Faculty of Engineering

Department of Textile Engineering

REPORT ON

‘‘Study on Sample Development Procedure for Knit Items’’

Course Title: Project (Thesis) Course Code: TE – 4214

Submitted By

Joy Datta ID: 193-23-5748

Supervised By

Md.Abdullah Al Mamun

Associate Professor, Department of Textile Engineering Faculty of Engineering

Daffodil International University

This Report Presented in Partial Fulfilment of the Requirement for the Degree of **Bachelor of Science in Textile Engineering**

Advance in Apparel Manufacturing Engineering

Fall 2024

DECLARATION

I sincerely proclaim that this project has been accomplished under the guidance of **Mr. Abdullah Al Mamun, Associate Professor,** Department of Textile Engineering, Daffodil International University. Every piece of information in this report is actual. I highlighted the processes involved in producing a sample. During my internship, I receive all of the sample development data. This project has never been submitted anywhere else for credit toward a degree, nor have any of its parts.

Joy Datta
I D: 193-23-5748

LETTER OF APPROVAL

December 14, 2024 To

The Head

Department of Textile Engineering Daffodil International University Daffodil Smart City (DSC)

Birulia, Savar, Dhaka-1216.

Subject: Approval of Thesis Report of B.Sc. in Textile Engineering Program Dear Sir,

I am writing to inform you that this project report titled as **"Study on Sample Development Procedure For Knit Items"** has been prepared by me, **Joy Datta (193-23-5748)** for the final assessment. The entire report has been prepared on the basis of appropriate research and relevant data on knitted items. I delivered a lot of effort to compile this report.
May I therefore pray and hope that you would be kind enough to grant and kindly accept this project report and consider it for final assessment.

Yours Sincerely,

Md. Abdullah Al Mamun Associate Professor

Department of Textile Engineering Daffodil International University

ACKNOWLEDGEMENT

First and foremost, I would want to express my gratitude to God for providing me with the chance to finish this project via his eternal mercy.

I respect the advices which getting from **Associate Professor, Mr. Abdullah Al Mamun,** Department of Textile Engineering, Daffodil International University. I have been got motivated to accomplish my assignment by my supervisor's abundance of knowledge and deep expertise in textiles and garments. His unwavering patience, intellectual leadership, relentless support, active supervision, constructive evaluation and sound guidance assist the accomplishment at every stage. Apart from his worthy guidance, this project report would not have been possible.

I would like to thank the company that provided me with an internship and the supervisors who assisted me during my training session.

Last but not least, I would like to express my deepest gratitude to my parents for their unwavering assistance throughout my academic pursuits.

ABSTRACT

The Ready-Made Garment (RMG) sector is the cornerstone of Bangladesh's economy and a key driver of its development. In the Ready-Made Garment (RMG) sector, the sample creation process is essential to achieving customer expectations, guaranteeing product quality, and expediting manufacturing. Receiving the buyer's technical package, often known as the "tech pack," which includes design specifications, measurements, fabric specifics, and trims, usually marks the start of this phase. The initial pattern must be prepared initially, and then the necessary fabric and trims must be sourced and developed. The first development sample or prototype is made once the materials are available in order to assess the precision of the construction and the viability of the design. To guarantee appropriate size and comfort, a fit sample is created after analyzing and taking into account customer input. A pre-production (PP) sample is created after approval to ensure that bulk production will satisfy all requirements. Indepth quality inspections and buyer communication are part of every step. A seal sample, which acts as the standard reference for bulk manufacture, is produced at the end of the procedure. I gained understanding about the sample development process during my internship. The thesis report includes instructions on how to begin and complete the sample development process.

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ABBREVIATIONS

SMV: Standard Minutes Value

TOP Sample: Top of the Production Sample PP Sample: Pre-Production Sample

GPT Sample: Garment Performance Test Sample CI: Commercial invoice

TNA: Time and Action

P/L: Packing List

CAD: Computer-Aided Design

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CHAPTER- 01 INTRODUCTION

1.1 Background of The Study

A vital component of Bangladesh's economy, the ready-made garment (RMG) industry plays a significant role in both employment and export revenue. With over 80% of Bangladesh's overall exports coming from this industry, it is the greatest in terms of export earnings. The RMG business is well known across the world for producing garments on a massive scale, especially for global companies. In Bangladesh, the RMG industry got its start in the late 1970s and early 1980s. Since then, it has expanded quickly, and now, after China, Bangladesh is the world's second-largest supplier of ready-made clothing.

Approximately 4 million people are employed in this region, with women accounting for 80% of those who are employed. This has made a substantial contribution to the nation's initiatives to mitigate destitution and empower women. Bangladesh exports an abundance of clothing items, such as jackets, knitwear, woven clothing, and denim. With expanding exports to more contemporary markets like Japan and Australia, the primary import destinations are the US, the EU, and Canada. Considering its accomplishments, the industry continues to face a number of obstacles, including issues with environmental sustainability, employee security, and labor rights. These issues were identified by the devastating Rana Plaza collapse zin 2013, which claimed the lives of over 1,100 workers and resulted in reforms to safety procedures. The RMG industry is the foundation of Bangladesh's economy, generating job creation, economic development, and foreign exchange profits. Even if the sector has obstacles, particularly with regard to sustainability and working conditions, continuous innovations and reforms are increasing its competitiveness and recognition abroad.

1.2 Objectives of The Study

The clothing industry relies extensively on merchandisers as the intermediary between the buyer and the industry.

Few objectives are given below-

➢ To understand design conceptualization

➢ To evaluate fabric material

➢ To create accurate patterns

➢ To make sure sample garments and make to the correct measurements

➢ To evaluate production costs and work to improve efficiency

➢ To conduct tests for durability

➢ To evaluate suppliers based on their commitment

1.3 Significance of The Study

Now I will describe role of merchandisers? How they face any issues ? /and how students learn from merchandisers ?

In the apparel sector, merchandisers play a critical role in making sure that the products are affordable, match customer requests, and are produced on schedule. The procedures for making clothing or samples, the difficulties they encounter, and the ways in which pupils might pick up tips from merchandisers are as follows:

Steps Taken by a Merchandiser to Create Garments or Samples:

➢ Understanding Customer Requirements

➢ Material Sourcing

➢ Costing and Budgeting

➢ Creating Samples

➢ Sample Approval

➢ Production Planning

➢ Monitoring Production

➢ Quality Control and Final Inspection

Challenges Faced by Merchandisers:

➢ Supply Chain Disruptions: Merchandisers must change schedules or look for other sources

➢ Quality Control Issues: To reduce flaws, merchandisers must put in place efficient quality control procedures.

➢ Cost Fluctuations: Merchandisers must manage cost negotiations and find ways to minimize the impact of these changes on the final product price.

➢ Cultural and Communication Barriers**:** The secret to conquering this obstacle is effective communication.

➢ Meeting Deadlines**:** Despite a number of outside obstacles, merchandisers must make sure that production and delivery happen on time.

How Students Learn Merchandising from Merchandisers?

Internships and Apprenticeships: By working as interns for clothing manufacturers or fashion brands, students can gain personal experience in merchandising.

➢ Case Studies: Case studies of actual merchandising scenarios are frequently used by educators to demonstrate to students how experts handle problems like supply chain interruptions or quality concerns.

➢ Workshops and Seminars: A lot of fashion schools hold seminars or workshops where seasoned merchandisers share their knowledge and perspectives. The most recent developments in production techniques, merchandising tactics, and material sourcing are available to students.

➢ Project-Based Learning**:** Students in these programs engage on projects that mimic the duties of a merchandiser, devising and producing their own product samples, learning how to budget and schedule manufacturing, and practicing quality control.

1.4 Limitation of The Study

1. Due to certain limitations, we are unable to obtain all the data.
2. And there was the matter of time.
3. Little instruction or direction
4. A quick- paced area
5. Physical demands
6. Cultural demands

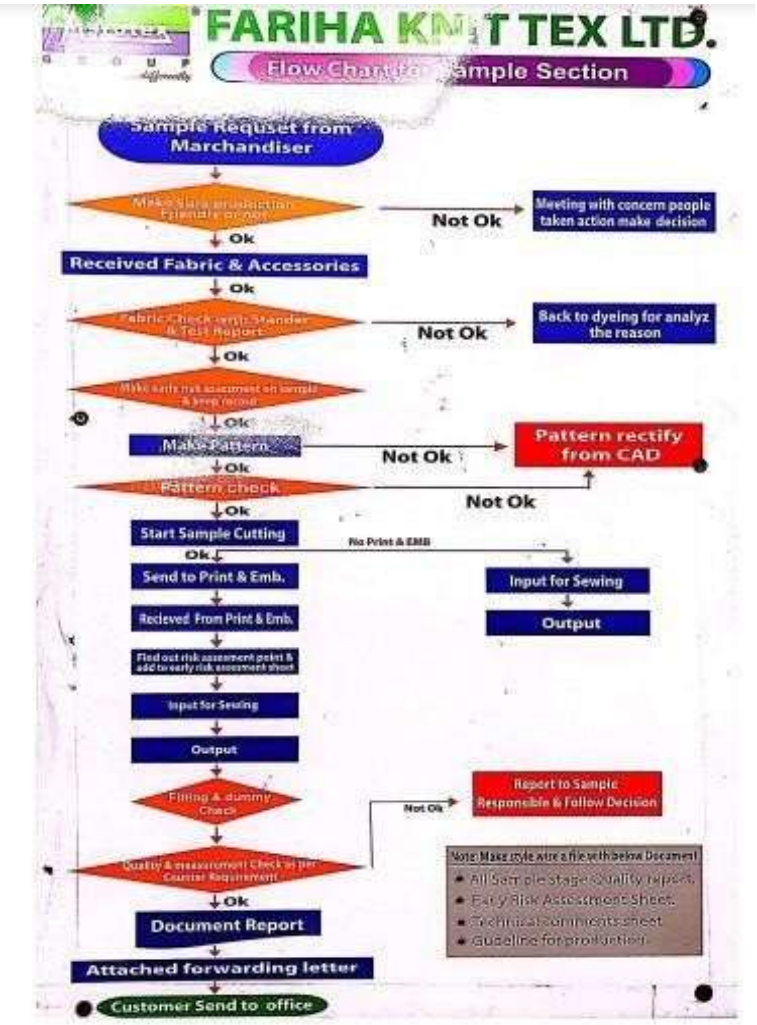
CHAPTER-02 LITERATURE REVIEW

2.1 Garments Sample:

Before mass manufacturing starts, a garment sample is a prototype or example item of clothing made during the production process to assess the fit, design, and quality. It acts as a point of reference for the client and the manufacturer to make sure the finished product lives up to expectations. The following categories of clothing samples are commonly utilized .

1. Pre-Production Sample (PP Sample)
2. Salesman Sample
3. Fit Sample
4. Proto Sample (Prototype)
5. Shipping sample
6. Size set sample
7. Development sample
8. Wash / color approval sample
9. Production sample
10. Photo sample

2.2 Garment Sample/ Product development flow chart:



2.2 Sampling Development:

For the clothing industry to grow and succeed, sampling is essential. Before mass production starts, it enables designers and manufacturers to test the market's

reaction, evaluate manufacturing viability, and envision their products. Technological developments like computer-aided design (CAD) and 3D sampling have transformed the process over time, cutting costs and expediting turnaround times. By using eco-friendly materials and reducing fabric waste, modern sampling processes also prioritize sustainability. These advancements meet the increasing demand from consumers for sustainable and ethical fashion while also improving the efficiency of clothing manufacture.

2.2.1 Receive a Tech Pack from buyer

In the apparel industry, a tech pack—short for "technical package"—is an essential document that acts as a guide for creating and designing clothing. It offers thorough information and guidelines to guarantee that the garment is made just as the designer intended. By facilitating communication between designers and producers, a tech pack helps reduce mistakes and boost manufacturing efficiency.

Key Components of a Tech Pack:

1. Technical Sketches
2. Specifications (Specs)
3. Bill of Materials (BOM)
4. Construction Details
5. Colorways and Artwork
6. Packaging and Labeling

2.2.2 Different types of raw Material Sourcing:

Material sourcing is a critical step in the garment manufacturing process. It involves the identification, procurement, and management of raw materials such as fabrics, trims, and accessories needed to produce clothing. Efficient material sourcing ensures quality, cost-effectiveness, and sustainability in the supply chain. Here's an overview of the key aspects of material sourcing in the garment industry:

2.2.3 Cutting Fabric

In order to cut fabric into precise pieces for sewing or crafting, tools are used to shape and separate the fabric. This is the standard procedure:

1. Prepare to the Fabric
2. Measure and Mark
3. Select Appropriate Tools
4. Choose the Right Tools
5. Cutting
6. Edge Finishing

2.2.4 Sewing garments

Making clothes by sewing fabric pieces together using a sewing machine or a needle and thread is known as sewing. Choosing the right fabric and pattern, which acts as a template for cutting the fabric, is the first step. After that, the fabric is cut into precise pieces based on the pattern and design. Depending on the needs of the garment, these sections are put together by stitching the edges together using different kinds of stitches, like ornamental, zigzag, or straight stitches.

2.3.Embroidery Section

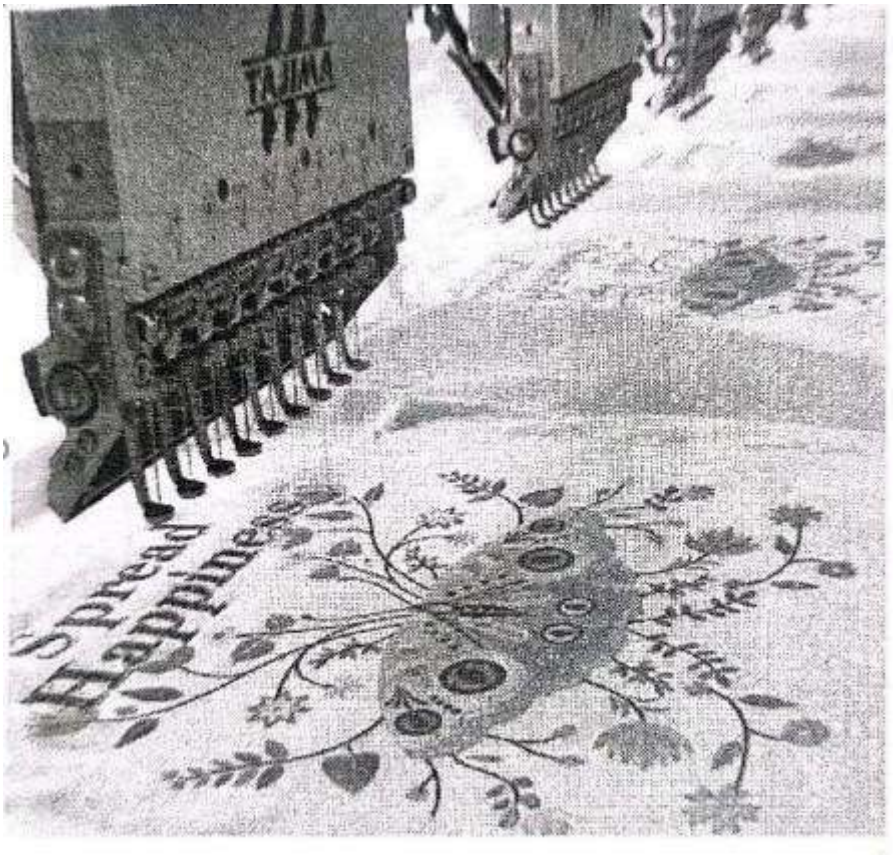


Fig: Embroidery

Satin,Tatami, Run Stitch,Patch embroidery, Multi color embroidery, Glow in the dark embroidery

Printing section

Fig:**Screen printing**

Pigment print, Rubber print, High density print, Glitter print, Foil print, Crack print, Glow in the Dark print, Plastisol print , Volcanic Print, Hot fix sticker attachment

Sewing garments

Making clothes by sewing fabric pieces together using a sewing machine or a needle and thread is known as sewing. Choosing the right fabric and pattern, which acts as a template for cutting the fabric, is the first step. After that, the fabric is cut into precise pieces based on the pattern and design. Depending on the needs of the garment, these sections are put together by stitching the edges together using different kinds of stitches, like ornamental, zigzag, or straight stitches.

2.3. Key Types of Measurements in the Garments Industry: **Body**

Measurements:

1. Bust/Chest 2.Waist

3.Hip 4.Inseam

5.Sleeve Length 6.Neck 7.Height

Garments measurements

1. Bust/Chest Width
2. Waist Width
3. Waist Width
4. Length
5. Sleeve Width and Length
6. Shoulder Width
7. Neckline

2.4.1 Differents types of sample and explanation

1. PP Sample:

A pre-production garment sample is a prototype used to assess and improve a garment's fit, fabric, design, and general structure before mass production starts. It is a crucial stage in the manufacturing process that enables designers, producers, and quality control groups to evaluate and make the required modifications.

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Key characteristics of a pre-production garment sample include:

1. Design Confirmation
2. Fit and Sizing
3. Fabric Testing
4. Construction Quality
5. Approval Stage

2. SALESMAN SAMPLE:

In the apparel industry, a salesman sample is a prototype or sample of clothes made by designers or manufacturers to present a new collection or style to prospective customers, such as distributors, fashion buyers, or owners of retail stores. Prior to mass manufacturing, these samples are usually employed in the sales and marketing stage. They aid in showcasing a garment's fit, design, fabric quality, and craftsmanship.

Salesman samples are typically made in small quantities and could not be offered for sale until the collection is complete and prepared for production. Depending on the situation, they may be digital representations or tangible samples. These samples are intended

2. REFERENCE SAMPLE:

A reference sample in the apparel industry is a model or prototype of a garment that is used as a guide or benchmark for mass manufacturing. In order to guarantee that the finished product satisfies the required standards in terms of fit, fabric, stitching, color, and overall design, it is usually made after the design and development stage.

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3. PROTOTYPE SAMPLE:

A prototype sample is an early iteration of a design made to test and assess the fabric, construction techniques, fit, and design concept in the apparel business. Before mass production starts, it acts as a proof of concept.

1. Design Development: A designer develops a concept, which may involve technical specs, fabric choices, and sketches.

2. Pattern Making: The design, which specifies the proportions and structure of the garment, is used to generate a pattern.

3. Sample Creation: The first sample garment is made by cutting fabric according to the pattern. Usually, this sample is created by hand or in limited quantities.

4. Evaluation and Fit: The prototype's comfort, style, and fit are all tested. If required, changes are made to the design in response to input from fit models, designers, and pattern makers.

5. Final Approval: The prototype is authorized for additional sampling or production when it satisfies all design, quality, and cost requirements.

6. The prototype sample is crucial for seeing problems early and making sure the finished item of clothing satisfies the designer.

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4. SHIPPING SAMPLE:

A shipping sample is a sample of the finished product made prior to the bulk dispatch of an order in the apparel industry. Usually, this sample is made to make sure the manufactured clothing satisfies the buyer's expectations, quality standards, and necessary specifications.

Purpose:

- The shipping sample serves as a final approval sample for the buyer to It ensures that the finished garments match the design, materials, colors, sizes, and quality agreed upon during the production process.
- Review before the goods are shipped.

5. SIZE SET SAMPLE:

A collection of clothing made in every size meant for a certain design or style is referred to as a "size set sample" in the apparel industry. In order to guarantee that the fit, measurements, and proportions are precise for all sizes, these samples are made at the pre-production stage. Here is a thorough explanation:

Size Set Samples Objective:

1. Fit Validation: Verifies that every size, from the smallest to the largest, of the garment fits properly.
2. Measurement Accuracy: Confirms that every measurement complies with the tech pack's requirements (a document that describes construction, measurements, and design).
3. Quality Check: Finds any problems with construction, fabric behavior, or stitching that might vary between sizes.
4. Approval Process: Assists quality control teams, purchasers, and designers in approving the sizing prior to mass production.

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Process:

1. Pattern Grading: Using the basic size as a guide, patterns are scaled to produce a range of sizes.

2. Sample Production: Usually in limited amounts, clothing is made in all sizes.
3. Fitting Sessions: To ensure comfort and uniformity, each size is tried on mannequins or fit models.

4. Modifications: In the event that disparities are discovered, the patterns are modified and fresh samples could be produced.

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Importance:

Establishing a size-set sample guarantees consistency and lowers the possibility of size-related grievances or returns after the product is on the market. It is an essential step in preserving client happiness and brand reputation.

6. Photo shoot sample

In the apparel industry, a photo shoot sample is a particular garment prototype made for marketing and promotion. In professional photo sessions, this sample is utilized to highlight the clothing item's overall attractiveness, fabric, fit, and design. It is essential to brand presentation and visual merchandising. The following are important elements of a sample photo shoot for the clothing industry

Goal

1. To draw attention to the clothing's qualities (such as fit, color, style, and fabric).
2. To produce advertising, social media, websites, and catalog promotional content.
3. To showcase the clothing in the greatest possible way in order to draw in buyers, merchants, and consumers.

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7. COUNTER SAMPLE

A counter sample is a reference sample made by a manufacturer to match the original sample or design supplied by a buyer in the apparel business. It acts as a standard for fit, design, quality, and construction specifics. Before starting bulk manufacturing, the counter sample is frequently utilized for approval.

Important Features of a Counter-Sample:

1. Its goal is to guarantee that the manufacturer has accurately comprehended the buyer's specifications and is capable of reproducing the design to the required level.
2. Materials: The fabric, trims, and accessories used in the original design are typically used in its creation.
3. Approval Process: The buyer examines the counter sample to make sure it satisfies all requirements, including those related to dimensions, stitching, and finishing.
4. Types:
    - Fit Sample: Focuses on the garment's fit and measurements.
    - Pre-Production Sample: Represents the final product, including all details and branding elements.

8. Production Sample:

A production sample is a model or prototype of a garment made at the preproduction stage in the apparel business. It is a crucial tool for making ensuring the finished product satisfies the required requirements for fit, functionality, design, and quality. Key components of a production sample

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include the following:

- **Purpose**:

1. To verify that the garment can be produced as designed using the selected materials, trims, and construction methods.

2. To serve as a reference for mass production, ensuring consistency in quality and appearance.

Qualities:

The real materials, trims, and accessories meant for the mass production are used in its creation.
Measurements, stitching, and finishing details are all in accordance with the authorized patterns and specifications.

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Procedure:

Usually, the prototype or fit sample is approved before the production sample is made. To ensure that the production line can reliably repeat it, it goes through stringent quality inspections.

Relevance:

1. Assists in locating and resolving possible production problems prior to the start of mass production.
2. Serves as a standard for production-related quality control.
3. Guarantees that the manufacturer's output and the buyer's expectations are in line.

Merchandising Process During Sampling in the Garments Industry:

In the apparel industry, merchandising is essential to closing the gap between consumers and producers. A crucial step in this workflow is the sampling procedure, which establishes the framework for the production process and guarantees conformity with customer specifications. An extensive examination of the merchandising procedure at the sample stage is provided below.

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1. **Recognizing the needs of the buyer**

Understanding the wants and expectations of the customer is the first step in the merchandising process. The buyer provides a tech pack or specification sheet to merchandisers, which usually consists of:

1. CAD files or design sketches
2. Details of the fabric (kind, composition, and weight) 3,Requirements for trims and accessories 4.Tolerances and measurement charts
5. Details of the embellishment (printing, needlework, etc.) 6.Instructions for packaging

2. Development and Sourcing of Materials

1. The merchandiser works with suppliers to find raw materials after understanding the buyer's requirements. This includes:

2. Acquiring trimmings, accessories, and fabric swatches.
3. Creating strike-offs, yarn-dyed designs, or lab dips to satisfy the buyer's color requirements.
4. Confirming that materials fulfill quality requirements, such as environmental compliance, Colorfastness, and durability.
5. In order to prevent delays in sample development, timely sourcing is crucial.

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3. Development of Samples

Depending on the needs of the buyer, different kinds of samples are created throughout the sample development phase. These consist of:

Proto Sample: A simple sample used to validate the original structure and design. Fit Sample: Emphasizes fitting and dimensions.
Salesman Sample: For presenting to possible customers or merchants.
Pre-production Sample: Before mass production, the final sample is authorized.

4. Follow-ups and Communication

An essential component of the merchandising process is effective communication. Merchandisers and buyers communicate constantly in order to:

Ask for clarifications on any unclear design or material. Give progress reports on the sampling.
Refine samples by swiftly responding to criticism.
Frequent follow-ups guarantee that any changes or amendments are applied promptly.

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Quality Control

Every step of the sample procedure is subject to quality inspections. Merchandisers make certain

The overall polish, fit, and stitching all satisfy the necessary requirements. Performance tests are conducted on fabrics and trimmings (e.g., shrinkage, colorfastness).

There are no flaws or irregularities in the samples.

In addition to impressing customers, high-quality samples foster trust and open the door to enduring comm

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6 . Costing and Approval

Merchandisers prepare a detailed cost sheet during the sampling process, which includes:

- Material costs (fabric, trims, etc.)
- Labor costs for sample development
- Overhead and transportation expenses

7. Documentation and Record Keeping

Accurate documentation is crucial for tracking and future reference. Merchandisers maintain records of:

- Buyer communications and approvals
- Sample specifications and revisions
- Material sourcing details
- Costing breakdowns

Challenges in the Sampling Process

The sampling procedure is difficult despite its significance:
Misunderstandings between manufacturers and buyers.
Delays in the acquisition of materials.
Rejections because of poor quality or failure to meet buyer expectations.
Frequent design modifications that add time and expense.

CHAPTER-03 METHODOLOGY

Description of tech pack:

In the apparel industry, a tech pack—short for "technical package"—is an essential document that buyers give to manufacturers. It guarantees uniformity and clarity throughout the manufacturing process and acts as a guide for creating a particular item of clothing.

What is contained in a tech pack?

1. **Cover page:**

➢ Name and logo of the brand
➢ Name and number of style: a special number for the item of clothing.
➢ Collection and season: Denotes the period and set of designs.
➢ Details about the designer: Name and contact information.
➢ Date: To monitor the most recent tech pack version.

2. Technical Illustrations

➢ Flat sketches are precise, well-proportioned line drawings of the item of clothing from the front, rear, and side.

➢ Emphasize particular design components, such as buttons, zippers, pockets, seams, etc.

3. Bill of Materials (BOM)

A thorough inventory of all the supplies and trimmings needed, such as:

➢ Fabric: Finish, color, weight, composition, and kind.

➢ Trims: Threads, labels, buttons, zippers, etc.

➢ Accessories: Any extra ornamental or practical components.

➢ Codes and supplier information for simple sourcing.

4. Color schemes

➢ Possibilities for the garment's color.

➢ Custom color references or Pantone codes.

6. Size and Measurement Chart

➢ Each size's precise measurements (e.g., XS, S, M, L).

➢ Drawings of points of measurement (POM) to make the locations of measurements clear.

➢ Tolerances for permissible production variances.

7. Construction Details

➢ Stitch types and placements.

➢ Seam types (e.g., overlock, flatlock).

➢ Assembly instructions for each component.

8. Prints and Artwork

1. Positioning and dimensions of prints, embroideries, logos, and other decorations.
2. For accuracy, use vector graphics or digital files.

9. Packaging and Labeling

➢ Label placement and requirements for brand, size, and care labels.
➢ Information on the packaging, including barcodes, size of the polybag, and folding instructions.

Compliance and Testing

➢ Requirements for evaluating fabrics and clothing

➢ Standards for compliance

Buyers of ASROTEX Group

Buyer: S. Oliver

Industry	Fashion
Type	Public
Founded	1969
Sourcing Office	India, China, and Bangladesh.
Head Office	Rottendorf, Germany
Annual Revenue	: 1B EUROS

PRODUCTS:

Currently, the s.Oliver brand has three lifestyle divisions that cater to distinct buyer groups. The company's biggest division, Oliver Casual, specializes on leisure fashion for both men and women. While s.Oliver Selection caters to a more affluent demographic with a generally subtle style, QS by s.Oliver

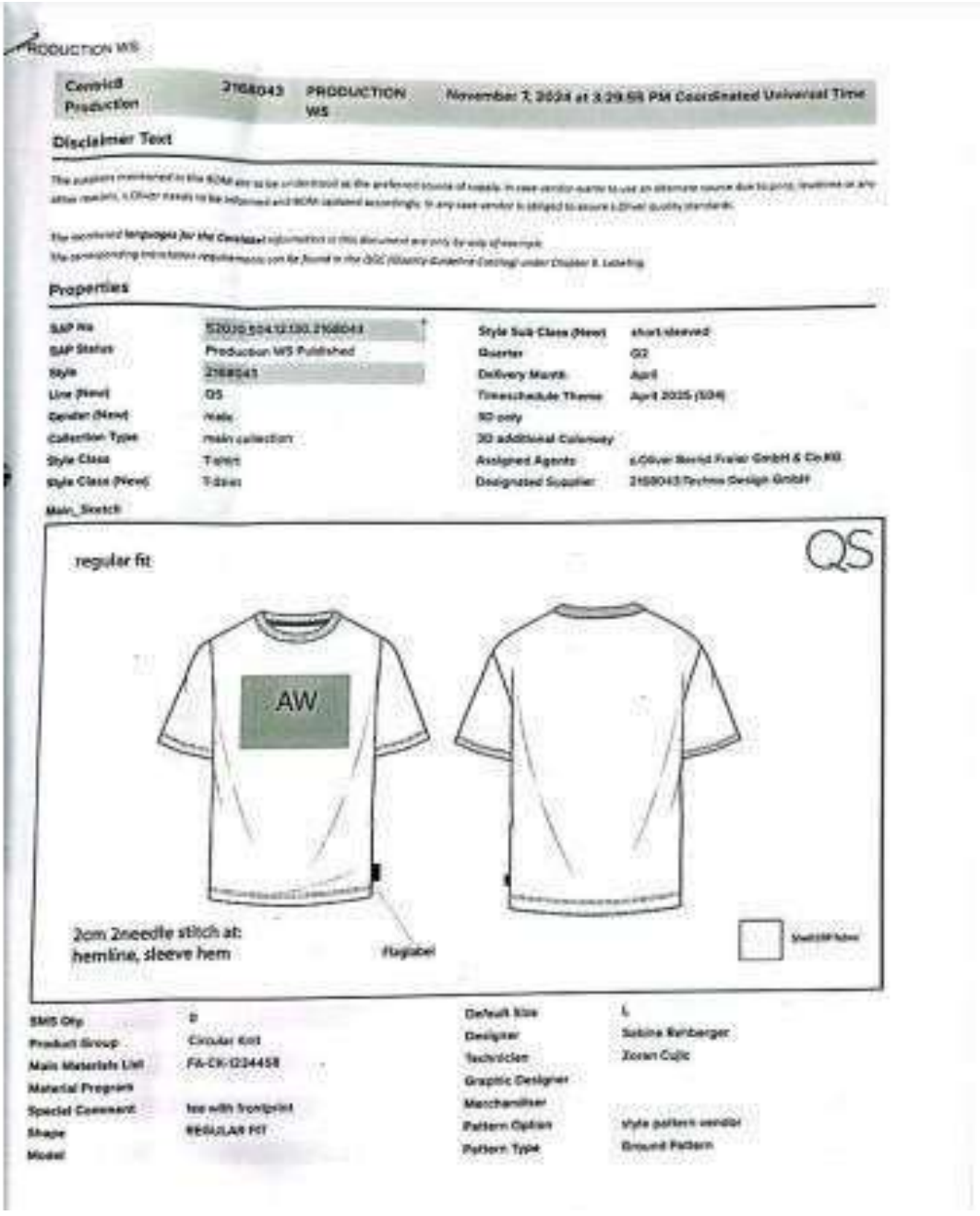

FIG: Master product view

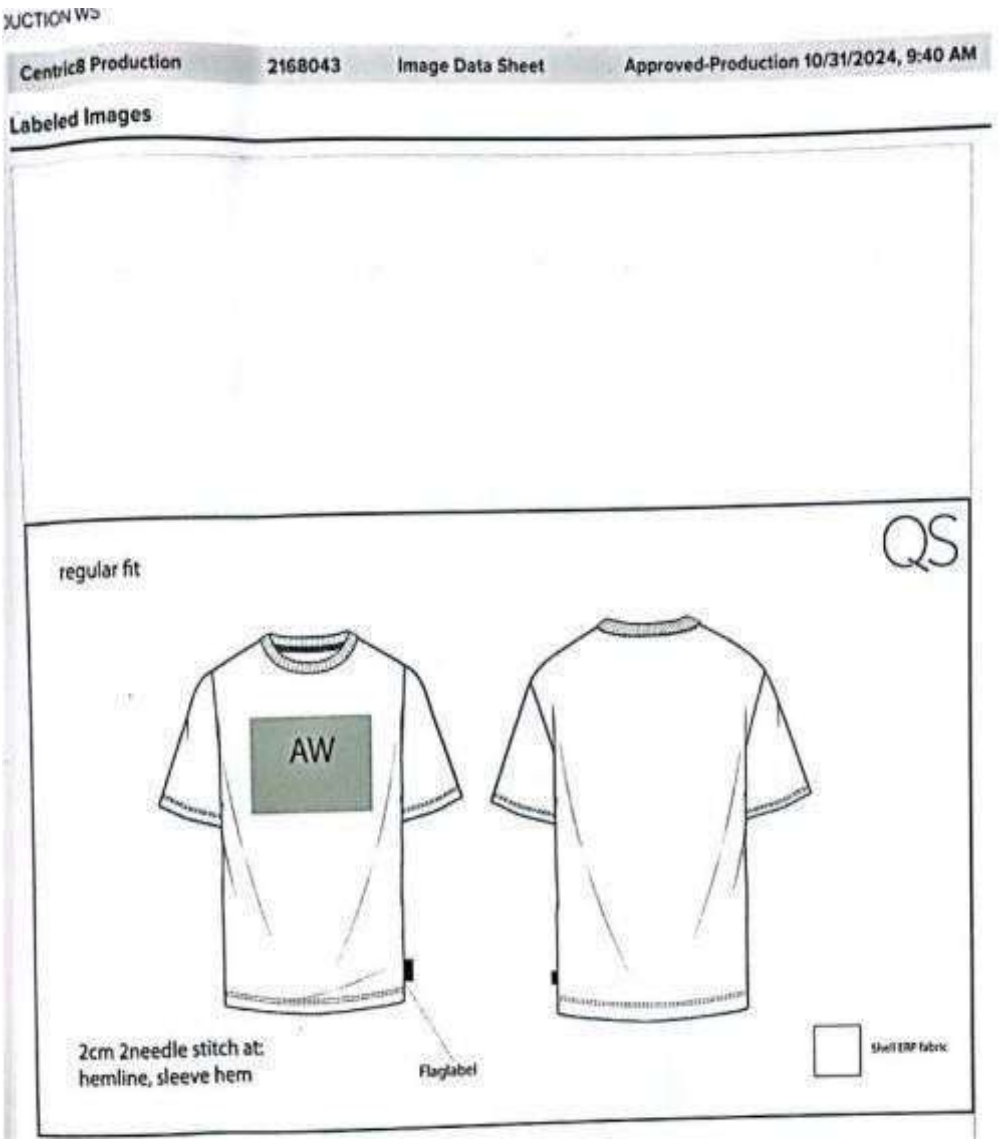

Fig: labeled image

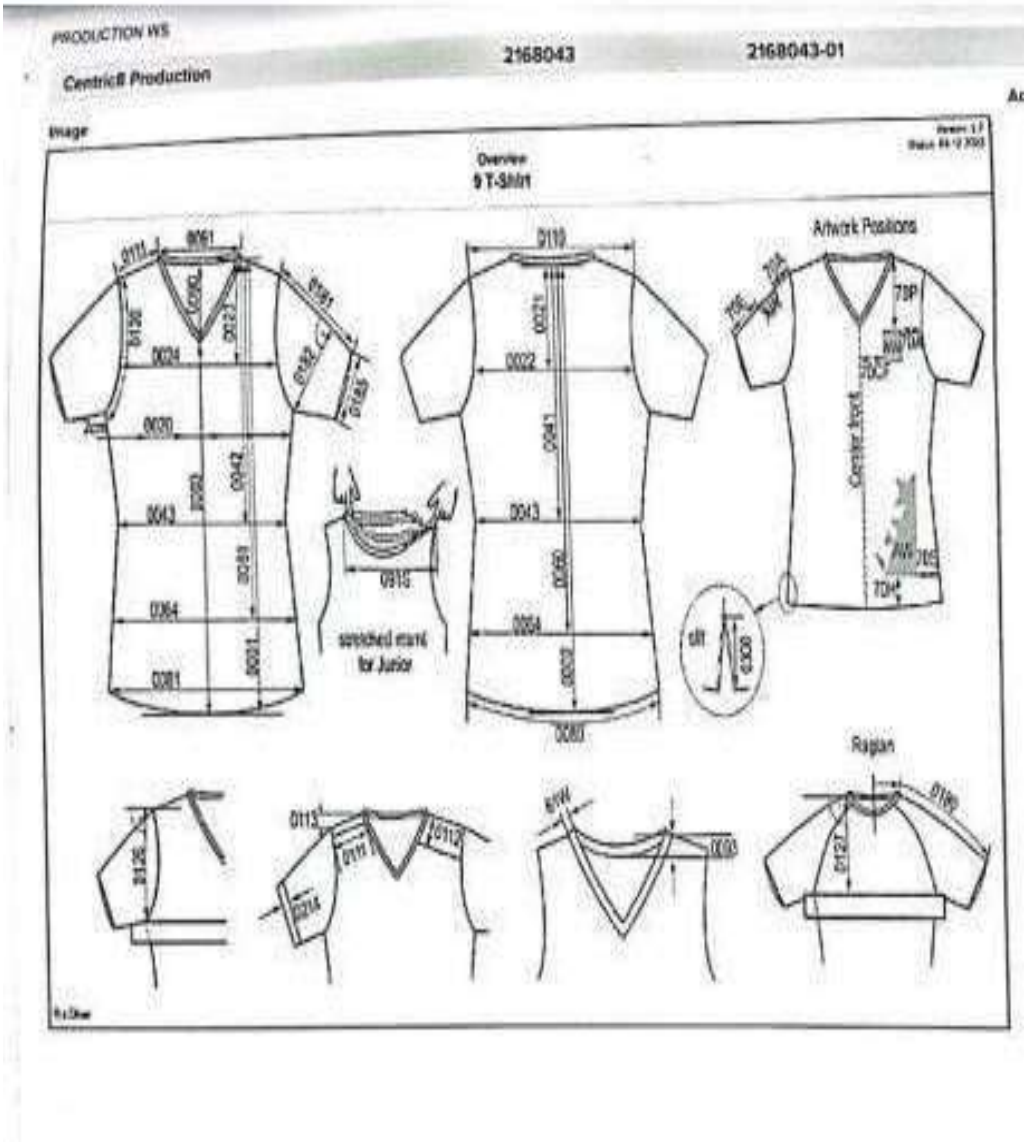

Fig: pattern view

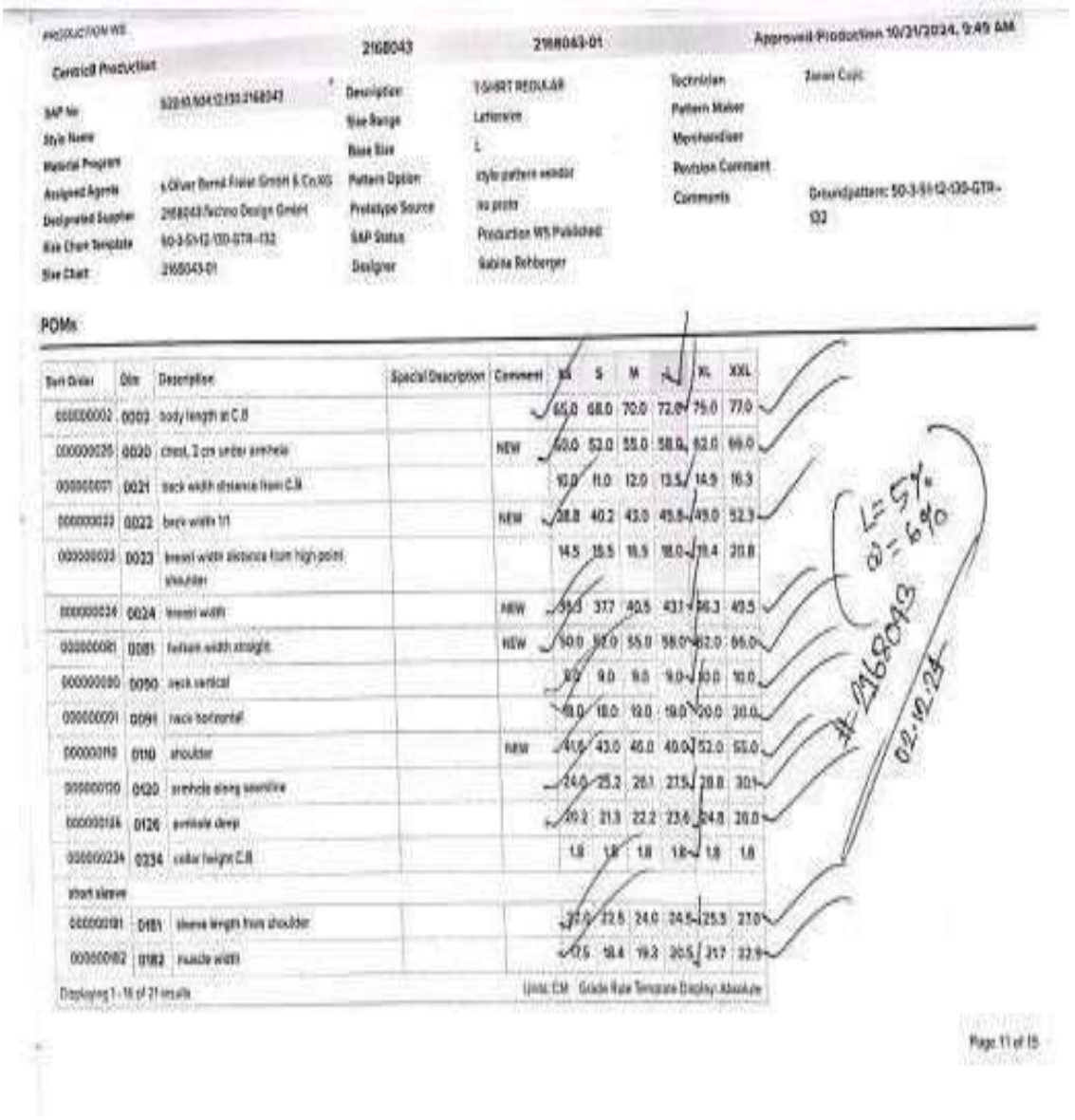

Fig: size measurement

Buyer : AS COLOUR

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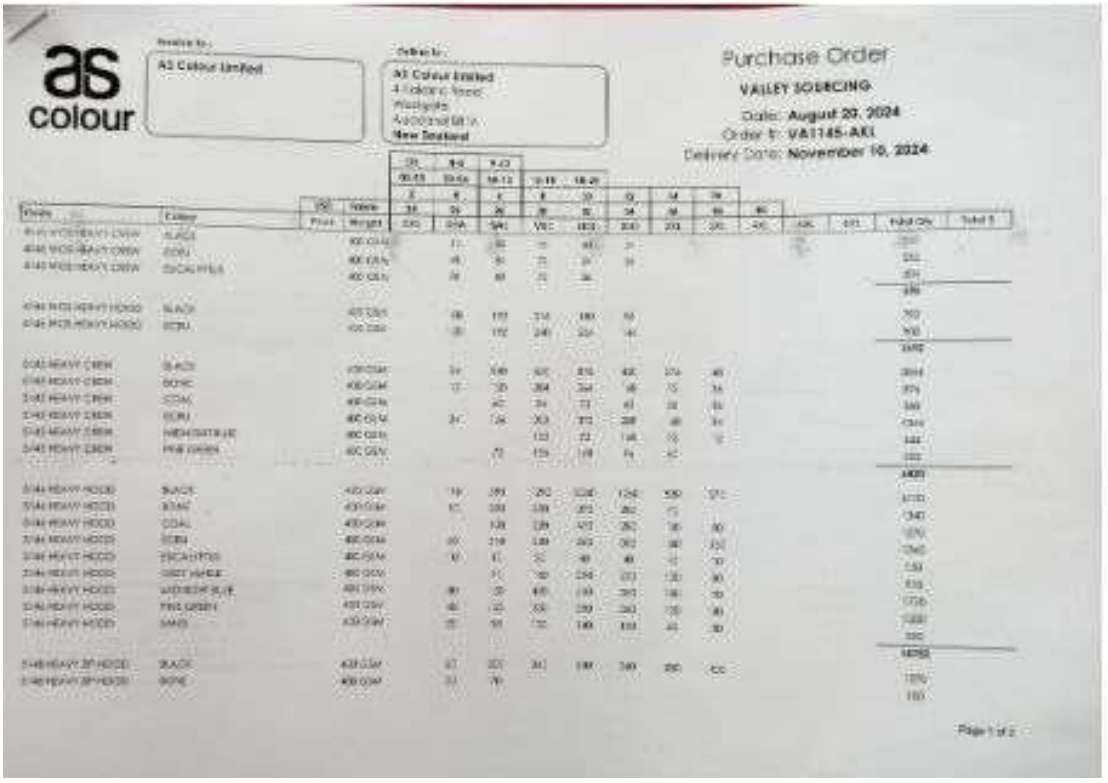
Established in 2005 in Auckland, New Zealand. At AS Colour, we firmly believe that longer-lasting products are better for the environment. By creating exceptional quality garments built to last, we aim to reduce waste and encourage conscious consumption. Our foundation for quality is set around the fit, fabric, and finish. These three pillars guide us in every step of our design and manufacturing process. The combination of the perfect fit, high-quality fabric and exceptional finish is what makes AS Colour the top

choice for quality

Industry	Fashion
Company Size	200-250 employees
Type	Public
Founded	2005
Sourcing Office	India, China, and Bangladesh.
Head Office	Auckland, New zealand
Annual Revenue	: $ 35 M



Purchase Order

VALLEY SOURCING

Date: August 20, 2024

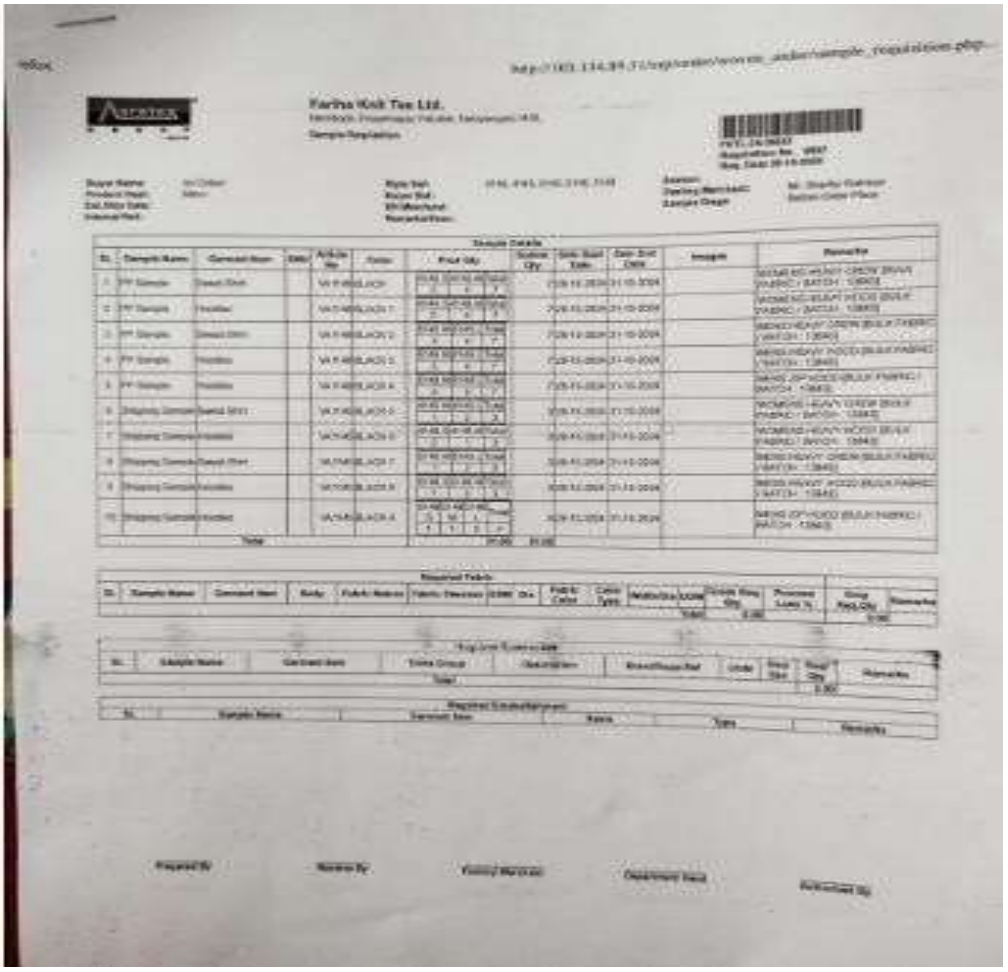
Order #: VA1145-AKL

Delivery Date: November 10, 2024

Fig: PO sheet

Fig : size measurement chart

A reference manual that details body dimensions for different standard sizes is called a clothing size measurement chart. In order to guarantee that clothing fits properly, these charts are crucial.



Fig; sample cutting program

Sample cutting program

A methodical strategy used in the clothing business to guarantee that fabric pieces are cut precisely for making sample garments is known as a garment sample cutting procedure. Before starting mass production, this program is essential for determining whether designs, patterns, and production procedures are feasible.

Approval of the Preparation Phase Pattern:

Make sure the technical and design teams approve the finished pattern. If more than one size is needed, the patterns should be graded.

Choosing a Fabric:

Make use of the fabric that is listed in the tech pack or design sheet. Verify the width, quality, and flaws of the fabric.

Creating Markers:

Make a marker arrangement to make the best use of the cloth.

For accurate marker planning, use CAD software; for small batches, use manual methods.

2. Fabric Spreading in the Cutting Phase:

Evenly distribute the layers of fabric on the cutting table.

To preserve the quality of the cut pieces, align the fabric's grains. Positioning of Markers:

Make sure the marker is aligned with the patterns and grainlines on the cloth spread.

Cutting

Swatch Submission to Buyer for Approval:

Fig 3.1.5: Swatch Submission to Buyer for Approval

CHAPTER-04 DISCUSSION OF RESULTS

4.1 Tech pack interpretation:

In the fashion and apparel industry, a tech pack, which stands for technical package, is an essential document that conveys the needs and specifications needed to manufacture a garment. It acts as a guide for creating a final product from a design concept.

4.2 Men and women hoodie:

Cover page

- **Style Name/Number:** 4145,4146,5145,5146,5148
- **Brand Name:** As colour
- **Season/Collection:** Winter
- **Date:** As per buyer requirements

2. Technical sketch

- Front and back views of the hoodie.

- Side views if necessary.
- Detailed close-ups of unique design features (e.g., pockets, drawstrings, zippers).

Materials and Fabrics

- Main Fabric**:** Type, weight, composition, and color.
- Ribbing Fabric**:** Details for cuffs, hem, and neckline ribbing.
- Lining Fabric (if any**):** Specifications for the lining material.
- Hood Material**:** Fabric details for the hood if different from the main body.
- Drawstring: Material, thickness, and color.

4.3 Art work study

An artwork study based on clothing usually include examining or producing art that draws inspiration from textiles, fashion, or apparel. This can include a number of elements, including the clothing's style, texture, color, cultural significance, or historical setting.

4.4 Sample Requisition Form

AS COLOUR LTD

5148 HEAVY ZIP HOOD

REQUIRED MEASUREMENTS:		GRADE	XS	S	M	L	XL	2XL	3XL	TOL	
A	SHOULDER POINT TO POINT	2	54	58	58	60	62	64	66	(+/-1)	
A1	SHOULDER SLOPE	0	8.5	8.5	8.5	8.5	8.6	8.7	8.8	1	
A2	SHOULDER ROLL FORWARD	0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	(+/-0)	
B	1/2 XCHEST- 15cm FROM HSP	2	51	53	55	57	59	61	63	(+/-1)	
C	1/2 CHEST	3	57	60	63	66	69	72	75	(+/-1)	
D	1/2 WAIST 14cm FROM ARMHOLE	3	54	57	60	63	66	69	72	(+/-1)	
E	1/2 HEM @ MIDDLE OF RIB	3	48	51	54	57	60	63	66	(+/-1)	
E1	1/2 HEM @ AT SEAM (FOR BODY'S PAPER PATTERN)	3	50	56	61	64	67	70	73	(+/-1)	
F	HSP LENGTH TO HEM	0.5	68.5	71	73.5	76	78.5	81	83.5	(+/-1)	-0.5cm in length
G	SLEEVE LENGTH	2	62	64	66	68	70	72	74	(+/-1)	
H	ARMHOLE DEPTH MEASURES STRAIGHT	1	24	25	26	27	28	29	30	(+/-0.5)	
I	SLEEVE WIDTH at underarm	1	24	25	26	27	28	29	30	(+/-0.5)	
I1	SLEEVE WIDTH 16CM FROM RIB	1	17	18	19	20	21	22	22	(+/-0.5)	
J	1/2 CUFF @ MIDDLE OF RIB	0.5	8.5	9	9.5	10	10.5	11	11.5	(+/-0.5)	
J1	1/2 CUFF ON FABRIC 1CM ABOVE RIB	0.5	12	12.5	13	13.5	14	14.5	15	(+/-0.5)	
J2	1/2 CUFF @ AT SEAM (FOR BODY'S PAPER PATTERN)	0.5	13.8	14.4	15	15.6	16.2	16.8	17.4	(+/-0.5)	
J3	1/2 CUFF 5CM FROM SEAM (FOR BODY'S PAPER PATTERN)	0.5	14.8	15.4	16	16.6	17.2	17.8	18.4	(+/-0.5)	Measurement added
K	NECK WIDTH	0.5	26.5	27	27.5	28	28.5	29	29.5	(+/-0.5)	
L	FRONT NECK DROP FROM HSP	0	9	9	9	9	9	9	9	(+/-0.5)	
L1	BACK NECK DROP FROM HSP	0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	(+/-0.5)	
M	HOOD LENGTH at front edge	0	38	38	39	39	39	39	39	(+/-1)	
N	HOOD LENGTH at shoulder seam	0	36	36	36	36	36	36	36	(+/-1)	
O	HOOD WIDTH widest point -14cm down from top edge	0	28	29	29	29	29	29	29	(+/-1)	
P	POCKET WIDTH AT TOP	0	30	30.5	31	31	31	31	31	(+/-1)	+1cm in width
P	POCKET WIDTH AT BASE	0	36	36.5	37	37	37	37	37	(+/-1)	+1cm in width
Q	POCKET WIDTH AT CENTER	0	40	40.5	41	41	41	41	41	(+/-1)	+1cm in width
R	POCKET LENGTH AT SIDE	0	9.5	10	10.5	10.5	10.5	10.5	10.5	(+/-1)	+1.5cm in height
S	POCKET LENGTH AT CENTER	0	22	22.5	23	23	23	23	23	(+/-1)	+1cm in height
T	RIB HEIGHT FOR BODY	0	6	6	6	6	6	6	6	(+/-0.5)	

FABRIC:

BASE CLOTH	80% Cotton 20% Recycled Polyester 450GSM OVC FLEECE. CUT ONE WAY A & B
RIB	DTM FOR BODY HEM AND SLEEVE CUFF 88% cotton 2% lycra 2x2 rib 320 gsm
HOOD LINING	SAME AS MAIN BODY

TRIMS/ACCESSORIES:

NECK TAPE	DTM COTTON HERRINGBONE TAPE
THREAD	100% POLYESTER DYED TO MATCH BASE CLOTH
ZIP	YKK NICKLE SILVER METAL 3 WAY ZIPPER NO.5
MAIN LABEL	INSERT TO CENTRE BACK TAPE

STITCHING / SEAMING DETAILS:

TWIN SEAM	FIVE THREAD SAFETY OVERLOCKING SEAM FOR ALL SEAMS
TWIN TOP STITCHING	AT NECK SEAM 6MM
TWIN NEEDLES	TWIN NEEDLE ROWS APART 6MM AT POCKET OPENING ACROSS CUFF SEAM, BODY HEM AND SLEEVES
STITCHING LENGTH	11-12 STITCHES PER INCH (FOR SEAM AND TOPSTITCHING)
SEAM WIDTH	SIDE SEAM TO BE 7MM WIDE

SPECIAL INSTRUCTIONS:

PRESSING	SHRINKAGE CONTROL WITHIN 4%
WASHING	[redacted] / Pre-Shrink
FABRIC TEST	Colour Fastness, Shrinkage, Twisting , Anti-pilling testing, front ngs report

4.5 Buyer's comments

Reply Reply All Forward

Tue 12/17/2024 9:49 AM

Mohammad Alamin <alamin@valleysourcing.com>

pp comment

To Sharifur Rahman

Cc Rocky Saha; shahana@valleysourcing.com; albert@valleysourcing.com; sohelalom@valleysourcing.com; Md. Mahedi Hossain; mdkal@valleysourcing.com

Dear Mr. Sharif

Pls see the below comment

VA1149-5149
Fabric Swatch
Midnight Blue-Approve
Pine Green-Reject- Reduce 5% yellow tone
Eucalyptus-Reject- Make shade 5% lighter
Coal-Approve

PP Sample
Style 5145
Coal-Approve
Eucalyptus Reject- Make shade 5% lighter
Pine Green- Reject- Reduce 5% yellow tone
Midnight night-Approve
Black-Approve

Chapter : 5 Conclusion

In the apparel business, the sample development process is a crucial step that connects a design's conception to its final manufacturing. Before a garment is mass-produced, this method acts as a litmus test for its viability, quality, and marketability. The sample development process guarantees that designs satisfy industry standards, client specifications, and customer preferences through careful preparation and implementation.

Fundamentally, the process consists of a number of crucial processes, including as designing, creating patterns, choosing fabrics, building prototypes, and testing fit. Every step is essential to spotting possible issues that could affect the production schedule and expenses, like fabric compatibility, stitching methods,

and design scalability. Manufacturers can minimize production errors, eliminate waste, and maximize resource use by addressing these challenges during sample development.

Additionally, designers, pattern makers, and production teams work together to ensure that innovative concepts are turned into useful, usable clothing. Feedback loops involving stakeholders and clients improve the samples' economic viability by refining them even more. This process's iterative nature encourages innovation by enabling the testing of novel materials, technologies, and design approaches.

REFERENCE

PIYAS SAHA, Apparel Merchandising , Daffodil International University
Fariha Knit Tex Ltd.

Sample Development

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