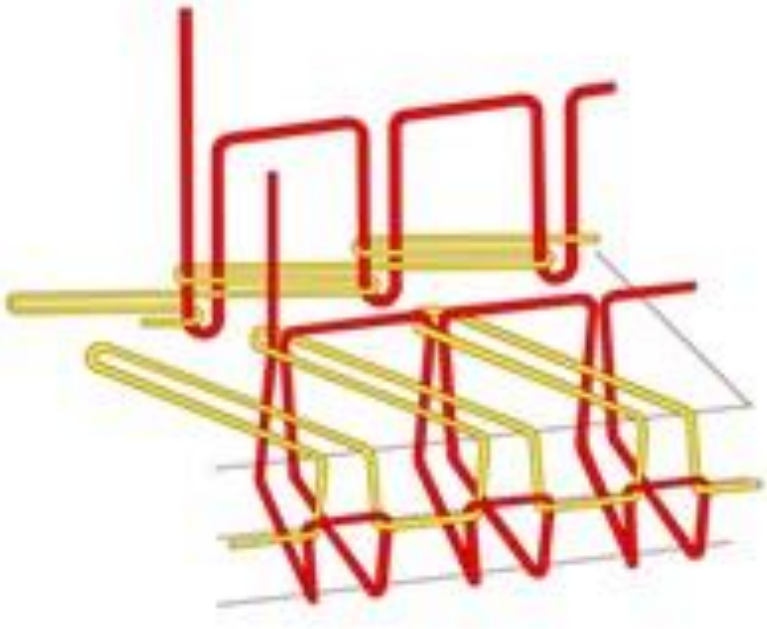
Stitch 514



The third of these stitch types is Stitch type 515.

515 – Four thread safety stitch

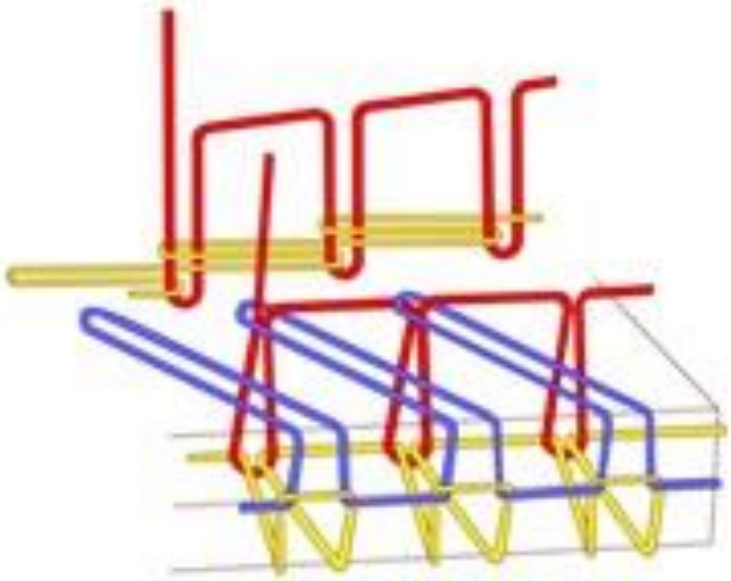
This stitch type is formed simultaneously using one row of stitch type 401 and one row of 503.



516 – Five Thread full safety

For over edge seams requiring greater seam security a four-thread version of stitch type 504 is used. There are three, four thread over edge stitch types.

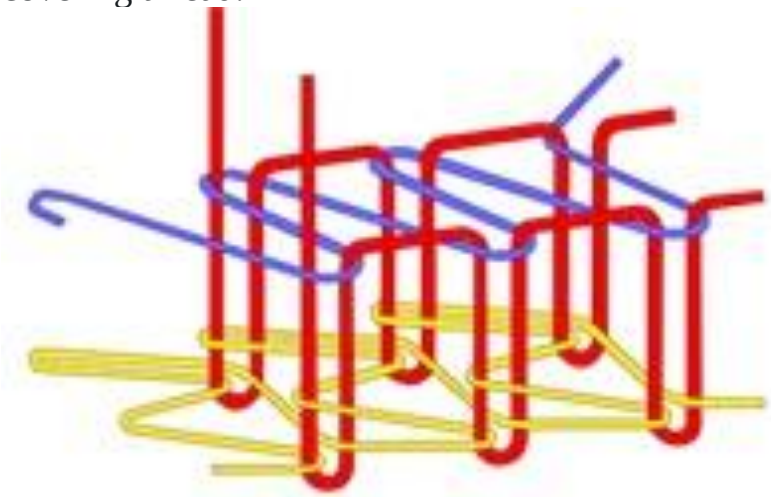
Stitch type 516 is another combination stitch type. This stitch type combines 401 chainstitch with 504 three thread overedge. It is known as five thread overedge full safety stitch. The 401 element bears the load while the 504 element covers the edge of the material and provides additional seam security.



602 – Twin needle cover seam with top cover

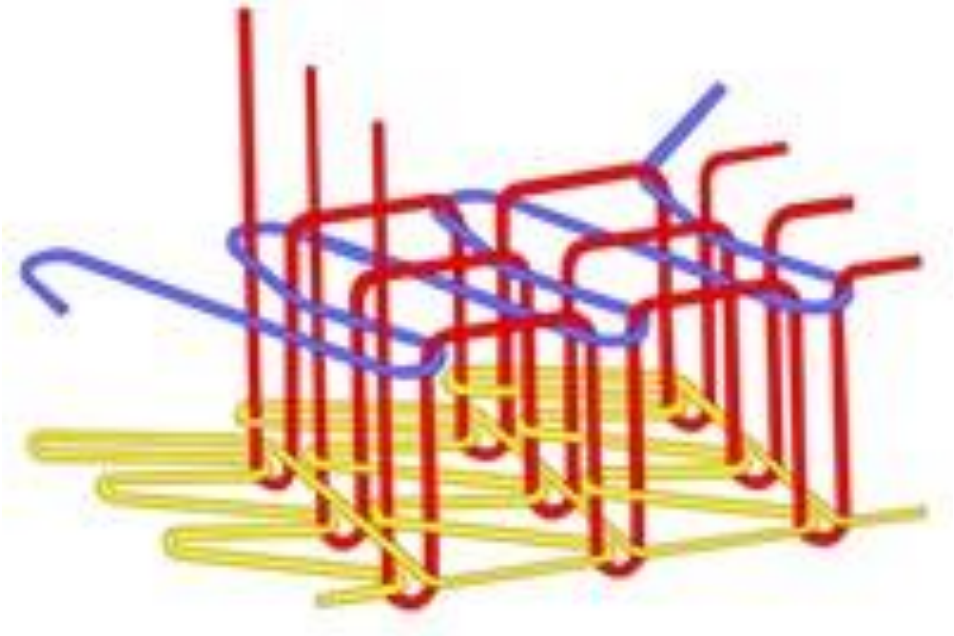
The stitch type classifications known as 600 are basic cover seam stitch types with the addition of a top covering thread produced using a top cover or spreader device. This top cover element provides decoration and also protection where required to the upper surface of the seam.

Stitch type 602 is the same as stitch type 406 but with the addition of a top covering thread.



605 – Three needle cover seam with top cover

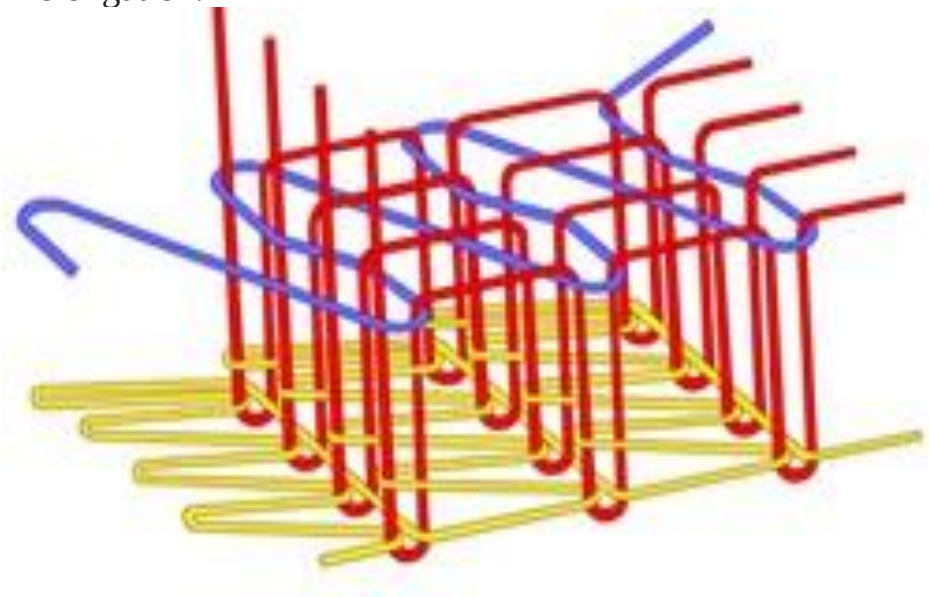
This stitch type is formed with five threads. Three needles, one looper and one cover thread. Stitch type 605 has high seam elasticity and has a higher-than-average thread usage. This stitch formation is flat and comfortable and is a popular choice for stretch garments. This stitch type can also be used as a decorative seam due to the top cover thread.



607 – Flat seam

The 606 flatlock has over the years been replaced to a large extent with stitch type 607 flat seam. This stitch type is produced using four needles, one looper, and one top covering thread.

Whilst thread consumption remains high with this stitch type it is lower than the 606-flat seam at 32 meters of thread per meter of seam. The 600 stitch type classifications have the advantage of delivering flat, comfortable seams with high seam elongation.



3.11 SOP OF SEWING SECTION:

Sop for Sewing Production

- Dept. Structure and Attendance: Factory must have complete dept. structure comprising of all relevant categories to have smooth operational function. Daily attendance details certified by P.M. must be available in each section for management information.
- Style file (Folder): Merchandising dept. must provide style file with complete details to all concerned dept. s. This file must be contained with latest technical specifications and comments from buyer.
- Sewing production plan: Planning dept. must provide the production plan for each order to all concerned dept. s. Any changes or revisions will be made due to any reason; planning dept. has to update all concerned parties immediately.
- Approved garment sample: Approved garment sample with comments, which will be certified by Q.A.M. has to be displayed in sewing line until total order completion. Have to keep this garment sample safely for future reference in completion of style.
- Finish Patterns: Sewing line production staff has to finalize required finish patterns with cut marks/notches and other work aids at Sewing line garment sample process and have to certify by Garment sample / Technical dept. & QA Manager.
- Sewing line garment sample: Production staff has to collect all the details, actual fabrics and trims for the preparation of sewing line garment sample. This should be at least 3 days prior to sewing line

feeding. This garment sample to be done with the involvement of sewing line in charge, sewing line supervisor, sewing line Q.C, work study off., Mechanic & technical/garment sample room. Have to follow buyer's garment sample, comments and operational break down prepared by work study off.

- This garment sample to be evaluated by sewing line Q.C. and garment sample evaluation report will be submitted to Q. A. M. to comments at the P.P. meeting.
- Pre-production Meeting (Internal): P.P. meeting (internal) to be held with the involvement of F.M., P.M., Q.A.M., INDUSTRIAL ENGINEER dept., Garment sample / Technical dept., production staff of the sewing line, Finishing, merchandiser, mechanic, Stores etc. Comments in the sewing line garment sample evaluation and buyer's latest comments to be reviewed very closely and taken care.
- Fabric and trim inventory report to be obtained by the stores prior to conduct P.P. meeting. Must have received all lab dips, fabric shrinkage, shade band, color continuity card, pull test etc. at this stage.
- Complete order file to be received by sewing line staff prior to P.P. meeting meeting minutes should be recorded & all participants must sign and acknowledge the PP meeting minute record.
- Sewing line lay out and manpower allocation: Have to get machine layout from INDUSTRIAL ENGINEER. dept. and required machinery and attachments from maintenance dept. Have to sort out suitable operators with consultation of P.M., Sewing line in charge and Work study off. by referring the Skill Inventory.

- Store's requisition: These requisitions to be prepared by section supervisor and have to obtain signature of P.M for authorization.
- In put: Sewing line supervisor is responsible to receive input as per Bundle chart and have to assure quantity receiving is correct. Also have to issue input to the sewing line as per the sequence in the Bundle chart and the same to be maintained in each operation up to output.
- Style feeding: Have to feed each operation with correct demonstration to operator. Must complete sewing line feeding report by sewing line Q.C. to accept and agree with sewing line supervisor, Work study off. and other prod. Staff to proceed with each operation.
- Have to maintain Style feeding time record by the Work Study Off.
- With the leadership of sewing line chief all operators and helpers to be educated about each job that has to be performed before proceeding with bulk. Necessary work aids, Mockups, Sketches with illustrations pertaining to operation will be helpful to operator to follow.
- Hourly individual production: To be recorded by supervisor. In case of finding any production drop by operator due to any reason action to be taken immediately and have to keep sewing line in charge and P.M informed
- Bundle Tracking: In sewing line Work in progress & Output quantities to be monitored against bundle chart which will be used from input.

- Daily Manpower Allocation & Transfer records should be maintained daily by Sewing line wise. This record to be certified by Sewing line Chief, Work Study Off. & Production Manager.
- Daily sewing line forecast meeting: Daily sewing line forecast meeting to be conducted by P.M., Q.A.M., Sewing line Q.C., Work Study Off. with production staff and mechanic to review status of running production. Suggest participation of F.M. in this meeting. Important points to be recorded & followed up.
- Revision of S.M.V.'s: Sewing line chief has to discuss about individual targets with Work Study Off. in case of revision needed for S.M.V within three days after feeding the sewing line.
- Over time authorization: This record is to be certified by supervisory staff and section heads. O.T plan to be prepared after reviewing working progress and request to be made by Sewing line chief, certified by work study off. to submit PROJECT MANAGER / GM for authorization.
- Loss time recording: Work study off. should record sewing line wise loss time (Nonproductive time). Sewing line chief & the responsible dept. for each loss time should sign & confirm this record.
- Bottle neck solving procedure: Sewing line supervisor and work study off. have to review sewing line working progress. With consultation of P.M. and INDUSTRIAL ENGINEER. manager, plan to be made for bottle neck solving. Have to obtain prior approval from F.M. for Over Time. Also, the lost time with records to be considered by the management for this extra time required to be used and corrective action to be taken to minimize lost time.

- Daily Efficiency report: Daily sewing line efficiency report to be prepared by INDUSTRIAL ENGINEER Dept. and to be submitted to GM before 9.30am daily. Action to be taken in the daily forecast meeting will be reviewed through this report.
- Skill divalproex Management procedure: INDUSTRIAL ENGINEER dept. will take the initiative of grading workers and recommending to P.M. for skill divalproex Management. Worker will be trained under the training instructor and details of training period and performance to be recorded by the training dept. INDUSTRIAL ENGINEER. dept. will evaluate training worker for necessary grading and G.M. / F.M will authorize to H.R formalities. Have to maintain skill inventory for each Sewing Production System line.
- Weekly progress meeting: This meeting to be conducted by G.M/F.M with the involvement of all dept. al heads on last working day of the week to update the status of all running orders and corrective action to be taken before the beginning of next week. All key productivity indicators to be reviewed in this meeting.
- Visual production board: Production board will be displayed in front of each sewing line and production recorder or sewing line supervisor is responsible for record with correct figures hourly.
- Goods transfer record: Sewing section have to maintain detailed goods transfer record for goods sending for washing / finishing.
- Style reconciliation: Sewing Production line chief has to submit style reconciliation report in completion of production for each style to G.M. through P.M.

3.12 QUALITY CONTROL OF SEWING:

Here is the standard operating procedure of sewing quality control

- ✓ Quality inspectors check the sample and trim card of his process at the very beginning of a style. Inspector also checks SPI, thread, label, and First Bundle specially and will have to take over his work from the Quality controller for a new style.
- ✓ Inspectors know his all measurement of his checkpoint and will have to explain clearly if anybody asks.
- ✓ No defect allowed passing from QI checkpoint and the defect will be limited in one bundle in any process.
- ✓ Bundle cut has to maintain as per the cutting report, short and mistake bundle not to pass by QC checkpoint.
- ✓ Measurement tape hanging on every QI neck
- ✓ Every in-process report to be updated, to be signed by QC and line supervisor in every hour.
- ✓ Any process mistake and size mistake body go back to operation making the correction.
- ✓ Every running style Sample and Trim card showing operation clearly displayed on each line.
- ✓ Every quality inspector following up machine cleaning before breaking up the factory every day and 100% machine having oil cards.
- ✓ Washed Garments not allowed to keep the sewing line. If there any GMTS in sewing line, Output QI and Line QC have to handover in finishing.
- ✓ Every Line QC is responsible for all types of buyer requirements of his line.

3.13 FINISHING:

The folding, tagging and packing of garments are done in the packing section in the finishing department. This post covers major functions of the finishing department. Mind these functions may vary while there is a change in product categories.

Activities of the finishing department are listed below

- **Thread Trimming:** In the stitching department, thread trails and thread chains are not trimmed neatly. Uncut threads and thread tails in garments are trimmed in the finishing department by helpers. Uncut and loose threads on garments are considered defects.
- **Checking garments:** All garments are checked at the finishing stage for visuals and measurement. Finishing checkers check the complete garment inside and out. Checking is done for garment detailing, such as care labelling, and trims.
- **Button attach and Butting holing:** Products those have trimming like button, snap button, eyelets are attached in finishing section.
- **Removing stains:** Stains and spots are found on garments. Spots are removed using a hand spot gun or by using a stain removing machine prior to pressing. Dust and stains can be removed by machine washing. So, many times finishing department wash garments inside department.
- **Repair work and mending**: Defective garments may need to repair for stitching and fabric defects. All repair activities are done in finishing department itself instead of sending defective garments to stitching department.
- **Ironing garments:** Garments are ironed using a steam iron. This is done to remove creases in the garment. For knitted garments

measurements are set by steam press. Vacuum pressing tables are used for garment pressing.

- **Folding and tagging:** Pressed garments are folded in a specified dimension. Tags, such as price tags and hang tags are attached to the garment by means of a Kimble gun or threads.

- **PACKING GARMENTS:** Finally, properly folded garments are packed into poly bags as per customer requirements. Individual poly bags are then packed into bigger cartons.

- **PREPARATION OF PACKING LIST:** The packing in-charge prepares a packing list for the shipment. After packing is completed for an order, the finishing department informs the concerned merchant

3.14 TRIMS & ACCESSORIES:

These are the Items Used for Garment Decoration & Branding Below are few

- ✓ Hangtag
- ✓ Price tag
- ✓ Main Label
- ✓ Size label
- ✓ Care label
- ✓ Poly bag
- ✓ Polybag sticker
- ✓ Carton
- ✓ Shipping mark
- ✓ Sewing thread
- ✓ Zipper
- ✓ Draw string
- ✓ Elastic
- ✓ Button
- ✓ Eyelet

Below is a chart on how and what to check on these approvals

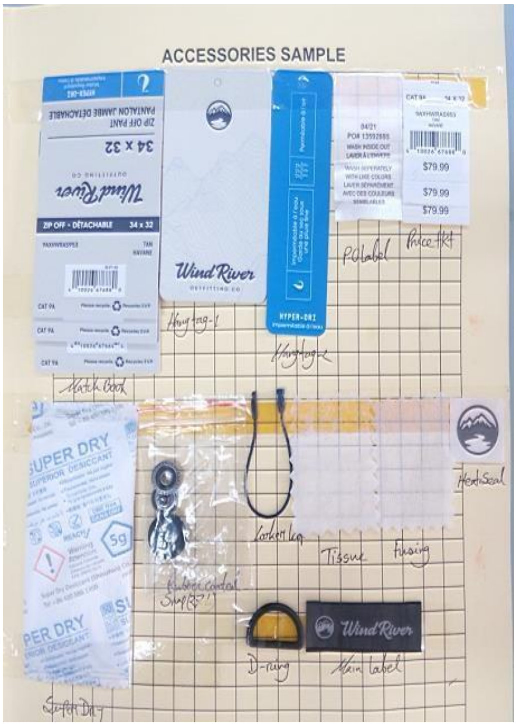
.

	ITEM	What to check	Approval Process
1	Hangtag	approvals Quality	Layout and Physical sample
2	Price tag	approvals Quality	Layout and Physical sample
3	Main Label	approvals Quality	Layout and Physical sample
4	Size label	approvals Quality	Layout and Physical sample
5	Care label	approvals Quality	Layout and Physical sample
6	Poly bag	Thickness & material	Layout and Physical sample
7	Polybag sticker	approvals Quality	Layout and Physical sample
8	Carton	Thickness & material	Layout and Physical sample
9	Shipping mark	approvals Quality	Layout and Physical sample
10	Sewing thread	Color, thickness material & strength	Physical sample
11	Zipper	strength, Durability	Physical sample
12	Draw string	strength, Durability	Physical sample
13	Elastic	strength, Durability	Physical sample
14	Button	measurement, Color	Physical sample
15	Eyelet	measurement, Color	Physical sample
16	Collar Hold	approvals Quality	Physical sample
17	Back Board	approvals Quality	Physical sample

FIG: TRIMS LIST

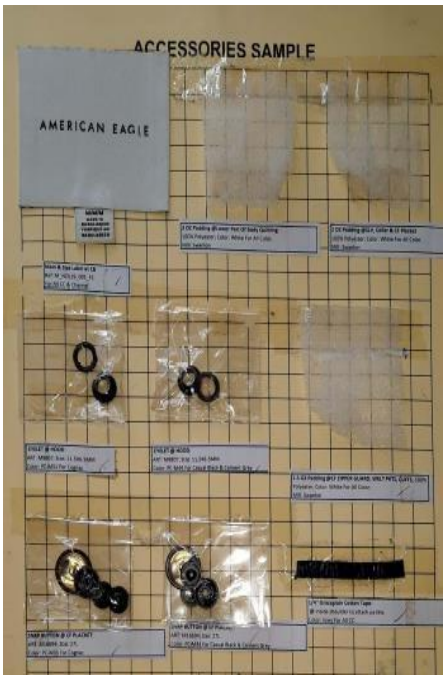

Tan
Black
DK.Olive
Velcro


34 x 32


ACCESSORIES SAMPLE
Wind River
34 x 32
HYPER-DRI
$79.99
SUPER DRY


ACCESSORIES SAMPLE
DROIT
STRAIGHT
DENVER HAYES
SUPER DRY


COLOR / PATTERN
FAB. DESCRIPTION
COLOR / CODE
ORDER / QUANTITY/COL
APPROVED CONS / QTY


ACCESSORIES SAMPLE
AMERICAN EAGLE


FAB. DESCRIPTION
ORDER / QUANTITY/COL

3.15 FINAL INSPECTION:

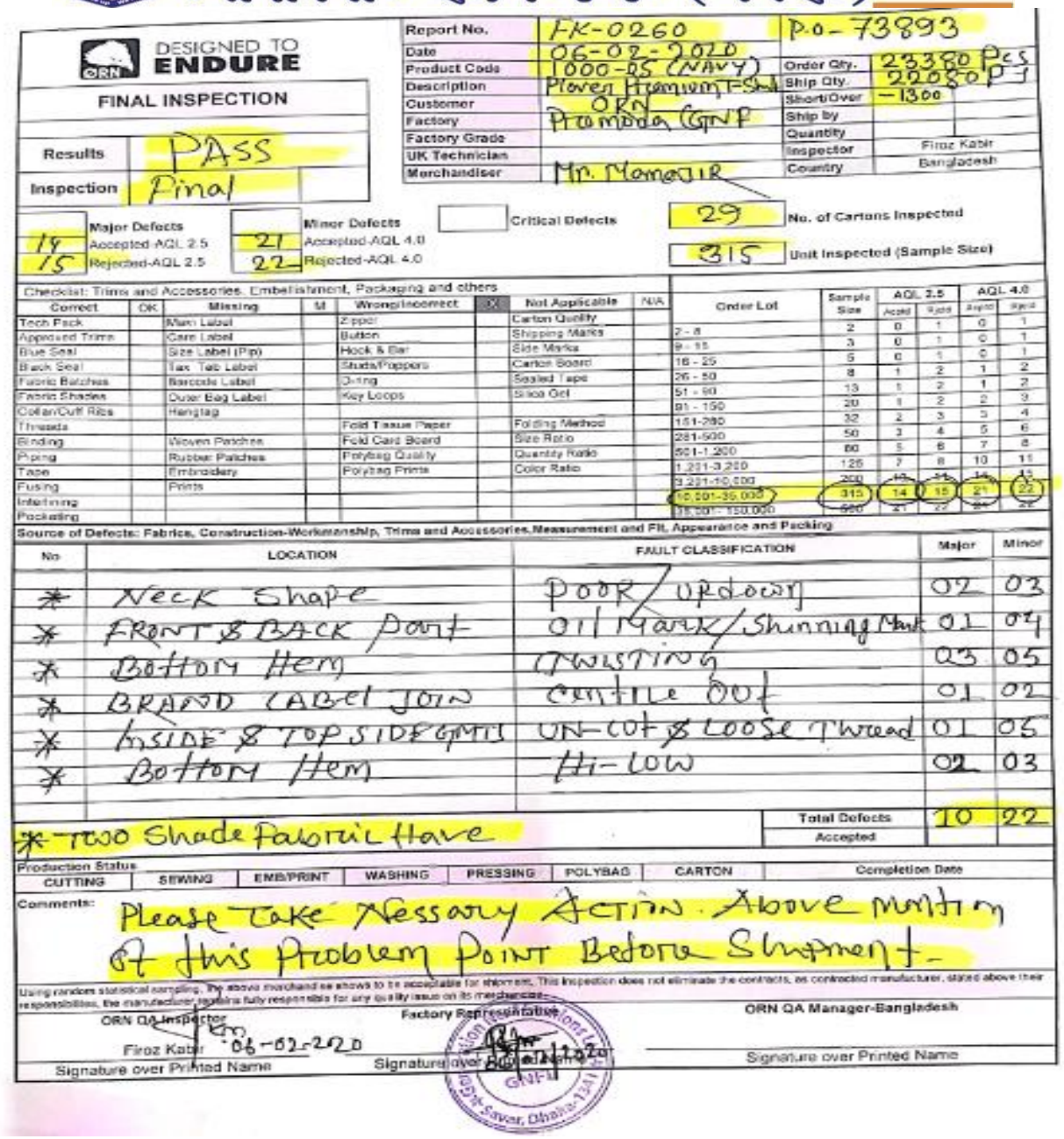
It is the report of final Inspection. This report shows the full Quality of the shipment.

S/L	Section	Criteria
1	Presentation	Do the goods meet retailing standards?
		Are the garments crushed, creased or glazed?
		Are the garments soiled, stained or wet?
2	Labeling	Is there a correct logo?
		Is there a correct size label?
		Are there correct labels on fiber content and wash care instructions?
		Are the bar-code tags or swing tickets incorrect or missing?
3	Components and Trims	Are the components or trims rusting, tarnishing or broken?
		Are there incorrect attachments (for example handles)?
		Are the zippers faulty or incorrect?
		Are the tie cords correct?
4	Make Up	Are the seams insecure, puckered, grinning, roping or twisting?
		Is there needle damage (includes laddering)?
		Are there excessive threads or is there poor trimming?
		Are the collars, pockets, zippers or darts incorrectly sewn or panels misaligned?
5	Fabric faults	Are there printing or dyeing faults?
		Are there faults in the fabric or interlining?
		Is there varying shading within the garment?
		Is there varying shading from garment to garment?
6	Miscellaneous	Is the garment measurement within acceptable tolerance as defined in the Gold Sample / Design Pack?
		Are the correct numbers of spare buttons provided?
		Did all colors passed all required Laboratory Testing Procedures?

		Did it meet all government regulatory requirements?
		Did it meet all safety requirements?

Lot or Batch size	Sample size Code Letter	Sample Size	Acceptable Quality level					
			2.5		4.0		6.5	
			Ac	Re	Ac	Re	Ac	Re
2 – 8	A	2	0	1	0	1	0	1
9 – 15	B	3	0	1	0	1	0	1
15 – 25	C	5	0	1	0	1	0	1
26 – 50	D	8	0	1	1	2	1	2
51-90	E	13	1	2	1	2	2	3
91-150	F	20	1	2	2	3	3	4
151-280	G	32	2	3	3	4	5	6
251-500	H	50	3	4	5	6	7	8
501-1200	J	80	5	6	7	8	10	11
1201-3200	K	125	7	8	10	11	14	15
3201-10000	L	200	10	11	14	15	21	22
10001-35000	M	315	14	15	21	22	21	22
Source: ANSI/ASQ Z1.4 The Sampling procedures and table for inspection by attributes								

FIG: AQL CHART



DESIGNED TO ENDURE

FINAL INSPECTION

Results	PASS
Inspection	Final

Report No.	FK-0260
Date	06-02-2020
Product Code	1000-05 (NAVY)
Description	Player Hemmed T-Shirt
Customer	ORN
Factory	Promoda GMP
Factory Grade	
UK Technician	
Merchandiser	Mr. Manoj

P.O	73893
Order Qty.	23380 Pcs
Ship Qty.	22080 Pcs
Short/Over	-1300
Ship by	
Quantity	
Inspector	Firoz Kabir
Country	Bangladesh

19	Major Defects Accepted-AQL 2.5	21	Minor Defects Accepted-AQL 4.0		Critical Defects
15	Rejected-AQL 2.5	22	Rejected-AQL 4.0	29	No. of Cartons Inspected
				315	Unit Inspected (Sample Size)

Checklist: Trims and Accessories, Embellishment, Packaging and others

Correct	OK	Missing	M	Wrong/Incorrect	IX	Not Applicable	N/A
Tech Pack		Main Label		Zipper		Carton Quality	
Approved Trims		Care Label		Button		Shipping Marks	
Blue Seal		Size Label (Pip)		Hook & Bar		Side Marks	
Black Seal		Tax Tab Label		Studs/Poppers		Carton Board	
Fabric Batches		Barcode Label		Oiling		Sealed Tape	
Fabric Shades		Outer Bag Label		Key Loops		Silica Gel	
Collar/Cuff Ribs		Hangtag					
Threads				Fold Tissue Paper		Folding Method	
Binding		Woven Patches		Fold Card Board		Size Ratio	
Piping		Rubber Patches		Polybag Quality		Quantity Ratio	
Tape		Embroidery		Polybag Prints		Color Ratio	
Fusing		Prints					
Interlining							
Packeting							

Order Lot	Sample Size	AQL 2.5 Accept	AQL 2.5 Reject	AQL 4.0 Accept	AQL 4.0 Reject
2 - 8	2	0	1	0	1
9 - 15	3	0	1	0	1
16 - 25	5	0	1	0	1
26 - 50	8	1	2	1	2
51 - 90	13	1	2	1	2
91 - 150	20	1	2	2	3
151-280	32	2	3	3	4
281-500	50	3	4	5	6
501-1,200	80	5	6	7	8
1,201-3,200	125	7	8	10	11
3,201-10,000	200	10	11	14	15
10,001-35,000	315	14	15	21	22
35,001- 150,000	500	21	22	30	31

Source of Defects: Fabrics, Construction-Workmanship, Trims and Accessories, Measurement and Fit, Appearance and Packing

No	LOCATION	FAULT CLASSIFICATION	Major	Minor
*	Neck Shape	Poor / Uprown	02	03
*	Front & Back Part	Oil Mark / Shinning Mark	01	04
*	Bottom Hem	Twisting	03	05
*	Brand Label Join	Cuttle Out	01	02
*	Inside & Top Side Gmts	Un-cut & Loose Thread	01	05
*	Bottom Hem	Hi-Low	02	03
		Total Defects	10	22
		Accepted		

*-Two Shade Fabric Have

Production Status

CUTTING	SEWING	EMB/PRINT	WASHING	PRESSING	POLYBAG	CARTON	Completion Date

Comments: Please Take Nessary Action. Above Mention of this Problem Point Before Shipment.

Using random statistical sampling, the above merchandise shows to be acceptable for shipment. This inspection does not eliminate the contracts, as contracted manufacturer, stated above their responsibilities, the manufacturer remains fully responsible for any quality issue on its merchandise.

ORN QA Inspector — Firoz Kabir — 06-02-2020 — Signature over Printed Name

Factory Representative — Signature over Printed Name

ORN QA Manager-Bangladesh — Signature over Printed Name

FIG: INSPECTION REPORT

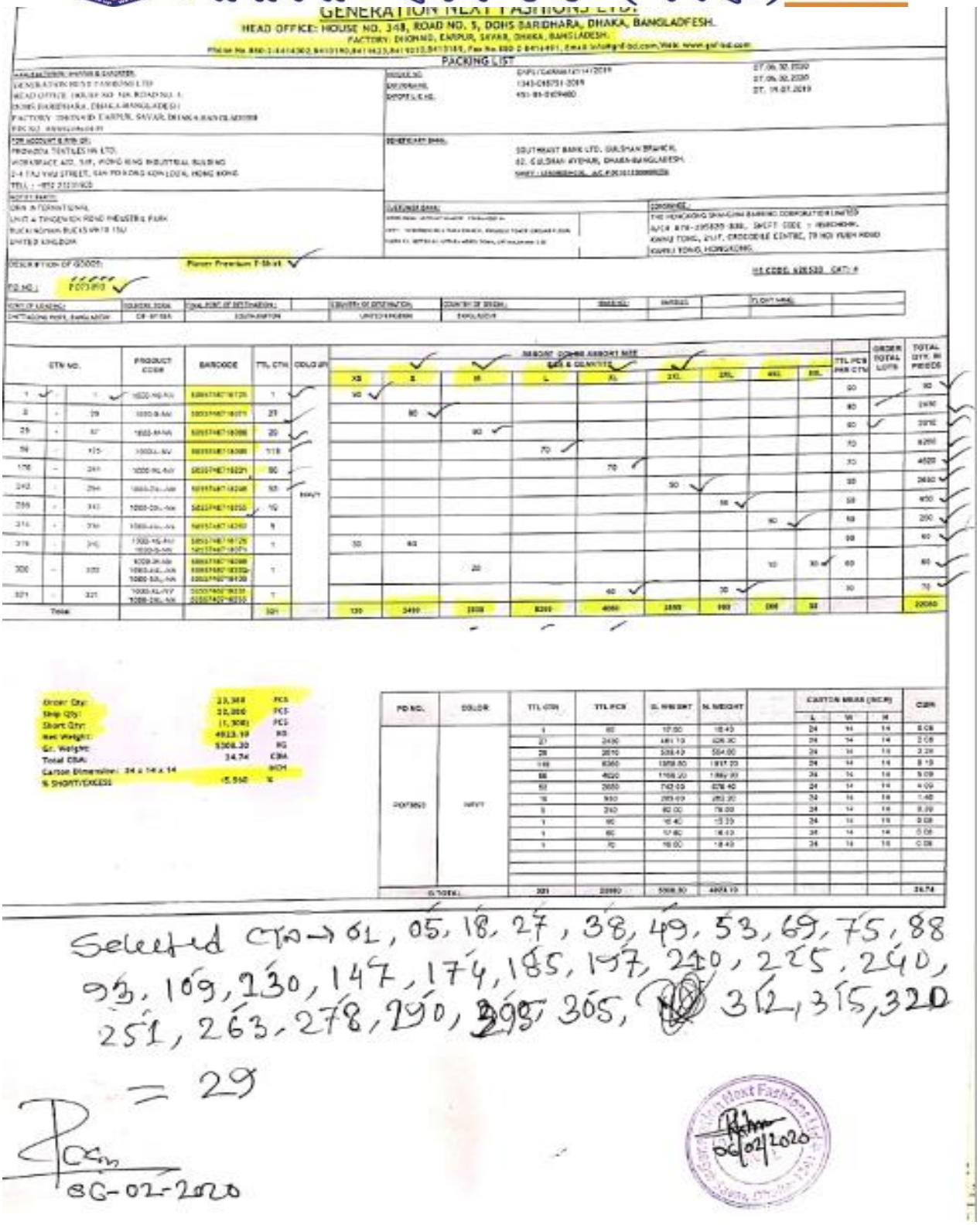

GENERATION NEXT FASHIONS LTD.
HEAD OFFICE: HOUSE NO. 348, ROAD NO. 5, DOHS BARIDHARA, DHAKA, BANGLADESH.
FACTORY: DHONAID, EKPUR, SAVAR, DHAKA, BANGLADESH.
PACKING LIST
Selected CTN → 01, 05, 18, 27, 38, 49, 53, 69, 75, 88, 93, 109, 130, 147, 174, 185, 197, 210, 225, 240, 251, 263, 278, 290, 298, 305, 312, 315, 320
= 29
06-02-2020
06/02/2020

FIG: INSPECTION REPORT

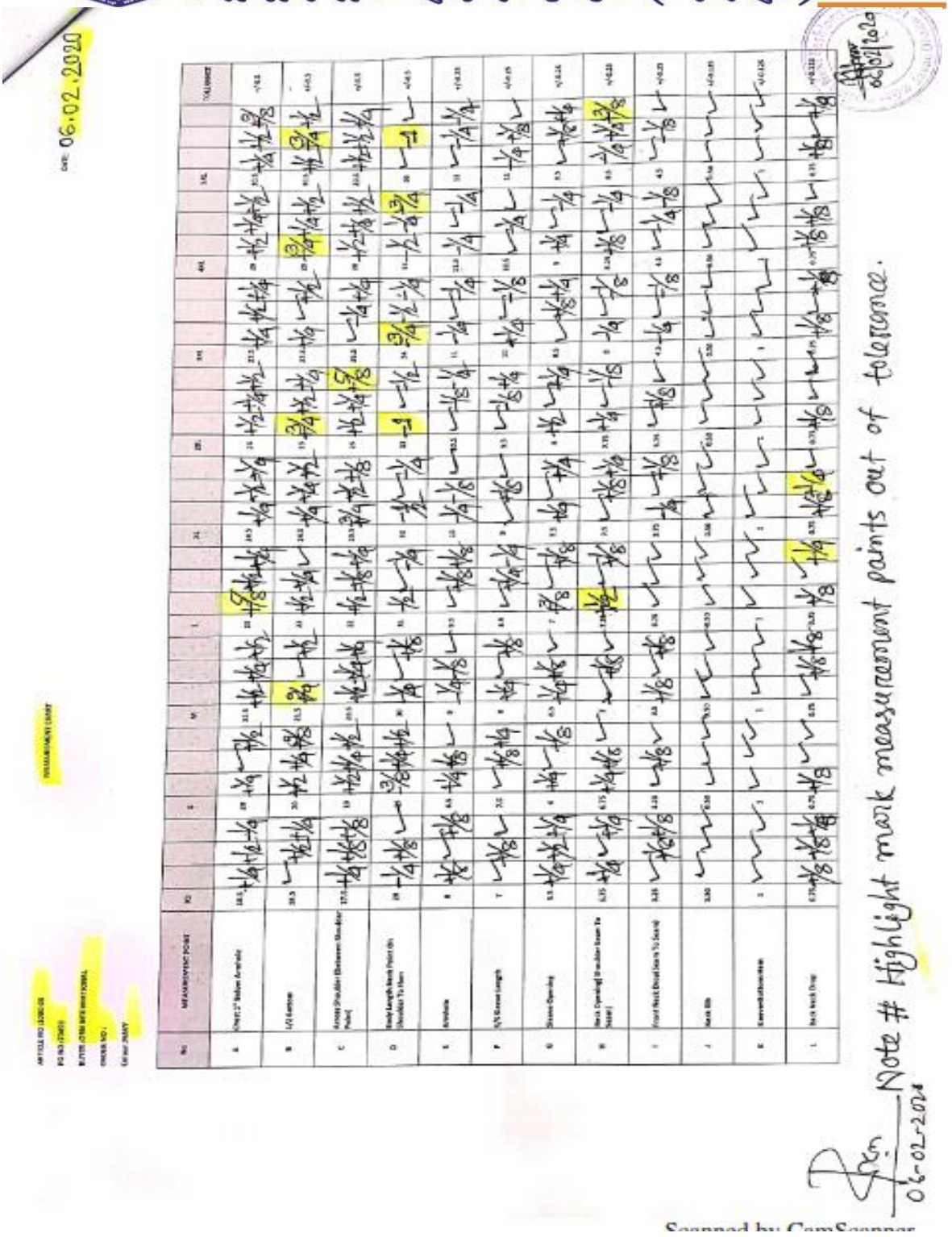
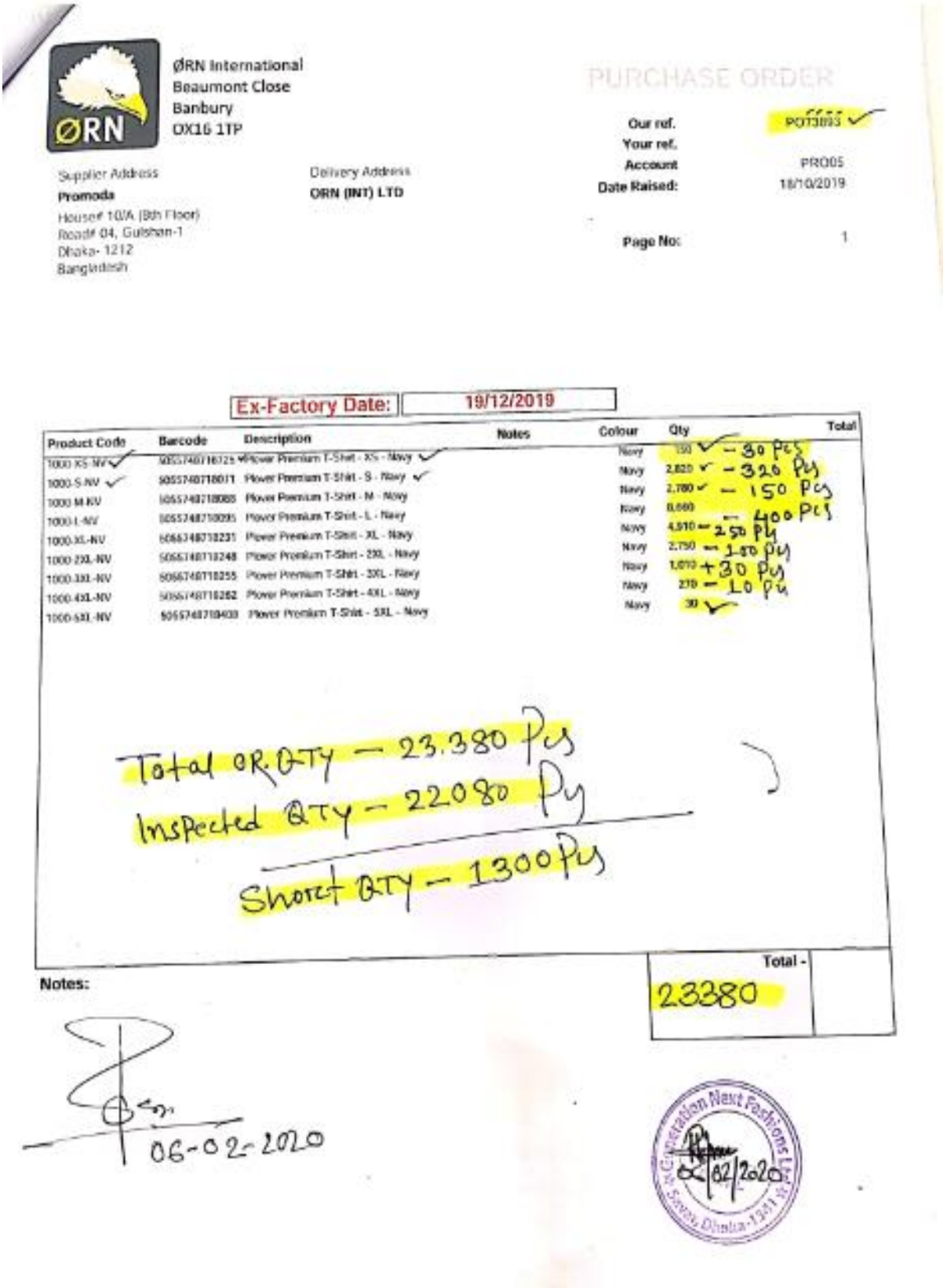


FIG: INSPECTION REPORT



ØRN International
Beaumont Close
Banbury
OX16 1TP

PURCHASE ORDER

Our ref. PO73893
Your ref.
Account PRO05
Date Raised: 18/10/2019

Page No: 1

Supplier Address
Promoda
House# 10/A (8th Floor)
Road# 04, Gulshan-1
Dhaka- 1212
Bangladesh

Delivery Address
ORN (INT) LTD

Ex-Factory Date: 19/12/2019

Product Code	Barcode	Description	Notes	Colour	Qty	Total
1000-XS-NV	5055748718725	Power Premium T-Shirt - XS - Navy		Navy	150 – 30 Pcs	
1000-S-NV	5055748718011	Power Premium T-Shirt - S - Navy		Navy	2,820 – 320 Pcs	
1000-M-NV	5055748718080	Power Premium T-Shirt - M - Navy		Navy	2,780 – 150 Pcs	
1000-L-NV	5055748718035	Power Premium T-Shirt - L - Navy		Navy	8,660 – 400 Pcs	
1000-XL-NV	5055748718231	Power Premium T-Shirt - XL - Navy		Navy	4,510 – 250 Pcs	
1000-2XL-NV	5055748718248	Power Premium T-Shirt - 2XL - Navy		Navy	2,750 – 180 Pcs	
1000-3XL-NV	5055748718255	Power Premium T-Shirt - 3XL - Navy		Navy	1,010 + 30 Pcs	
1000-4XL-NV	5055748718262	Power Premium T-Shirt - 4XL - Navy		Navy	270 – 10 Pcs	
1000-5XL-NV	5055748718408	Power Premium T-Shirt - 5XL - Navy		Navy	30	

Total QR. QTY – 23,380 Pcs
Inspected QTY – 22080 Pcs
Short QTY – 1300 Pcs

Total - 23380

Notes:

06-02-2020

Next Generation Next Fashions Ltd. 02/02/2020

FIG: INSPECTION REPORT

3.16 DEFECTS:

Based on the severity of the defect, garment defects are classified as critical, major and minor defects.

- **Critical Defects**

A defect that poses a safety hazard to the consumer and/ or violates mandatory regulations is termed as a critical defect. Typically, if a critical defect is found in the shipment, the importer tends to reject the entire order. This is because, a critical defect could harm the consumer, impair the image of distributors throughout the supply chain, makes the brand liable, and incurs unnecessary expenses in the event of a product recall. Some examples of critical defects in garments are:
Presence of a needle or other sharp object included in the packaging of the finished good due to the cutting and sewing processes involved in the manufacturing of the garment.

- ✓ Blood stains on the garment due to the presence of a sharp object which might pierce a worker accidentally during work.
- ✓ Broken button
- ✓ Mold on a garment
- ✓ Improperly secured loose trims and fasteners
- ✓ Drawstring near head or neck in infant and kids wear
- ✓ Thread or trims which are extensively long or loose
- ✓ Missing suffocation warning labels

- **Major Defect**

These defects are those which result in overall product failure or reduced usability of the product that prevents it from being placed on the market. They do not pose any safety threat to the user, but typically lowers the value of the product, adversely affects its marketability and sale ability, shortening the life cycle of the product, and increases product returns for replacement or refund. Some examples of major defects in garments -

- ✓ Open seams
- ✓ Holes
- ✓ Broken stitches,
- ✓ Incorrect colors or designs on the product,

- ✓ Damaged fabric,
- ✓ Bubbling due to fusing,

- ✓ Zipper,
- ✓ Button not well attached,
- ✓ Incorrect SPI,
- ✓ Main label spot etc.

MINOR DEFECT

Minor defects are unlikely to reduce product usability. They are workmanship defects beyond the defined specifications or construction requirements that the importer and supplier have agreed upon. Some examples of minor defects in garments are:

Misprinting of the label on a shipping carton
Untrimmed threads, missing stitches or uneven stitching on a garment
Minor variation in shading between garment pieces
Variation of care label quality or content
Dirt material that can easily be washed off

3.17 Types of garments washing:

The different types/methods of washing are mentioned below:

Primarily garments washing are two types.

I. Dry process/ Mechanical process
II. Wet process/ Chemical process

14.3. Types of Dry process/ Mechanical process in Standard group

Whisker
Hands scraping
Over all wrinkles
Permanent wrinkle
Broken and tagging
Grinding and destroy
PP spray and PP sponging etc.
Resin (3D)

14.4 Types of Wet process/ Chemical process in Standard Group

- Normal wash/ garment wash/rinse wash.
- Enzyme wash.
- Stone Enzyme wash.
- Bleach wash.
- Tinting (Tie) & Over Dyeing (Dip Dyeing).
- Soft wash.

14.5. Types of machine which are used in Standard Group

™ Sample washing machine
™ Hydro extractor machine.
™ Dryer machine.
™ Boiler.
™ Grinding machine
™ Tagging machine.
™ Steam chamber for crinkle.

™ E.T.P (Effluent treatment plant)

™ Spray gun and dummy.

14.6. Dry process:

Dry Process, it is an important factor in garment washing. Garments are achieved a more fashionable look by applying **dry processes**. The **dry process** is mainly done by hand or mechanically. The **dry process** section maintains a **process** flow-chart, which is discussed in this article.

Fig: Dry Process (Spraying)

14.6.1. Flow Chart of Dry Process in Garments Washing:

Whisker
↓
Scrapping
↓
Tacking
↓
Destroy/ Tearing
↓
P.P Spray
↓
3D

14.6.2. Whisker:

Whiskers are one of the most important designs of a used look garment. The idea of whiskers is taken from the worn-out lines and impression patterns generated by natural wearing on hips and front thigh area. On old jeans, a number of patterns can be finding consequential to fabric, body shape of user or sitting posture. It is also known as Cat's Whisker.

Fig: Whickering pattern Before wash After wash

14.6.3. Hand Scraping:

To create the impression or visibility of pocketing fabric of any inside materials visibility to the face side of the jean's pants with the help of emery paper is called hand scraping. Emery paper comes in different number generally starts from 40 till 600 and above, higher the number finer the emery paper, lower the coarseness of the paper. In garment industry from 220, 320 & 400 number papers are most popular & widely used.

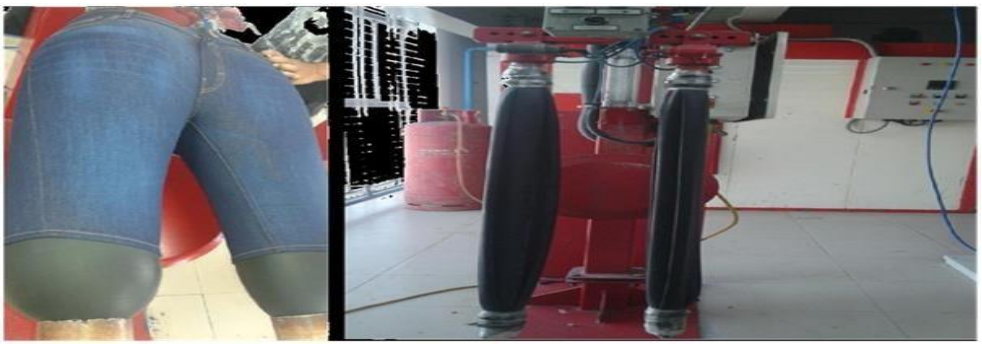


Fig: Before wash Fig: Hand scraping m/c

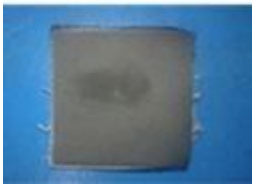


Fig: Emery paper

14.6.4. Wrinkle:

The process is kind of resin finishing process. In this process of applying resin on textile material, resin form cross-linking inside the amorphous region and block the free hydroxyl (OH) group and preventing hydrogen bond formation thus improve wrinkle free

Finishing. Mainly it is applied on twill fabric, single jersey and denim fabric. Some advantage:

™ Improve resistant and recovery to crease.

™ Good water repellency and moderately soil repellency.

™ Improve handle and draping properties.

™ Increase wet and dry fastness.

A typical recipe / formula:

Wetting agent: 0.5% of Resin:

6 to 10 % of Softener: 3 -5 5 of

Water : 60 to 80 liters

Properties obtained by wrinkle resistant finish:

™ Improve resistant and recovery to crease.

™ Good water repellency and moderately soil repellency.

™ Improvement handle and draping properties.

™ Increased wet and dry fastness.

14.6.5. Tagging:

Tagging is doing on garment for fashion and value added fashion wear.

- Tagging is doing by tagging machine.
- Tagging is also by needle and manually.
- After wash upper portion of garment occur crease mark and inside of Tagging occurs dark shade.

Fig: Before tagging

Fig: After tagging

14.6.6. Tacking & Grinding:

14.6.6.1 Tacking:

Tacking is a process which is being done by swift tag machine with the help of plastic or nylon tag pins in rigid form of garment to get very heavy contrast (rigid & washed) on waistband, bottom hems, back pocket & front pocket corners etc.. After completing wash cycle, it must be removed from garment before making softening.

14.6.6.2.. Grinding:

Grinding is being done on pocket edges & bottom hems edges by running against abrasion surface or stone to achieve worn out effect. Many different make of machines & pen grinding tools are available in the market which runs with pneumatic system.

14.6.7. Destroyed Denim:

Destroyed Denim One of the most popular distressing effects currently, 'Destruction' is an art which make denim look unique & used. To make destruction pen type of stone tools

Fig: Destroy m/c

being used in mid of wash process to apply on desired area. It can also be achieved by cutting it thru knife the warp yarns & keep the weft yarn as is to show white thread. Holes also can be made by cutting weft & warp yarn.

Fig: Destroy Effect

14.6.8. Potassium Permanganate Sponging/ Brushing:

PP Spray is being done on denim garments to achieve local abraded area to appear whiter than back ground indigo color shade. This can be applied by sponges dipped in to PP Solution & rubbed on desired area followed by neutralization in wet process. This process can be done in rigid after doing hand scrape or in the middle of the wash. Doing after enzyme or bleach cycle will give more natural & white effect that doing in rigid. There are many additives can be added in order to achieve desired intensity and look.

14.6.8.1. Recipe of PP spray:

Acid: 10 gm

Potassium permanganate: 30 gm rest of the amount is water.

Fig: PP Spray

14.6.9 Resin Application (3D Effect):

Resin (Formaldehyde free) being used **for achieving 3D effect** (3 Dimensional), Rigid Look etc. This process can be done by spraying or dipping the garments in to **Resin, Catalyst, Silicone & PU solution** in right combination according to the fabric strength & desired effect needed. After application of resin solution in right proportion, make manual designing as needed on the thigh, hip & back knee area to get 3Dimentional effect. After making it, it should be manually dried with hot press or hair dryer & then must be cured in oven at right temperature, time as mentioned in resin product manual.

14.6.9.1 Recipe of resin spray: For 3D

RFF:	100 ml
KBC:	50 ml
Cerate:	50 ml
MDF:	20 ml
Water:	780 ml
Total:	**1000 ml**

Fig: 3D Effect

Fig: Hanger 3D

14.6.10 Wet wash process on Standard Group

14.6.10.1. Flow chart of wet wash process:

Desizing process

⇩

Normal enzyme wash

⇩

Stone enzyme wash

⇩

Bleach wash

⇩

Bleach neutral wash

⇩

Tinting and dyeing

⇩

Soft wash

⇩

Hydro and dryer

14.6.11.Process description:

14.6.11.1. Desizing Process:

Desize is the first process on garment washing.

Object of enzyme wash:

™ To remove size material from the garments.

™ To remove the starch present on the garments.

™ To improve the anti-pilling properties.

14.6.11.2. Desizing Washing process:

Water……..500 litre

Despersol Dex Plus…….....400 ml

Surplus 1200L……..…….800 ml

Despersol Max cone……400 ml

Temp……..……60 c

Time……..10 min

Fig: Before wash

Fig: After wash

14.6.12. Enzyme wash:

Enzyme wash is done on the garments made from heavy fabrics like jeans and denim. Cellulose enzyme is used for this types of wash. These cellulose Enzyme hydrolyses the projecting hairy cotton of the garment fabric surface and also removes color.

Object of enzyme wash:

™ To remove size material from the garments.

™ To achieve the buyer reference sample /washing standard.

™ Enzyme attack as chemically not mechanically for this reason low damage.

™ Enzyme improves anti-pilling properties.

Types of enzyme: mainly two types of enzyme.

- Powder enzyme
- Liquid enzyme

14.6.12.1, Normal enzyme washes process:

Water……..500 liter

Lava cell NBG……1 kg

Dispersal Max cone……100 ml

Temp……45 c

Time……..15 min

14.6.13. Object of Pumice 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 5-7cm.

Two to Three times can be used are pumice stone.

Every bag contain 22 kg to 25 kg and price 400/= to 425/=/ bag (varies).

Fig: Pumice Stone

14.7. Stone enzyme wash:

14.7.1. Object of stone enzyme wash:

™ To create or produce irregular fading or old looking affect on garment.

™ Especially developed the "bio-polishing" affect of cotton/denim.

™ To remove dust, dirt, spot, impurities from the garment.

™ For soft feeling to wear the garment.

™ To achieve the buyer washing standard.

14.7.2. Stone enzyme washing Process:

Water……..500 liter

Despersol Dex Plus…….....250 ml

Lava cell NBG……..…….1 kg

Despersol Max cone…….250 ml

Stone…….60 kg

Temp…….45 c

Time……..10 to 20 min

Fig: Before stone enzyme wash

Fig: After stone enzyme wash

Bleach wash: Bleach wash the fabric are garment normally dyed with direct dye or reactive dye and these are washed with bleaching agent which reduce color.

14.8. Object of bleach wash:

™ To produce fading affect or old looking affect on garment. To remove size material from, starch from the garment.

™ For soft hand felling to wear the garment

™ To achieve the buyer washing standard.

14.8.1. Bleach washes Process:

Water …….500-liter
Japan bleach…….500 gm
Or KCI bleach……500 gm
Despersal Max plus……250 ml
Time……10 to 15 min

14.8.2. Bleach neutral process:

Water…… 500 litre
Hydrogen peroxide……500 gm
Despersol Dex plus……50 ml
Despersol max plus……250 ml
Time…….5 min
Temp……RT

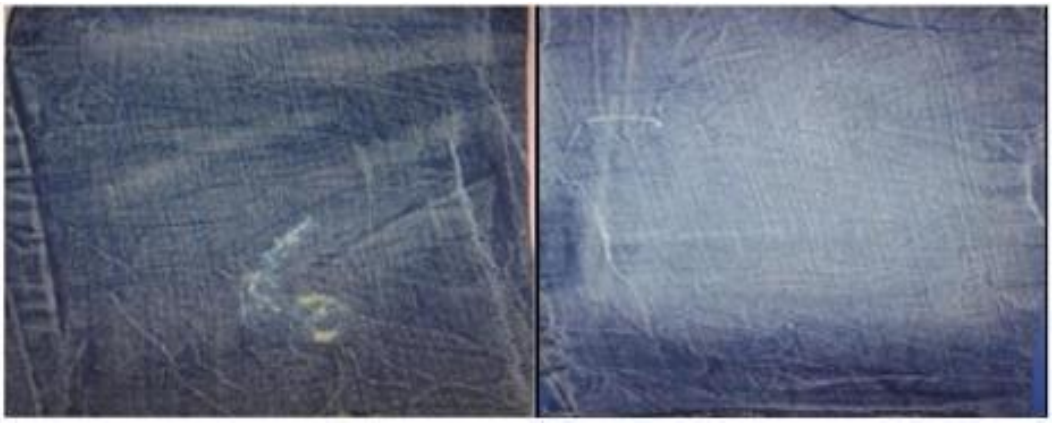


Fig: Before bleach wash

Fig: After bleach wash

14.9. Cleaning process:

14.9.1. Object of cleaning process:

™ To remove dirt, dust, impurities etc. from the garment.

™ To increase brightness of garment.

14.9.2. Clean wash:

Water……500 litre

Hydrogen peroxide……800 gm

Despersol max cone……..250 ml

Despersol dex plus……250 ml

Temp……...60 c

Time……..2 min

14.10. Tinting and dyeing

Water……..500 liter

Brown GGL…….12 gm

Yellow RL……..1.0 gm

B. salt…….....2 kg

Temp…….50 c

Time……2 min

Fig: Before tinting and dyeing

Fig: After tinting and dyeing

14.11. Softener process:

14.11.1. Object of softener:

™ To increase softness of the garment. As if the consumer wears directly.

™ To achieve the buyer washing standard.

14.11.2. Softening Process of Standard Group:

Water …….500 liters

Lave soft Eps cone…….500 gm

Time…….2 min

14.12. Washing machine in Standard Group:

Fig: Belly washing m/c

CHAPTER 5

Compliance.

Compliance means conformity of certain standard PPC maintain a moderate working condition for their employees. Though it is well established project, there is some lacking of proper compliance issues. Here is list of compliance in which some points are maintained fully and some are partially

- Compensation for holiday
- Sexual harassment policy
- Child labor abolition policy
- Anti-discrimination
- Zero amusement
- Working hour
- Hiring/recruitment
- Environment
- Security
- Buyers code of conduct
- Health care and safety committee
- Canteen
- Equal remuneration
- National holiday
- Overtime register
- Labor welfare
- Weekly holiday fund
- Time care
- Accident register
- Workman register
- Leave with wag
- Children Day Care

4.1. Health:

Drinking water at least 4.5 L/day/employee

Cup availability

Drinking water supply

Water cooler, heater available in canteen

Drinking water signs in Bangla and English locate min 20 feet away from work place

Drinking water vassal clean at once in a week

Water center in charge person with cleanliness

Suggestion box register

4.2. Toilet:

Separate toilet for woman and men

A seat with proper privacy and lock facility

Effective water sewage system

Soap toilet

Water tap

Dust bins

Toilet white washed one in every four month

Daily cleaning log sheet

No-smoking signs

Ladies/gents toilet signs both in bangle and English

Deposal of wastes and effluent

4.3. Fire:

Sufficient fire extinguisher and active

Access area without hindrance

Fire signs in both languages

Fire certified personal photo

Emergency exit

4.4. Safety Guard:

Metal glows on good conditions

Rubber mats and ironers

First aid box one

Ironers wearing sleepers

First trained employees

Motor/needle guard

Eye guard

Doctor

Medicine

Welfare officer

4.5 Others with Figure

Room temperature

Lighting facilities

Fig: First Aid Box

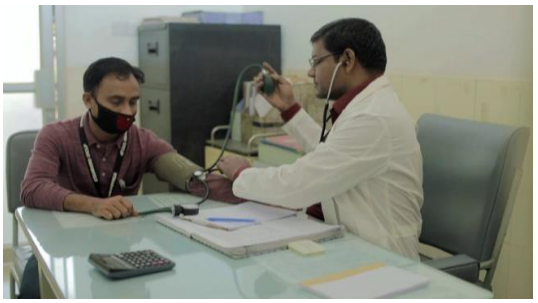


Fig: Medical section of Standard Group

CHAPTER 5
Conclusion

Promoda Textiles has now established in the world as a manufacturer of reputed fabric and capable of producing value added products and executing difficult orders at very short lead time. The Planning, organizing, controlling, designing, creativity, the technical skill and above all the Quality conscious have cemented the base of this leading textile industry. With highly advanced Technology and an emphasis on developing local human resources, its seems to be

Clear that Standard Group of textile has the potential to make an important contribution to the Nation growing readymade, garments export sector and makes an example for others.

We have found ourselves fortunate to have our industrial training at this company. It has a huge Production capacity with a very efficient production team. Standard Group. Has very well, well Equipped and modern Machineries and producing a wide range Product. During our training Period we have noticed that Promoda textiles is very concern about their quality and they rarely have any quality complain. The management of Standard Group is very organized, pre-active and Co-operative.

At the end of the day we realized that industrial training make our knowledge's application practically and make us confident to face any problem of our job sector.

LIMITATIONS

- I have started industrial attachment from 20 August 2021, it had finished on 20th October 2021.
- Above few times for industrial attachment is not enough time to property complete industrial attachment. If I get more time, I will know lot and complete it more effectively.
- It is not possible to reporting full information for some limitation. So, I try our best to summarize all the information.