



Faculty of Engineering

Department of Textile Engineering

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A thesis submitted in Partial Fulfillment of the requirements for the degree of

Bachelor of Science in Textile Engineering

Advance in Apparel Manufacturing Technology

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LETTER OF APPROVAL

March 04, 2023

To

The Head

Department of Textile Engineering

Daffodil International University

Daffodil Smart City, Ashulia, Savar, Dhaka.

Subject: Approval of Thesis of B.Sc. in TE Program.

Dear Sir,

I am just writing to let you know that this thesis titled as “ **Study on Sample Development Plans for Knit Garments** ” has been prepared by the student bearing ID **191-23-571** and **191-23-690** is completed for final evaluation . The whole report is prepared based on the factory data with required belongings. The students were involved in thesis activities and the report become vital to spark of much valuable information for the readers.

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

Yours Sincerely,



Mst. Murshida Khatun

Assistant Professor

Department of Textile Engineering

Faculty of Engineering

Daffodil International University

DECLARATION

We hereby declare that the work which is being presented in this report entitled, “ **Study on Sample Development Plans for Knit Garments** ” is original work of our own, has not been submitted for a degree of any other university and all the resource of materials uses for this thesis have been properly acknowledged.

Emon Hazari

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DEDICATION

We would like to dedicate this report to our **Parents** for giving us the opportunity to pursue a degree in Textile Engineering and for their unwavering support.

ABSTRACT

Sample development is the first stage of an order confirmation from the buyer. The manufacturer faces a hurdle in producing the ideal sample clothing. The ability and identity of the maker to the buyer is demonstrated by a sample of an order. After getting the sample garment, if they are satisfied, they will place this order with the manufacturer. A clothing industry solely functions based on order availability. An merchandiser assists in obtaining the order. They get in touch with the buyer and get an order. But, following receipt of the sample, the buyer confirms the order. Once everything is in order, they examine the essentials for the clothing before placing the order. As a result, both the manufacturer and the buyer place the highest priority on the sample garment. With this thesis, we aim to understand the sample development process from the very beginning to the very end. What types of documents the buyer must approve. Some of the things that must be taken care of carefully. We collaborated with that industry while working on this thesis, either directly or indirectly, which helped us learn so much about the sample development process and what a merchant's duties are in this industry. Typically, a sample garment is produced by adhering to a document that the buyer supplies. The tech pack is a document provided prior to order confirmation that is exclusively used for sample development. Many details, including fabric types, trims, and accessories, as well as design and printing details, are covered in this paper.

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CHAPTER -1: INTRODUCTION

1.1. Background of the study:

The product used as a sample is one, that represents a lot or set of products. The sample will demonstrate the manufacturer's or exporter's caliber of production . Unavoidably, garment samples play a significant role in exporting. A lot of emphasis is placed on garment sampling. The process of receiving orders from buyers can be made or broken by the sample of the clothing. Sampling is essential for getting orders for clothing sampling. The creation of samples is the most crucial aspect of buyer attraction.

A manufacturer has the chance to demonstrate their capacity to deliver products that are 100% accurate, of the highest quality, and at a competitive price. The product used as a sample is one that represents a lot or set of products.

The sample will demonstrate the manufacturer's or exporter's caliber of production. Unavoidably, garment samples play a significant role in exporting. A lot of emphasis is placed on garment sampling.

The process of receiving orders from buyers can be made or broken by the sample of the clothing. Sampling is essential for obtaining orders from buyers. Before beginning the mass production, samples are created and tested.

1.2. Objectives of the Sample development Study:

1. Learning about sample development.
2. Review examples of development flaws and their fixes.
3. Consider the various tech packs and the points.
4. Study the creation and application of artwork.
5. With their variations, analysis markers and mini markers
6. Learn about the sewing process, the many types of stitches, and how to compare the seams of various clothing.

Sample Development Plans for Knit Garments

7. Discover SMV (Standard Minute Value)
8. Find the types of samples that the buyer are looking for.
9. Get educated on the many technical solution for faults.

1.3. Importance and Scope of the study:

1. Inform the buyer of an exporter's potential.
2. Let the purchaser evaluate the exporter's output.
3. Let the exporter to calculate the amount of fabric and 4.Thread used, as well as the total cost of creating an order.

1.4. Limitations of the study:

1. Time constraints on researching this subject.
2. Main data sources' limitations.
3. A lack of reliable data.
4. Problem with input and output.
5. Adjusting the layout and style.

CHAPTER - 2 : LITERATURE REVIEW

2.1. Definition of sample :

A crucial step in the process is garment sampling. It serves as an example of how mass production will be carried out. Example is the reference outfit that fits. Within a firm, there might be a separate department for sampling. Yet, because the merchandiser is the one who communicates with customers regarding samples and other needs, she will be in charge of this department's operations.

2.2. Sampling Development :

This refers to creating a sample of the fabric or garment that will be marketed. One of the most important operations in the clothing industry is sampling and sample development, which is crucial for drawing customers. Because orders are typically placed by customers when they are pleased with the samples' quality.

Sampling comprises information such as a product/style code or reference number, color requirements, fabric type, composition, description, amount, and information on any embroidery, buttons, zippers, or other types of accessories that may have been employed. A lot of emphasis is placed on garment sampling. It affects whether future orders from customers will be approved and brings in business for a company that manufactures or exports clothing. One of the essential pre-production steps in the clothing industry is sampling. Prior to producing mass orders, a manufacturer will sample various styles in order to obtain approvals and kickstart the creation of the clothing. For all types of buyers, sample development follows five fundamental processes. It is also known as the development process or the heart. They are:

2.2.1. Receive a tech pack:

which is given by the buyer to the manufacturer. Where all kind of information related to the garment like fabrication, yarn specification, printing and embroidery design, measurement, etc. clearly described.

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Sample Development Plans for Knit Garments

2.2.2. Material sourcing:

Gather raw materials for sample creation, such as fabric, yarn, trims, and accessories. It is necessary to update the entire department about the development of an impending product.

2.2.3. Develop Print and embroidery design:

If any designs are mentioned for embroidery and printing, send the design to the department responsible for those preparations.

2.2.4. Cutting & garment sewing:

If the fabric, pattern, and other accessories are ready, cutting comes next. After cutting, sample sewing begins.

2.2.5. Measuring & Finishing :

The garment goes through a process like ironing after it is sewn. Then, the QC unit examines everything, including measurements and stylistic compliance with the tech pack, before the merchandiser verifies the quality of the finished product.

A sample is made very carefully, but regrettably, the buyer may discover some errors. They indicate it and outline the issue. we must sample development once more.

2.3. Sampling Process in Apparel Industry:

The sampling process in the apparel industry begins with the creation of the pattern by the pattern maker. The pattern will be created using a block, a sketch, a photo, a piece of clothing, or the buyer's description. A sample worker will sew up the design sample into the available fabric or the fabric the buyer has requested once it has been drawn and cut out to ensure the fit and shape are accurate. It will be sewn and finished in accordance with the buyer's specifications.

Sample Development Plans for Knit Garments

2.3.1. Flow Chart of Sampling Process:

The following flow chart shows the fundamental sampling procedure:

Making of patterns



cutting and assembly



first sample approval



production sample



final approval



grading and production.

Once the buyer has approved, the first sample can be made in the chosen fabric and trims. It includes information about both what the buyer requested and what the exporter used, such as the ref number, color, and fabric composition characteristics , description, quantity, and size no.

Sample Development Plans for Knit Garments

2.4. Types of samples & uses:

Serial no.	Sample	Use
01	Development Sample / Proto sample	To make the garment from the pattern.
02	Size set / Grade / Fitting Sample	To match the styling of the garment.
03	Additional Sample (White Only) Magazine . Photo shot) garment on the rack.	All of these samples were created to display the garment on the rack.
04	Contract Seal / Seal Sample	To obtain approval before the bulk production.
05	Pre- Production (PP) sample	To obtain approval before the bulk production.
06	Production Sample	To obtain approval for shipping the garment.
07	Sales Man Sample (SMS)	To get the approval for bulk production

Table no 2.4.i: Types of samples & uses

2.5. Types of Samples Required for Completing an Order:

For a garment order to be completed, eight different types of samples are required:

1. Fit sample,
2. Proto sample,
3. Size set sample,
4. Counter sample,
5. Salesman sample (SMS),
6. Pre-production sample (PPS),
7. Top over production sample (TOP),
8. And Shipping sample.

2.5.1. Proto sample:

This is the first sample provided to the customer. According to the needs of the buyer, this is prepared. Also, the research and development department can use it as a test sample. The buyer is interested in how this appeared once a new design was added. For these types of samples, 3–4 pieces of clothing should be made, with 1 piece being sent to the buyer for clarification and the supplier, and the rest remaining.

2.5.2. Fit Sample:

Upon approval of the prototypic samples, fit samples are created. The fit sample is created using precise measurements taken from the original product and the buyer's specification

Sample Development Plans for Knit Garments

papers. FIT samples are regarded as a key component in the creation of samples. To ensure the fit and feel of the garment, the fit sample is examined on a live model or dress form.

2.5.3. Size Set Sample:

Based on the pattern of the approved proto sample and fit sample, the grading for the other sizes is completed, and the patterns for the other sizes are made. After multiple sizes of the fitting have been approved, size-set samples are provided to the buyer. To ensure that each size fits properly and is constructed well, size set samples are created. Bulk cutting of mass manufacturing doesn't start until size-set samples have received final approval.

2.5.4. Pre-Production Sample:

Before moving to mass production, a pre-production sample is sent to the customer with all kinds of real materials, such as fabric, trims, and so forth. A pilot run sample is another name for it. Prior to beginning mass production, a PILOT RUN, or test run, should be designed. The pre-production sample must get final clearance before actual production can start.

2.5.5. Production Sample:

A few sample garments are taken in the middle of production once it has begun. This sample was sent to the buyer so they could verify that the production was following the approved parameters. Some buyers also refer to this sample as a GOLD SEAL SAMPLE. Shipment or final inspection cannot be completed without approval of the gold seal sample.

2.5.6. Shipment Sample:

This sample is required by the buyer after the final inspection is passed. Shipment samples are sent to the buyer when the finished and packed garments are ready to be shipped. These samples are sent in the case when the garments are directly delivered from the warehouse of the buyer, to view the final product and its packing. It shows all accessories are correct or not.

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2.5.7. Salesman Sample:

These samples are designed for showrooms or retail establishments. It also uses the name Promotional Sample. It is designed by the exporter on the purchaser's desire to procure orders from local shops. These purchasers are known as WHOLESALERS because the products are imported, and they sell to other retail establishments through their salesman.

2.5.8. Photo Shoot Sample:

Buyers with their own clothing retailer stores all over the nation require this sample. These buyers frequently take a look at a catalog of their products. They are frequently referred to as CATALOG BUYERS. This catalog will include all pertinent information about the product, including the season, style number, price range, and photographs of models who will be photographed wearing the outfits for the shoot. The creation of samples is the most crucial aspect of buyer attraction. A manufacturer has the chance to demonstrate their capacity to deliver products that are 100% accurate, of the highest quality, and at a competitive price.

2.6. Some other samples are: A merchandiser must also store a few other samples. It is -

2.6.1. Counter Sample:

When a factory produces samples for a buyer's various sample approvals, the factory also produces two to three additional samples for internal use. A counter sample is what these samples are known as. A counter sample may be a counter of the fit sample, a counter of the size set, a counter SMS, or a counter of the PP sample. The original samples are duplicated in the counter samples. The factory can refer the counter sample by offering the internal merchandising or quality team in the event that approved samples are not accessible when needed or the sample is required by many teams at once.

2.6.2. Digital Garment Sample:

A digital garment sample is a garment sample created using software that displays the 3D form of the garment. A consumer can view the garment fit, fabric fall, and pressure spots (tight fitting) on the digital sample, both in still form and in real-time.

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The screen's computer model is animated. Many buyers and made-to-measure consumers choose digital garment samples thanks to technology, which also helps to shorten the time it takes for the sample approval procedure. The customer accepts the screen display as equivalent to a physical sample, and comments and feedback are provided based on it.

2.7. Sample Development in Garment Industry:

The product used as a sample is one that represents a lot or set of products. The sample will demonstrate the manufacturer's or exporter's caliber of production. Unavoidably, garment samples play a significant role in exporting. A lot of emphasis is placed on garment sampling. The process of receiving orders from buyers can be made or broken by the sample of the clothing. Sampling is essential for getting orders for clothing sampling. The creation of samples is the most crucial aspect of buyer attraction.

2.7.1. Process Flow Chart of Sample Development in Garment Industry:

Program received from the buyer;



personal tech pack study;



meeting with internal team;



pattern-making advice;



Sample Development Plans for Knit Garments

locating raw materials;



After receiving raw materials, send to the sample section for



cutting,



printing,



artwork,



sewing,



washing (if necessary)



finishing,



and quality control;



final review;



Sample Development Plans for Knit Garments

tagging;



packing/invoice



Send to the buyer

2.7.2. Advantages of product development by buyer/ buying specification:

1. When the buyer forecasts the market, market understanding is improved. The buyer determines current trends.
2. Based on market forecasts, Buyer developed the color prints and patterns.
3. The success of the developed style is entirely the buyer's responsibility.

2.7.3. Disadvantages product development by buyer/ buying specification:

1. If the buyer lacks internal production capacity, the lengthy product creation process is long and tedious for the buyer.
2. Buyer must rely on the development of lab-dip, strike-off, and samples from either the buying house or the maker of the clothing or textiles.
3. At this point, product development is more expensive.
4. Although the buyer predicts the market, there may be technical knowledge and manufacturing feasibility limitations for the buyer of the style.


CHAPTER-3: METHODOLOGY

We made the decision to examine the tech pack of various sorts of sample from various buyers in order to gather the material for the sample plan. Here, we'll learn about sportswear, boxers, camis, and boy's briefs.

3.1. Different types of tech pack with specification:

Various kinds of tech packs contain various kinds of information. There are various tech pack kinds that we have used. These are a few tech packs along with their descriptions.

3.1.1. Girls Brief:

<p>Previous Style No.:</p> <p>Style Desc: LG NEW 7PK MAXX BRIEF</p> <p>Set: N/A</p> <p>Year & Season: 2022 Quarter3</p> <p>Brand Name:</p> <p>License:</p> <p>Style</p>	<p>Agent & Office:</p> <p>Merchandiser:</p> <p>Vendor Name:</p> <p>Vend Style No.: 3700236730</p> <p>Issue Date: 09 APR 2021</p> <p>Revised Date: 27 JAN 2022 11:32</p> <p>Est. On Show 02/05/2022</p> <p>Design Source:</p> <p>Track Status: 120 LT TAS Int Des Soft Line</p> <p>Red Tag Date:</p> <p>FF Due Date: 21/03/2022</p> <p>Quality Preview Comments: 21/04/21 AC- T/P created based on 228764 - Maxx Sew in label - Maxx card insert Diruba:12/01/2022: Risk level- High Pay attention on CF test item and bulk shade consistency initial test+ library ref no should be done at QA sample stage bulk test+ fit assessment comments on test summarisation should be done at CC sample sending stage shell: need to do test of physical+C/F+Chemical by following knit fabric testing criteria Elastic trims: follow test code of PE1 (physical+C/F+Chemical) Garment: Conduct durability test TP18.2 , pH and formaldehyde</p>	<p>Item / Style Image:</p>  <p>3700236730_01 LG MAXX 7PK BRIEF - DOW</p>																																																
<p>Sample Types/ Documentations:</p> <table border="1"> <thead> <tr> <th>Sample Type:</th> <th>Sample ID:</th> <th>Size:</th> <th>Colour:</th> <th>Version:</th> <th>Request</th> <th>Due Date:</th> <th>Quantity:</th> <th>Submit Date:</th> <th>Submit</th> <th>Overall Status:</th> <th>Comment to Vendor:</th> </tr> </thead> <tbody> <tr> <td>Bulk Fabric</td> <td>2201D09534</td> <td></td> <td></td> <td>1</td> <td>24-01-2022</td> <td>31-01-2022</td> <td>1</td> <td>26-01-2022</td> <td></td> <td>Pending for Approval</td> <td></td> </tr> <tr> <td>Bulk Fabric</td> <td>2201D09552</td> <td></td> <td>PINK/BLUE</td> <td>1</td> <td>24-01-2022</td> <td>31-01-2022</td> <td>1</td> <td>26-01-2022</td> <td></td> <td>Pending for Approval</td> <td></td> </tr> <tr> <td>Bulk Test Report</td> <td>2201D09551</td> <td></td> <td>PINK/BLUE</td> <td>1</td> <td>24-01-2022</td> <td>31-01-2022</td> <td>1</td> <td></td> <td></td> <td>New</td> <td></td> </tr> </tbody> </table>			Sample Type:	Sample ID:	Size:	Colour:	Version:	Request	Due Date:	Quantity:	Submit Date:	Submit	Overall Status:	Comment to Vendor:	Bulk Fabric	2201D09534			1	24-01-2022	31-01-2022	1	26-01-2022		Pending for Approval		Bulk Fabric	2201D09552		PINK/BLUE	1	24-01-2022	31-01-2022	1	26-01-2022		Pending for Approval		Bulk Test Report	2201D09551		PINK/BLUE	1	24-01-2022	31-01-2022	1			New	
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Bulk Test Report	2201D09551		PINK/BLUE	1	24-01-2022	31-01-2022	1			New																																								

Picture 3.1.1.a: Introductory page of girl's brief.

The basic information about this style, including the style number 3700236730, description, merchandiser and vendor information, and a basic quality preview comment against this style's sample sending stage, are included on the opening page of this tech pack.

Sample Development Plans for Knit Garments

Specification Details				Set Item - Style		
Construction				Set Item -		
Type:	Desc 1:	Desc 2:	Details:	Item Sent:	Remark:	Image:
Construction	Other	Refer to Details column >	-Side seams to be vertical bar tacked at each leg opening to secure elastic			
Construction	Other	Refer to Details column >	-Waist band seam to be met at CB with zigzag stitche and bar tack at top edge			
Construction	Other	Refer to Details column >	-Inner gusset to be bagged out at back crotch seam and to be baby over lock finish at front crotch edge			

Picture 3.1.1.b: Construction page of girl's brief.

This page contains a contraction of the phrase "Girl's Brief." Where the aforementioned components are present:

1. The side seam at each leg opening must be bar-tacked vertically to hold the elastic in place.
2. The waistband seam should be met at the CB with a zigzag stitch at the top edge of the bar tacks.
3. The front crotch edge of the inner gusset is to be baby overlocked, and the back crotch seam is to be bagged out.

3/4, 4/6, 370-207

Set Item - Desc:

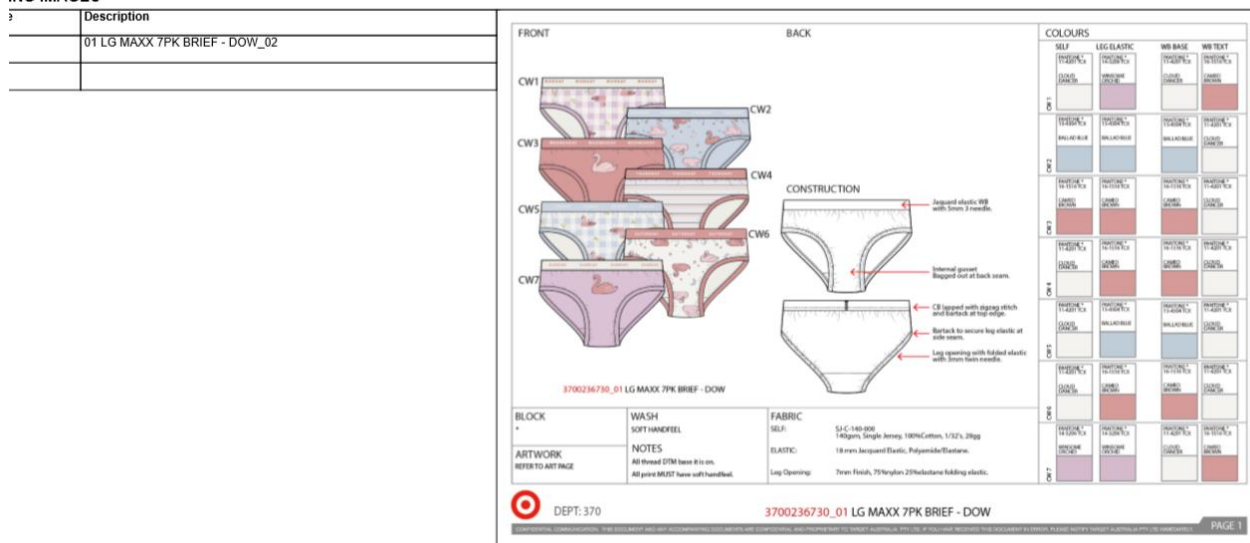
Graded Measurements(cm)										
Code:	Ref:	Point of Measure:	Final Meas	Sizes Per Template:					Tolerance	
				1/2	2/3	3/4	4/6	6/8	(+)	(-)
16B	----	Waistband relaxed	45	42	43	45	47	50	1.5	1
16K	----	Waist stretched - min	70	65	67	70	73	77	min	min
17B	----	Elastic Waistband width	1.8	1.8	1.8	1.8	1.8	1.8	0	0
18M	----	Hip at leg opening -extended	52	48	50	52	54	57	1	1
24U	----	Leg opening relaxed -briefs	31	27.5	29	31	33	35	1	1
24W	----	Leg opening stretched	50	45	47	50	53	56	min	min
40G	----	Front rise including elastic to seam	20.5	18.5	19.5	20.5	21.5	22.5	1	0.5
40H	----	Back rise including elastic to seam	16	14	15	16	17	18	1	0.5
42B	----	Inner Gusset length	11.5	11.5	11.5	11.5	12	12	0.5	0.5
43B	----	Crotch width at fold line	7.7	7.7	7.7	7.7	8.2	8.2	0.5	0.5
43C	----	Front - Gusset width 4cm frm fold line narrowest point	6.5	6.5	6.5	6.5	7	7	0.5	0.5
43H	----	Gusset width at back seam	10.5	10.5	10.5	10.5	11	11	0.5	0.5
43K	----	Across back seat 5cm above gusset seam	20.5	19.5	20	20.5	21	21.5	0.5	0.5
46U-0.5	----	Side length incl elastic - hipster	6.8	6.3	6.8	6.8	7.3	7.3	0.5	0.5

Additional Accessories Measurements(cm)										
Code:	Ref:	Point of Measure:	Final Meas	Sizes Per Template:					Tolerance	
				1/2	2/3	3/4	4/6	6/8	(+)	(-)

Picture 3.1.1.c: Measurement specification with tolerance of girl's brief.

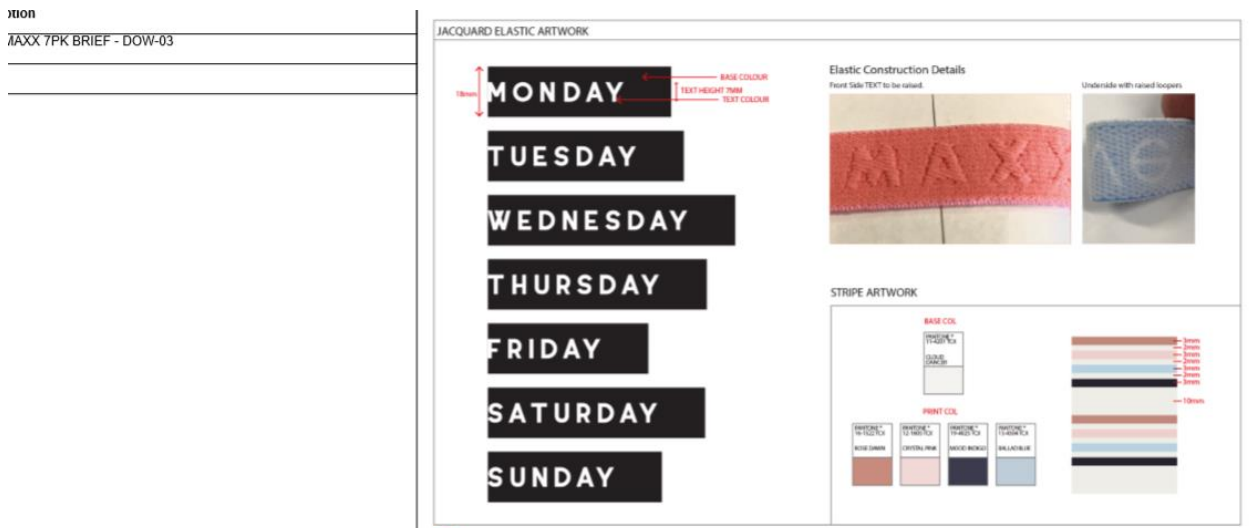
This article offers a measurement of the boy's brief with an acceptable range of error and gradings for various sizes, including 1/2, 2/3, 3/4, 4/6, and 6/8. For this buyer, the first sample is referred to as the design sample, which includes one specific size to be made off. The size set is also referred to as a QA (Quality Assurance) sample.

Sample Development Plans for Knit Garments



Picture 3.1.1.d: Fabric, elastic information with specific color.

This page describes how fabric is made and how elastic is put together, for example, how this particular style must be made from single jerseys made of 100% cotton with a GSM of 140. Elastic needs to be 18 mm jacquard elastic consisting of polyamide and elastin. 7mm finish, 75% nylon, 25% elastane folding elastic should be used as the binding elastic in it. To be effective, printing must be gentle. And all the thread needs to be DTM with shell fabric colour.



Picture 3.1.1.e: Elastic artwork with stipe information.

Elastic artwork and possibly good pictures are present on this page.

Sample Development Plans for Knit Garments




Picture 3.1.1.f: Color ways print Art work of this Tech Pack

Here are the color options for this tech pack (spec sheet) for a girl's brief with a particular print color and a particular measurement that includes repeated units.

Sample Development Plans for Knit Garments

3.1.2. Boy's Trunks:

We researched Boy's Trunks after studying the boy's brief.

Style No.: 3700253753	Agent & Office:	Item / Style Image: 
Previous Style No.: 3700236757	Merchandiser:	
Style Desc: LB 5PK MAXX TRUNK DINO MULTI	Vendor Name: (RE)	
Set: N/A	Vend Style No.: 3700253753	
Year & Season: 2023 Quarter1	Issue Date: 17 DEC 2021	
Brand Name:	Revised Date: 21 JAN 2022 10:11	
License:	Est. On Show: 11/07/2022	
Style	Design Source:	
	Track Status:	
	Red Tag Date:	
	FF Due Date: 04/06/2022	
	Quality Preview Comments: 28/04/21 AC- T/P created based on 228897 - Reduced waist & longer rises and out leg from previous block. - Maxx sew in label - Maxx card insert Andy assessment on 27/10 Construction: no Trim: take care elastic band quality Mandatory requirement: no construction Low scoobi level	
	Kevin Xu-Fabric Risk Assessment 30/September/2021 All initial and bulk mandatory test must follow our manual -(Shell AOP pigment print & Heat seal print): Additional TP12 print check & formaldehyde test -(Moisture wicking): Additional AATCC 195 Liquid Moisture Management Properties of Textile Fabrics -(Elastic band): PE1 -(Garment): Additional TP16.2 durability wash test for CW1	

Picture 3.1.2.a: Introductory page of boy's trunks

Basic introduction details for this style are provided on this page. for instance, style No. with style No. before that. Example: The style is 3700253753; the previous style was 3700236757; style description; merchandiser and vendor information; and some remarks on the quality of the preview. This design resembles a five-pack trunk in essence.

Sample Development Plans for Knit Garments

SUPPORTING IMAGES			
Type	Technical Sketch	Description	Construction
	CONSTRUCTION		
<ul style="list-style-type: none"> * Front pouch is double layer fabric * Front pouch has dart in base for shaping * Pouch seam has 6mm flatlock on body side * Pouch must be bagged out with clean internal seams 		<ul style="list-style-type: none"> * 30mm jacquard elastic waistband is brushed on the inside * 6mm 3 needle stretch on WB seam * Must comply with Target Safety Manual: TQM-SG-01 	
		<ul style="list-style-type: none"> * Y/D stripe must match at pouch seams on waist & hip 	<ul style="list-style-type: none"> * Elastic join lapped seam is positioned at CB with zig zag stitch & bartack at top edge
	<ul style="list-style-type: none"> No side seam 18mm turnback on leg opening with 3mm twin needle 		

Picture 3.1.2.b: Contraction specification with supporting image

Construction data are provided on this page.

For instance, the front pouch has a double layer of fabric, a dart for shaping, a 6 mm flat lock on the body side, and it must have a clean internal seam before being bagged out. A 6mm, 3-needle WB stitch is used on brushed-inside jacquard elastic. The pouch seam at the hip and waist must have matching yarn coloring. zigzag and bartack stitching at the upper edge of an elastic connection on CB. No side seams and an 18 mm turn back with a 3 mm twin needle are used on the leg opening.

Sample Development Plans for Knit Garments

Graded Measurements(cm)										
Code:	Ref:	Point of Measure:	Final Meas	Sizes Per Template:					Tolerance	
				1/2	2/3	3/4	4/6	6/8	(+)	(-)
16B	---	Waistband relaxed	46	42	44	46	48	51	1.5	1
16K	---	Waist stretched - min	68	62	65	68	71	75	min	min
17B	---	Waist elastic width	3	3	3	3	3	3	0	0
18C	---	Hip circ 7cm under waistband	53	49	51	53	55	58	1	1
20A	---	Hem width	1.8	1.8	1.8	1.8	1.8	1.8	0	0
24U2	---	Leg opening relaxed - trunk	25	24	25	26	27	28.5	1	1
24W2	---	Leg opening stretched - trunk	40	36	38	40	42	45	min	min
40J	---	Front rise incl elasticband (from seam) - trunk	18.5	16.5	17.5	18.5	19.5	20.5	1	0.5
40K	---	Back rise incl elasticband (from seam) - trunk	16.5	14.5	15.5	16.5	17.5	18.5	1	0.5
41K	---	Pouch - dart length up from crotch seam	4.5	4	4	4.5	4.5	5	0.2	0.2
43P	---	Across pouch below elasticband - relaxed	8	8	8	8	8.5	8.5	0.5	0.5
43Q	---	Across pouch at inleg seam - total	3.5	3.5	3.5	3.5	4	4	0.5	0.5
45F	---	Inleg - shorts Total	10.5	10.5	10.5	10.5	11	11	0.5	0.5
46T-TR	---	Side length incl elasticband - trunk	18	16	17	18	19	20	1	0.5

Additional Accessories Measurements(cm)										
Code:	Ref:	Point of Measure:	Final Meas	Sizes Per Template:					Tolerance	
				1/2	2/3	3/4	4/6	6/8	(+)	(-)

Picture 3.1.2.c: Measurement specifications with tolerance of boy's trunk

The measurements on this page are within acceptable tolerances. There are also various sizes. The measurements are 1/2, 2/3, 3/4, 6/8. For this style, the buyer advises producing a 34 size sample for both the design sample and the QA sample.

Sample Development Plans for Knit Garments

ITEMS		FRONT		CONSTRUCTION		COLOURS					
Description						SELF	FLY/LOCK	ELASTIC BASE	ELASTIC TEXT		
						3700230757_02 LB MAXX TRUNKS SPK		BLOCK: * WASH: SOFT HANDFEL ARTWORK: REFER TO ART PAGE		FABRIC SELF: G1-CE-180-080 180gsm, Single Jersey, 95% Cotton/5% Elastane, 40x=280, 280pp ELASTIC: 33mm Jacquard Elastic, Polyamide/Elastane	

Picture 3.1.2.d: Fabric , Elastic , Color Ratio with color way & Basic construction

Information on shell fabric—a single jersey made of 180 GSM, 95% cotton, and 5% elastane—is available on this page. Moreover, a polyamide/elastane 30 mm jacquard elastic waistband is required. And with colour code of shell fabric and elastic colour code with the more details such as elastic base and elastic text. The last point was printing must be soft handfeel; the thread color is also available on this page.

PORTING IMAGES		JACQUARD ELASTIC ARTWORK	
Type	Description		

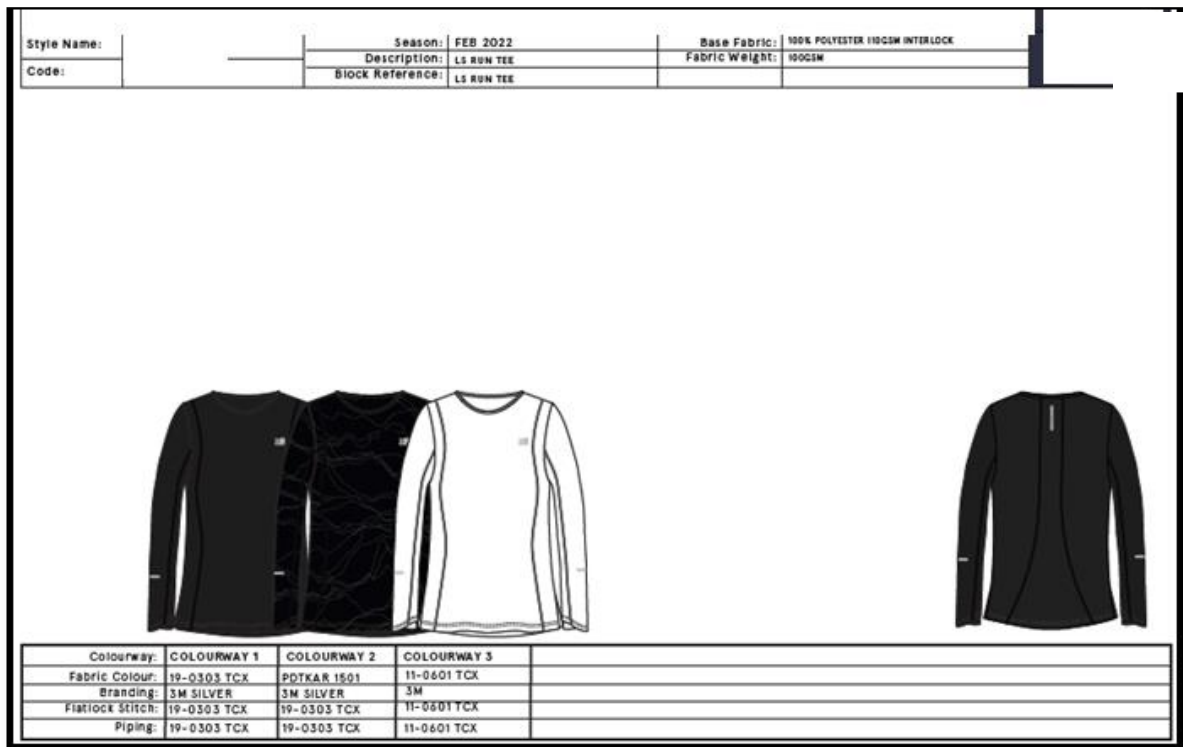
Picture 3.1.2.e : Elastic details with measurement

Sample Development Plans for Knit Garments

Due to the requirement for a 110 mm text repeat, this page offers elastic data as a text measurement.

3.1.3. Men's sportswear:

Together with kid's samples, we looked into men's sportswear , including men's running t-shirts. The samples come from various buyer.

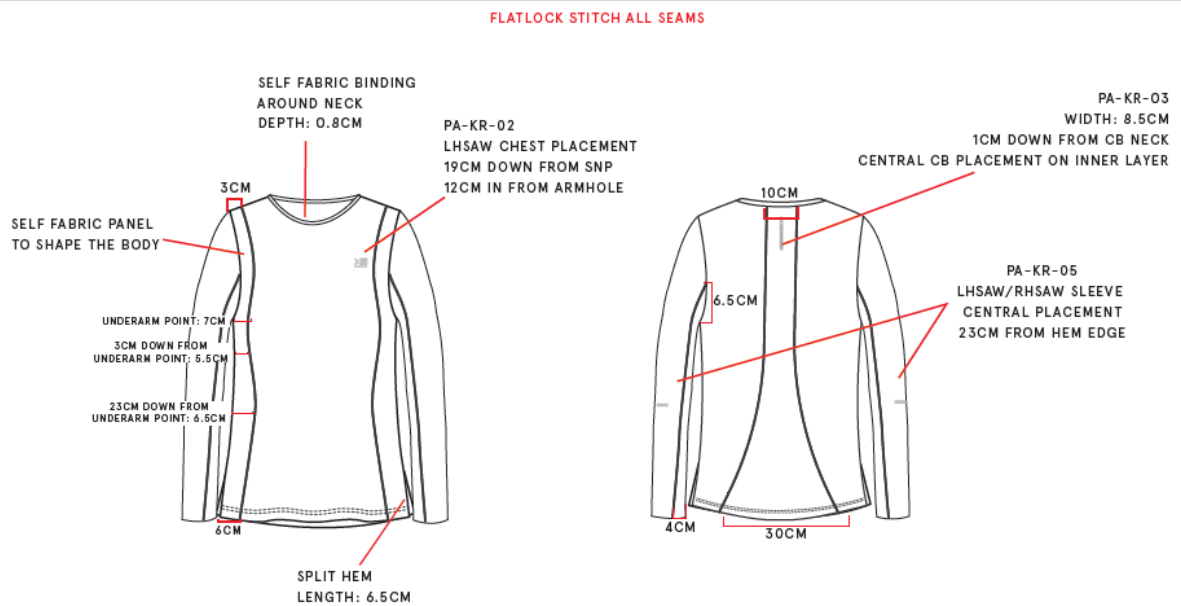


Picture 3.1.3.a : Introductory page of men's sportswear

For this men's sport t-shirt, this is the basic introduction page. This comprises the style name, style number, description, season, and composition & construction of the base fabric, which is 100% Polyester, 110 GSM, interlock. Similar information may be found on almost every buyer's introductory page.

The color way, stitching thread, and piping for each color-way clothing should also be mentioned, along with their respective Pantone colors.

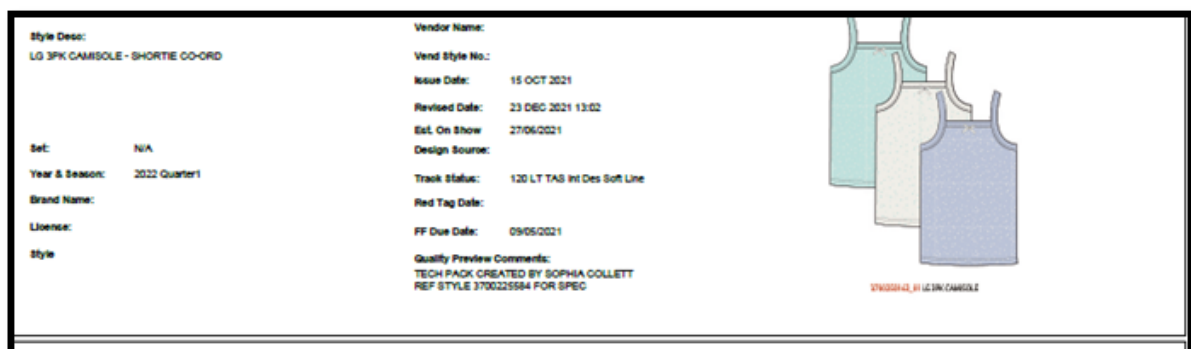
Sample Development Plans for Knit Garments



Picture 3.1.3.b: Details art work of sportswear.

This page offers stitch information, artwork for the seam view, and measurements. The width of the cut and sews along with the panel shape of the garment body are also shown on this page along with the measured position of the heat seal on the garment. This page gives us a clear picture of the sample's appearance. This introduction must be followed in order to create the sample.

3.1.4. Girls Cami:

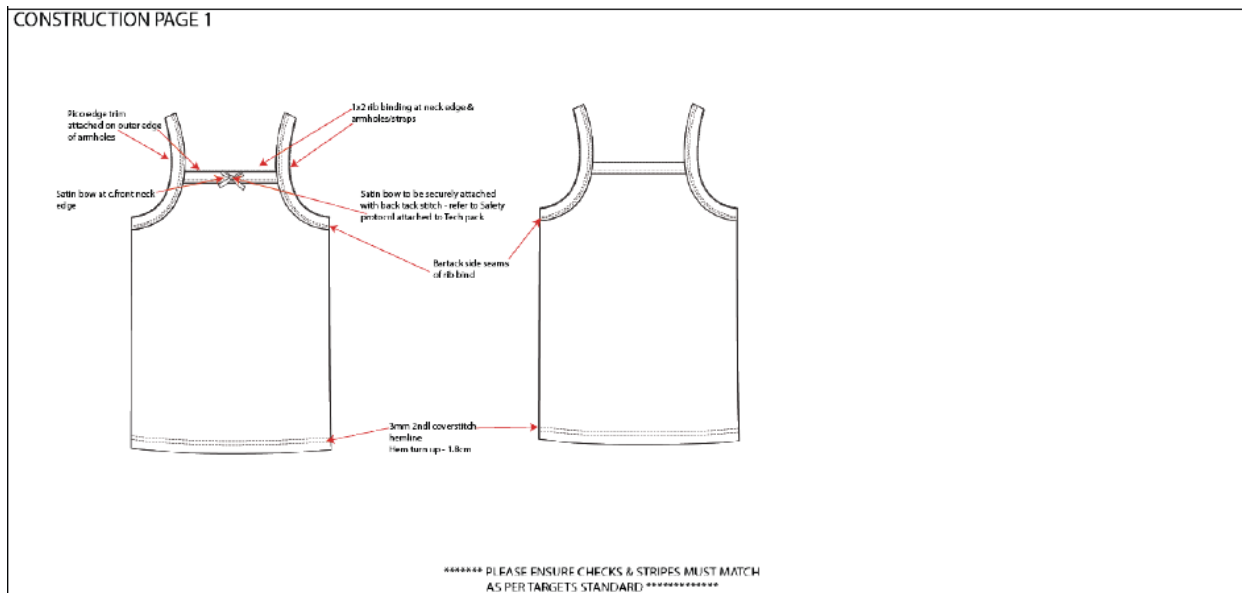


Picture 3.1.4.a: Introductory page of girl's cami.

Sample Development Plans for Knit Garments

The style name, description, vendor name, vendor details, and comments regarding the quality of the preview are all included on this page as basic introductory information about this order.

Picture 3.1.4.b: Construction page of the garment



The basic construction information for the item, including stitching information, is provided on this page. By doing so, rib binding at the neck edge and armhole straps are added. Also, add a picot edge as trim at neck and armhole. using bar tack to bind the ribs. placing a satin bow at the neck's edge and securing it with bar tacks. A 3mm, 2-needle cover stitch should be used for hems. About 1.8 cm from the edge, hem sewing should be done. Hem sewing should be placed at 1.8 cm from the edge.

<p>FRONT</p> <p>3700250163_01 LG 3PK CAMISOLE</p>		<p>Flora with rib bind and bow as per below image</p>	<p>COLOURS</p> <table border="1"> <thead> <tr> <th>SELF</th> <th>RI</th> <th>BOW</th> <th></th> </tr> </thead> <tbody> <tr> <td>3700250163_01</td> <td>3700250163_01</td> <td>3700250163_01</td> <td>PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC</td> </tr> <tr> <td>3700250163_02</td> <td>3700250163_02</td> <td>3700250163_02</td> <td></td> </tr> <tr> <td>3700250163_03</td> <td>3700250163_03</td> <td>3700250163_03</td> <td></td> </tr> <tr> <td>3700250163_04</td> <td>3700250163_04</td> <td>3700250163_04</td> <td>PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC</td> </tr> </tbody> </table>	SELF	RI	BOW		3700250163_01	3700250163_01	3700250163_01	PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC	3700250163_02	3700250163_02	3700250163_02		3700250163_03	3700250163_03	3700250163_03		3700250163_04	3700250163_04	3700250163_04	PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC
SELF	RI	BOW																					
3700250163_01	3700250163_01	3700250163_01	PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC																				
3700250163_02	3700250163_02	3700250163_02																					
3700250163_03	3700250163_03	3700250163_03																					
3700250163_04	3700250163_04	3700250163_04	PLEASE SUBMIT BACK LIP BOW COLOUR DTM BAG FABRIC																				
<p>C ONSTRUCTION</p> <p>1x2 rib binding with Flora with bow on front</p> <p>Two needle turn back hem</p>		<p>NOTES</p> <p>All thread DTM base it is on.</p> <p>All print MUST have soft handoff.</p>																					
<p>BLOCK</p> <p>ARTWORK REFER TO ART PAGE</p>	<p>WASH</p> <p>SOFT HANDFEEL + SILKOW FINISH</p>	<p>FABRIC</p> <p>SELF: S405-175-000 120gsm, Single Jersey, 95% Cotton / 5% Elastane, 4x4 (100x100), 38/36</p> <p>RI: 182L175gsm, 95% Cotton / 5% Elastane</p>																					

Picture 3.1.4.c: Garment color way with self and rib details

Sample Development Plans for Knit Garments

This page contains information about the base fabric, which is 175 GSM, 95% Cotton, and 5% Spandex. detailing the color scheme, washing instructions, and with 182 rib binding as base fabric colour. And DTM should be used for the thread color (Dye to Match). The bow colour need to matched as base colour.

3.2 Marker & Pattern Study:

When it comes to making consumption, costing, and cutting, pattern and marker are two of the most important parts. Consumption gives us a sense of how much fabric will be required to make the garment, and we can use it to estimate the cost of the entire style, including trim and accessory consumption, but fabric consumption is by far the biggest contributor.

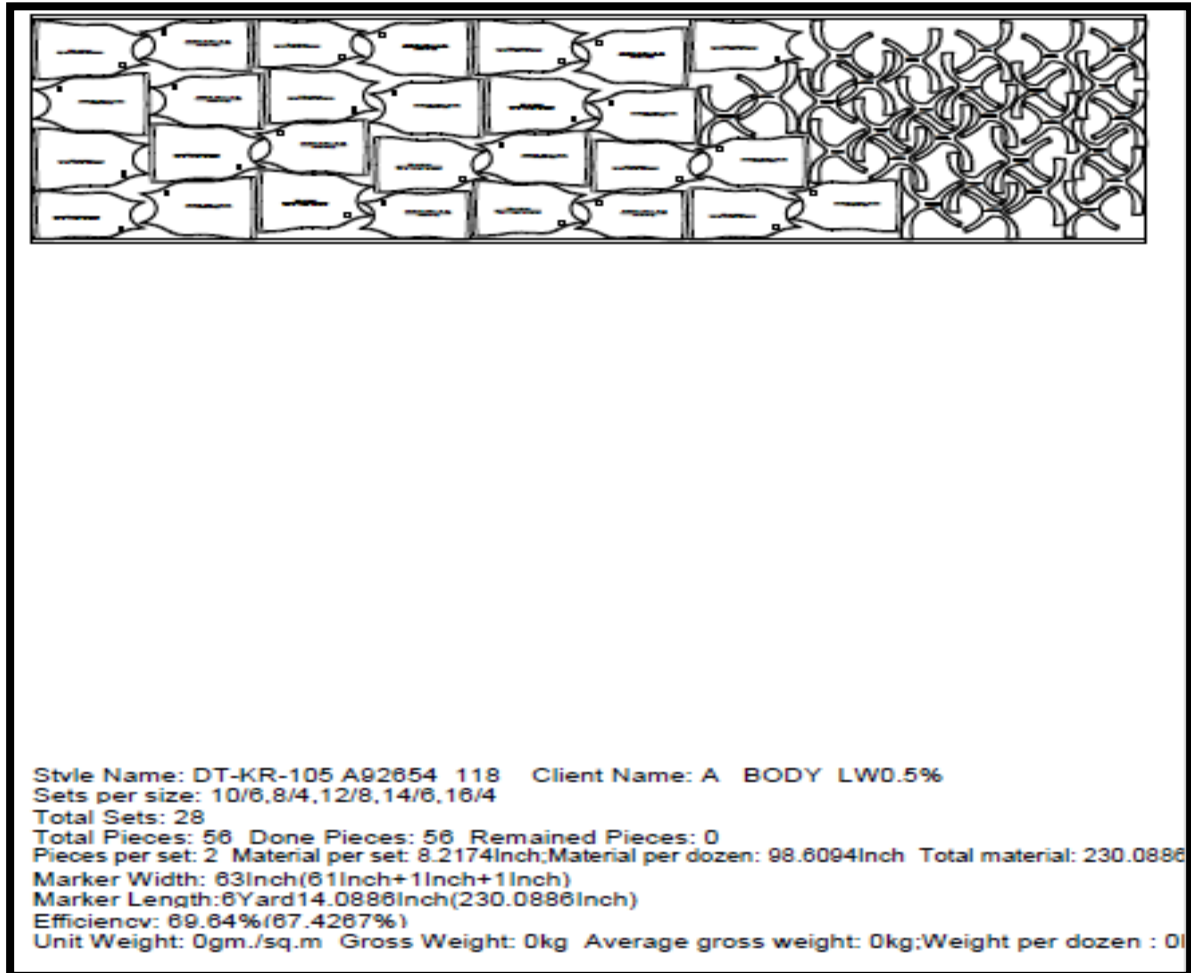
From this section we will observe different types of marker and pattern.



Picture 3.2.a: Mini Marker of girls brief

Sample Development Plans for Knit Garments

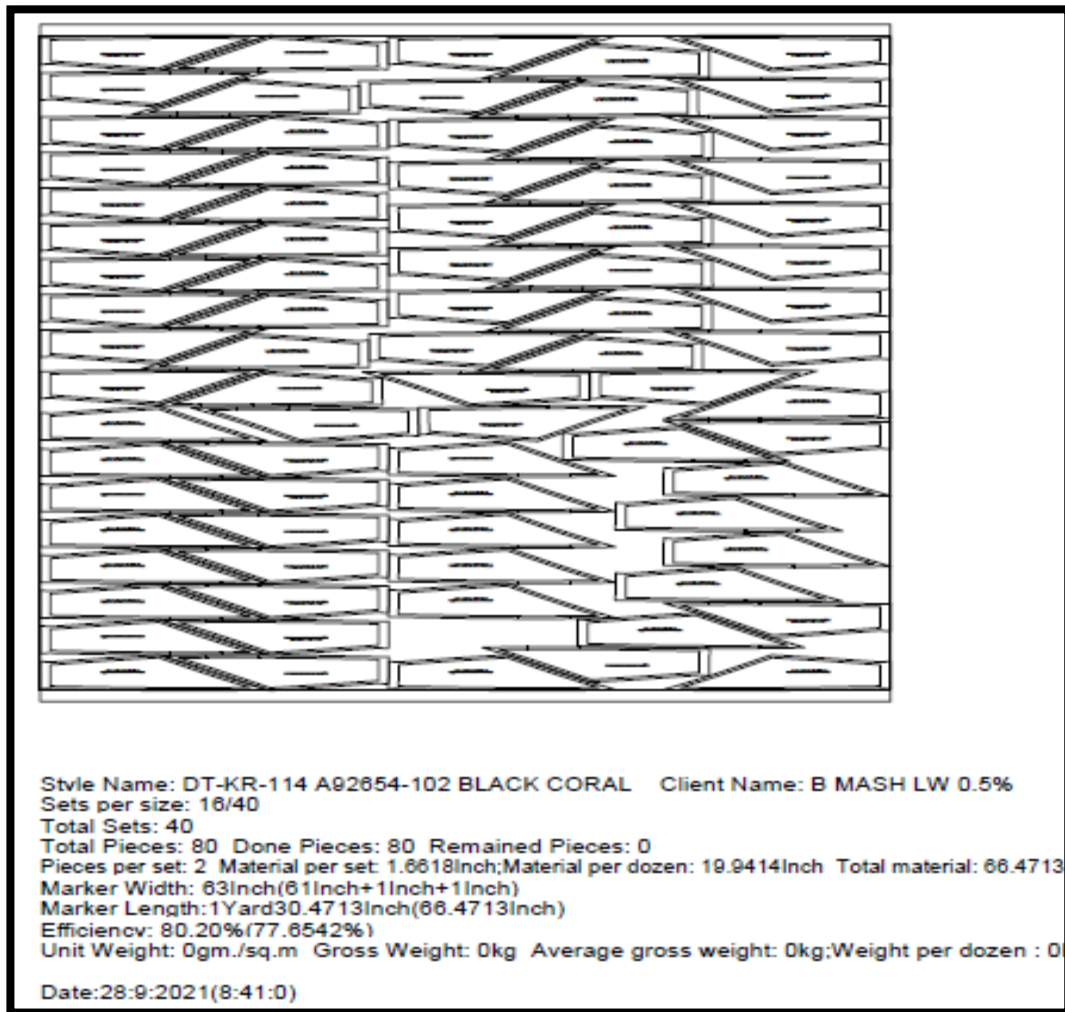
This marker, which includes consumption information, serves as an example of how a girl's brief marker may seem. This resembles a girl's size $\frac{3}{4}$ 34 brief in miniature. This report offers details about efficiency, width, length, material per set, per dozen, and overall material.



Picture 3.2.b: Marker for sport wear t-shirt-body part

This Marker includes the body consumption together with the basic material consumption per set, dozen, and overall material consumption for the running t-shirt for sport wear. with fundamental marker efficiency, length, and width. However in contrast to the other marker, this one mentions size ratio as set per size.

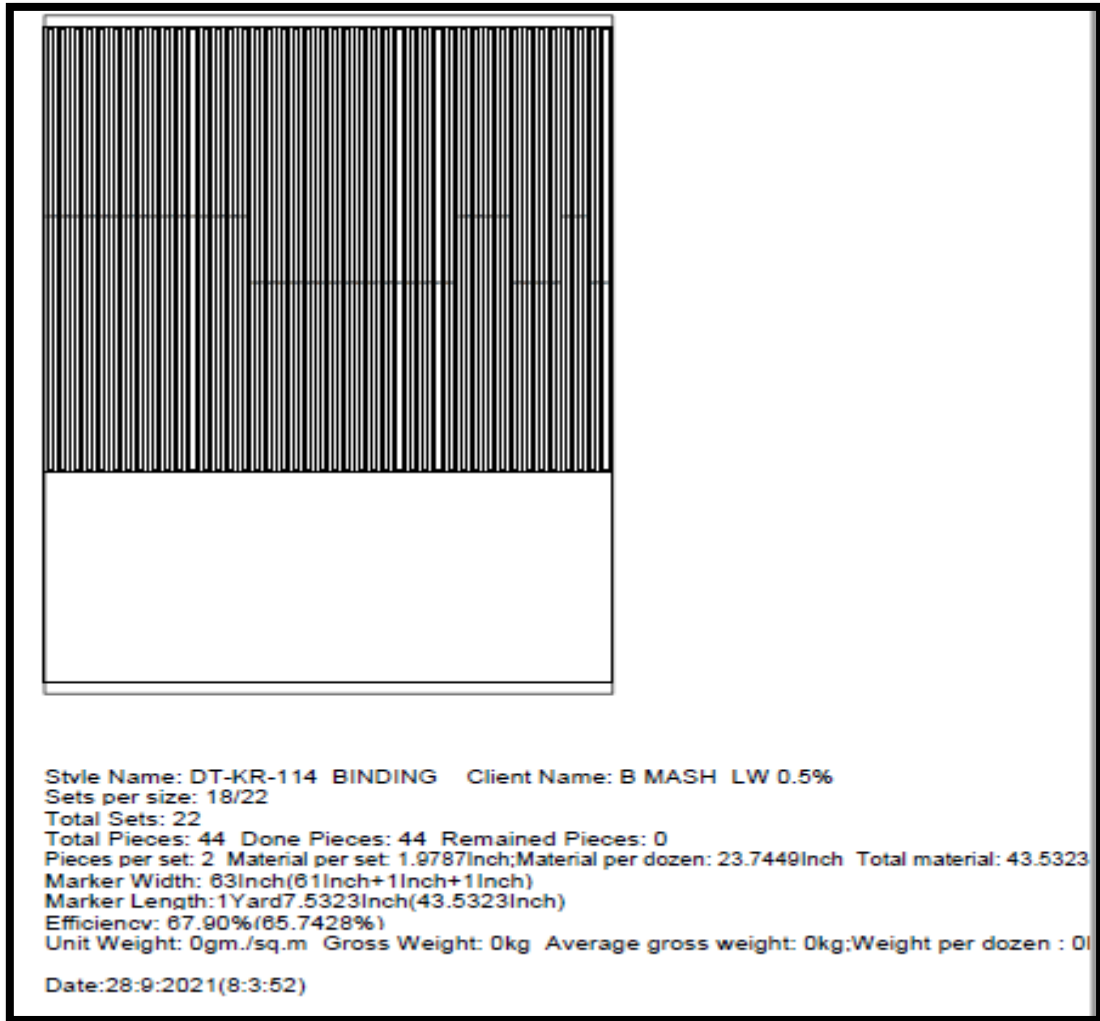
Sample Development Plans for Knit Garments



Picture 3.2.c: Maker of any side panel/trim of any sport wear or garment

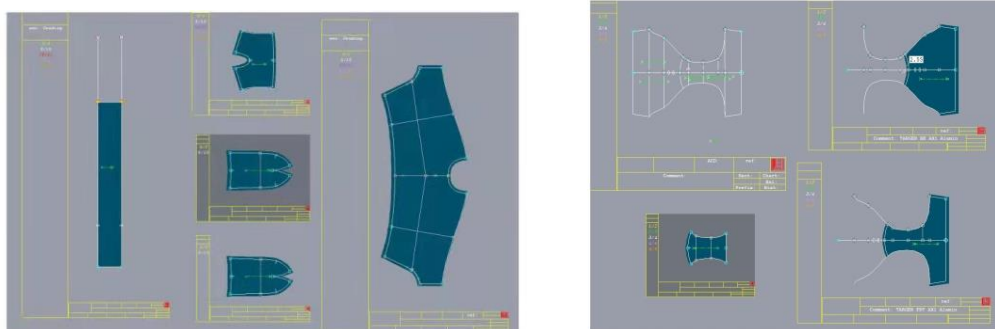
This marker shows the trims in a similar way to how the cut and sew portions of the garment are marked. This marker is side mesh attaching panels marker, contains the fundamental consumption of the side mesh and trimmings, as well as consumption per set, per dozen, and overall. Using marker efficiency, length, and width.

Sample Development Plans for Knit Garments



Picture 3.2.d: Marker for any binding for garments.

Any type of binding marker look is indicated by this marker. Including the fundamental marker data, such as material use per set, each dozen, and overall consumption. Using marker efficiency, length, and width.



Picture 3.2.e: Screenshot of the pattern of brief and trunk

3.3. Cutting and Sewing Study:

The most crucial step in the production of any type of garment is cutting. Just decreasing fabric waste during cutting can save a significant amount of fabric when it comes to the manufacturing department. Yet, since the sample is made up of such little amounts, there are no significant changes or cutting-edge data in the sample portion.

Sewing is a crucial step after cutting the sample according to the pattern. The sewing machine that is specifically utilized for the sample is provided below with a picture. The buyer has chosen the sewing machine, which is listed in the tech pack. During the making of the garment, all sewing instructions must be followed. We will go into the specifics of how each item was sewn along with a picture.





These are all of the developed samples together with their sewing instructions, codes, and sewing machines:

Sample Development Plans for Knit Garments

3.3.1. Kid's Brief:

Style: 3700236730

Description: LG NEW 7PK MAXX BRIEF

Style:3700236730 LG NEW 7PK MAXX BRIEF						
Sl	sewing code	sewing position	Stitch type	Thread and needle specification	Machine used	Picture
1	407	Elastic joining on waist.	Cover Stitch / Interlock	2 Needle & 1 Bobbin Thread	Flatlock	
2	101-304	Center back joining of waist elastic.	Bartack stitch	used bartack stitch instead of zizzag on the middle point of waist elastic joining and also secured the bartack again a mini bartack at top edge has been attached and securing leg elastic.	Bartack Machine	
3	406	Leg elastic joining	Cover Stitch / Interlock	twin needle.	Flatlock	
4	503	Innner gusset facing	baby overlock	1 needle 1 looper, 2 thread overlock.	Overlock	

Picture 3.3.1.a: Stitch details with sewing machine for style 3700236730.

Four different types of sewing machines were used for Style: 3700236730. According to the buyer's specifications, this type comprises a flat lock machine for sewing a chain stitch into the elastic waistband and for attaching the binding elastic to the leg.





And instead of using a zigzag stitch on the top edge, the center back elastic is joined with a bartack stitch. This secures the elastic to the waist. The front portion of the inner gusset for a girl's brief should be open with a baby over lock finish by an over lock machine, and the inner gusset should be bagged out from the back side. The ISO standard stitch code and an image of each sewing machine are also present.

3.3.2. Kid's Trunk:

Style: 3700253753

Sample Development Plans for Knit Garments

Description: LB 5PK MAXX TRUNK DINO MULTI

Style:3700253753 LB 5PK MAXX TRUNK DINO MULTI						
Sl	sewing code	sewing position	Stitch type	Thread and needle specification	Machine used	Picture
1	407	Elastic joining on waist.	Cover Stitch / Interlock	2 Needle & 1 Bobbin Theard	Flatlock	
2	101-304	Center back joining of waist elastic.	Bartack stitch	used bartack stitch instead of zizzag on the middle point of waist elastic joining and also secured the bartack again a mini bartack at top edge has been attached and securing leg elastic	Bartack Machine	
3	406	Leg binding	Cover Stitch / lockstitch	twin needle.	Flatlock	
4	605/607	Gusset front sewing	Feed of the Arm	3/4 needle thread	FD Machine	

Picture 3.3.2.a: stitch details with sewing machine for style 3700253753

Three different types of machines have been utilized for this style, with the flat lock machine being used for both the elastic connect and the leg binding, with the base fabric serving as the binding material for the latter. A mini bar tack has been used at the top edge of the waist bartack stitch to make the elastic more secure. Bartack has also been used in place of zigzag stitch on the center back elastic joining part. The FD machine's FD (Feed of the arm) stitch has been used for the gusset of the trunks.





We may find the ISO standard sewing code with a machine picture in Picture 3.3.2.a.

Sample Development Plans for Knit Garments

3.3.3. Kid's Cami:

Style: 3700250162

Description: LG 3PK CAMISOLE - SHORTIE CO-ORD

Style:3700250162 LG 3PK CAMISOLE - SHORTIE CO-ORD						
Sl	sewing code	sewing position	Stitch type	Thread and needle specification	Machine used	Picture
3	406	Armhole and neck binding	Cover Stitch / lockstitch	twin needle.	Flatlock	
2	101-304	Center back joining of waist elastic.	Bartack stitch	stitch at center front for bow and placed stitch at armhole joining.	Bartack Machine	
3	406	Hem binding	Cover Stitch / lockstitch	twin needle.	Flatlock	
4		Picoting edge auxiliaries	Decorative stitch		Kansai	

Picture 3.3.3.a: Stitch details with sewing machine for style 3700250162

Three different types of machines were utilized to create this style of cami, including rib binding and picoting effect using dye to match thread, kansai machine, twin needle flatlock machine, armhole and neck binding, and kansai machine. The bow at the front center of the neck binding and the armhole edge are adjusted and secured using a bar tack machine. Twin needle flatlock is also used for hem binding.




On Image 3.3.3.a, there is a picture of the sewing machine together with the entire sewing code.

Sample Development Plans for Knit Garments

3.3.4. Sportswear:

Style: LS RUN TEE

Description: LS RUN TEE.

Style:LS RUN TEE Description: LS RUN TEE						
Sl	sewing code	sewing position	Stitch type	Thread and needle specification	Machine used	Picture
1	406	Neck binding and neck piping and hem binding	Cover Stitch / lockstitch	twin needle.	Flatlock	
2	605/607	Front cut and sew	Feed of the Arm	3/4 needle thread	FD Machine	
3	514	sleeve join and side seam	overlock stitch	2 needle ,4 thread	Overlock	

Picture 3.3.4.a: Stitch details with sewing machine for style LS RUN TEE

Three different machine kinds are employed for this style; flatlock is used for neck binding, neck piping, and hem binding. FD machines are used for the front cut-and-sew portion of clothing, and overlock machines are used for the side seam and sleeve join.

Sample Development Plans for Knit Garments

3.4. Submitted Trims & Sample:

Trims, accessories, fabric, and other materials cannot be used to make samples without the buyer's approval. So, we require permission before using any products. Some submissions are below;

3.4.1. LD Fabric Submission for approval:

Target Document Tag		FF Date (成衣出日日期)
Type of Submission (GBSS样品文件名称)	Lab Dip Fabric	
GBSS Sample/Document ID (GBSS样品文件ID)		PO Number (TARGET订单号)
Number of Submission (提交次数)	1	Batch/Lot Number (批号)
Submit Date (提交日期)	18/02/22	Fabric/Trims Supplier (面料供应商/辅料供应商)
GBSS Style No. (TARGET 款数)	37002950176 CW3	Type of Fabric/Trims (面料类型/辅料类型)
Year/Quarter (年份/季度)	2023 Quarter1	Fabric Content/Composition (纤维含量)
Department Name (TARGET 部门名称)	370 - CH UNDWR SOCKS SLEEPWR	95% Cotton, 5% Spandex
Garment Vendor (成衣供应商)	LEI TAK FUNG TEXTILE & GARMENT (SINGAPORE) PTE	Fabric/Tim Weight (面料重量/辅料重量)
Article Number (物料编号)		175 GSM
Art Work/Print Pattern Name (艺术样品/印花图案名称)		Colour Code (颜色代码)
		16-0748 TCX
		Colour Name (颜色名称)
		Gold Flake-CW3
		Colour Standard Brand (色标标准品牌)
Fabric Weight & Fabric Structure & Fabric Hand-Feeling Must be Correct. One Colourway Per Card Only (面料重量 & 织造结构 & 面料手感必须正确, 每卡中只能有一个面料颜色)		
Lab Dip: Minimum Size 5cm x 5cm With Double Layer (最小尺寸 5厘米 x 5厘米 双层面)		
Bulk Colour - Minimum Size 15cm x 15cm With Double Layer (最小尺寸 15厘米 x 15厘米 双层面)		
Lab dip submit (成衣卡小样提交)	A	B

Improvement Direction 改善方向	
Lightness 亮度	<input type="checkbox"/> Slightly Lighter. Go Slightly Darker <input type="checkbox"/> Moderately Lighter. Go Moderately Darker <input type="checkbox"/> Extremely Lighter. Go Extremely Darker <input type="checkbox"/> Slightly Dark. Go Slightly Lighter <input type="checkbox"/> Moderately Dark. Go Moderately Lighter <input type="checkbox"/> Extremely Dark. Go Extremely Lighter
Chroma 彩度	<input type="checkbox"/> Slightly Dull. Go Slightly Brighter <input type="checkbox"/> Moderately Dull. Go Moderately Brighter <input type="checkbox"/> Extremely Dull. Go Extremely Brighter <input type="checkbox"/> Slightly Brighter. Go Slightly Duller <input type="checkbox"/> Moderately Brighter. Go Moderately Duller <input type="checkbox"/> Extremely Brighter. Go Extremely Duller
Hue 色光	<input type="checkbox"/> Slightly <input type="checkbox"/> Moderately <input type="checkbox"/> Extremely <input type="checkbox"/> Redder <input type="checkbox"/> Greener <input type="checkbox"/> Bluer <input type="checkbox"/> Yellower <input type="checkbox"/> So Slightly <input type="checkbox"/> So Moderately <input type="checkbox"/> So Extremely <input type="checkbox"/> Redder <input type="checkbox"/> Greener <input type="checkbox"/> Bluer <input type="checkbox"/> Yellower
Other Comments 其他备注	
Reviewed by 审查员	Comment Date 评论日期

Target Document Tag		FF Date (成衣出日日期)
Type of Submission (GBSS样品文件名称)	Lab Dip Fabric	
GBSS Sample/Document ID (GBSS样品文件ID)		PO Number (TARGET订单号)
Number of Submission (提交次数)	1	Batch/Lot Number (批号)
Submit Date (提交日期)	31/01/22	Fabric/Trims Supplier (面料供应商/辅料供应商)
GBSS Style No. (TARGET 款数)	37002950176 (CW1)	Type of Fabric/Trims (面料类型/辅料类型)
Year/Quarter (年份/季度)	2023 Quarter1	Fabric Content/Composition (纤维含量)
Department Name (TARGET 部门名称)	370 - CH UNDWR SOCKS SLEEPWR	100 % Cotton, Single Jersey
Garment Vendor (成衣供应商)	LEI TAK FUNG TEXTILE & GARMENT (SINGAPORE) PTE	Fabric/Tim Weight (面料重量/辅料重量)
Article Number (物料编号)		140 GSM
Art Work/Print Pattern Name (艺术样品/印花图案名称)		Colour Code (颜色代码)
		13-3620 TCX
		Colour Name (颜色名称)
		Halogen Blue-CW1
		Colour Standard Brand (色标标准品牌)
Fabric Weight & Fabric Structure & Fabric Hand-Feeling Must be Correct. One Colourway Per Card Only (面料重量 & 织造结构 & 面料手感必须正确, 每卡中只能有一个面料颜色)		
Lab Dip: Minimum Size 5cm x 5cm With Double Layer (最小尺寸 5厘米 x 5厘米 双层面)		
Bulk Colour - Minimum Size 15cm x 15cm With Double Layer (最小尺寸 15厘米 x 15厘米 双层面)		
Lab dip submit (成衣卡小样提交)	A	B

Improvement Direction 改善方向	
Lightness 亮度	<input type="checkbox"/> Slightly Lighter. Go Slightly Darker <input type="checkbox"/> Moderately Lighter. Go Moderately Darker <input type="checkbox"/> Extremely Lighter. Go Extremely Darker <input type="checkbox"/> Slightly Dark. Go Slightly Lighter <input type="checkbox"/> Moderately Dark. Go Moderately Lighter <input type="checkbox"/> Extremely Dark. Go Extremely Lighter
Chroma 彩度	<input type="checkbox"/> Slightly Dull. Go Slightly Brighter <input type="checkbox"/> Moderately Dull. Go Moderately Brighter <input type="checkbox"/> Extremely Dull. Go Extremely Brighter <input type="checkbox"/> Slightly Brighter. Go Slightly Duller <input type="checkbox"/> Moderately Brighter. Go Moderately Duller <input type="checkbox"/> Extremely Brighter. Go Extremely Duller
Hue 色光	<input type="checkbox"/> Slightly <input type="checkbox"/> Moderately <input type="checkbox"/> Extremely <input type="checkbox"/> Redder <input type="checkbox"/> Greener <input type="checkbox"/> Bluer <input type="checkbox"/> Yellower <input type="checkbox"/> So Slightly <input type="checkbox"/> So Moderately <input type="checkbox"/> So Extremely <input type="checkbox"/> Redder <input type="checkbox"/> Greener <input type="checkbox"/> Bluer <input type="checkbox"/> Yellower
Other Comments 其他备注	
Reviewed by 审查员	Comment Date 评论日期

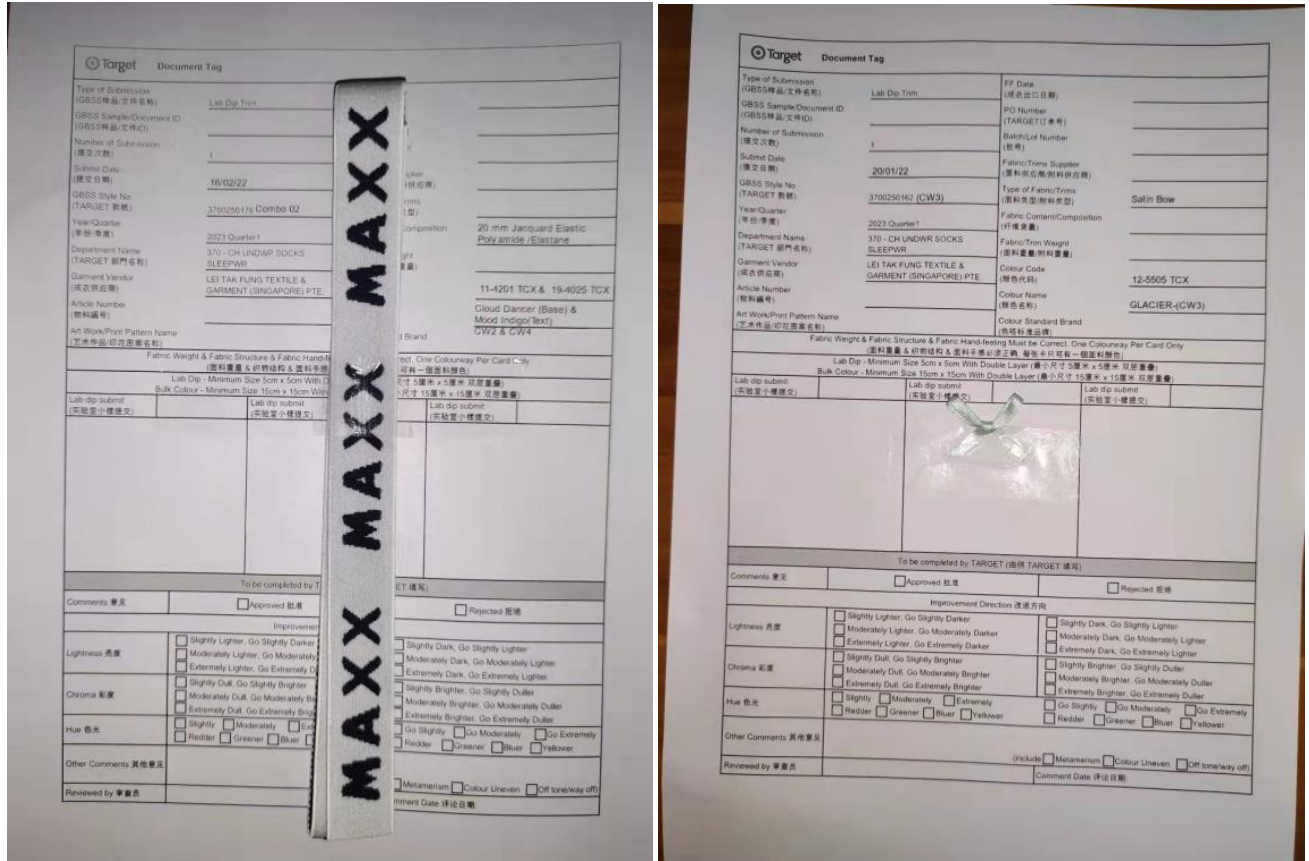
Picture 3.4.1.a: LD Fabric Submission for approval

When there is no AOP, LD submittal is required for this specific buyer. The format for the LD fabric submission form is shown here.

The style name, description, GBSS ID, fabric construction, composition, GSM, and color code with color name are all included in this form.

Sample Development Plans for Knit Garments

3.4.2. LD Trim submission for approval:

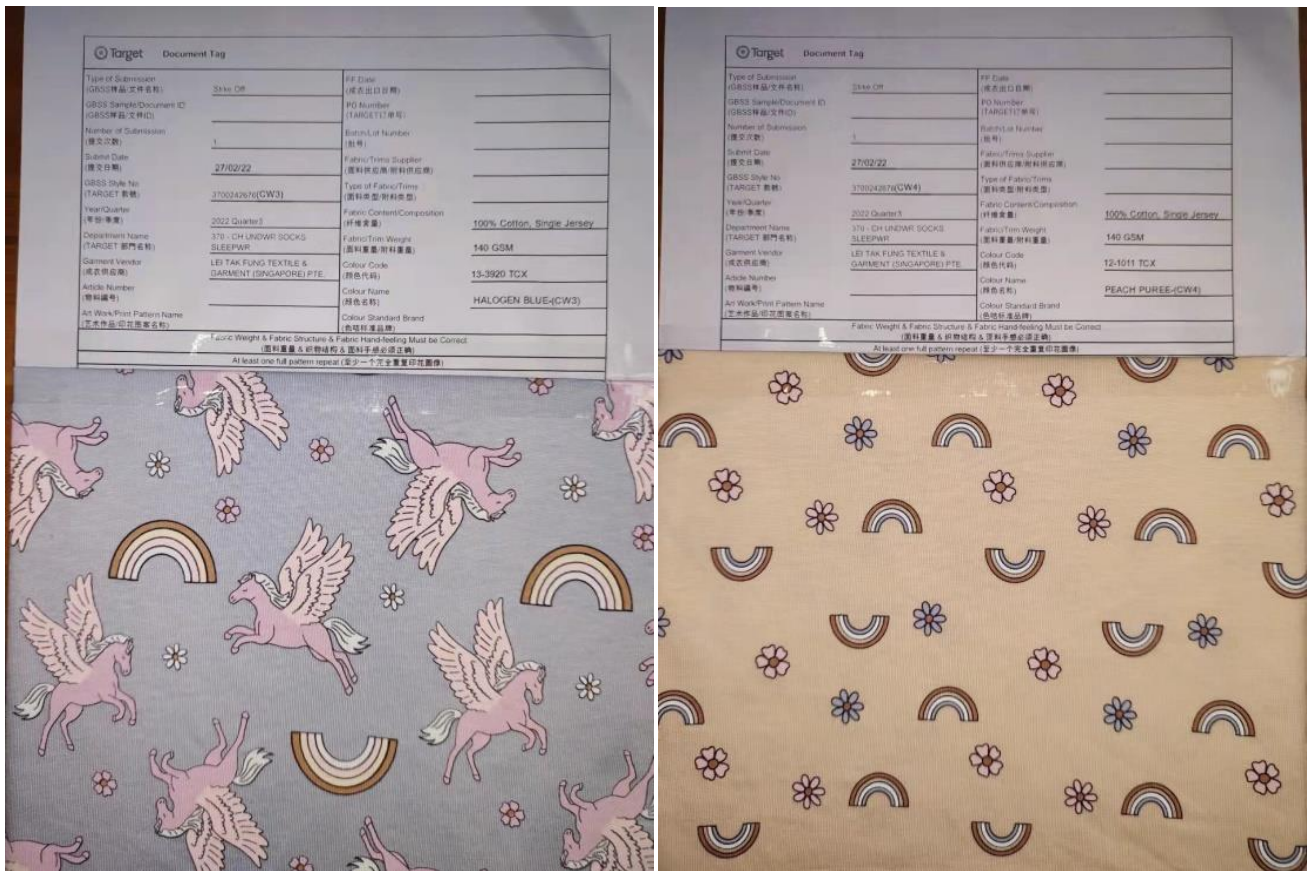


Picture 3.4.2.a: LD Trim submission for approval

Provide the buyer LD trim for their approval, including waistband elastic, binding elastic, bows, and other accessories. If the buyer has given their approval, the process can continue.

Sample Development Plans for Knit Garments

3.4.3. Printing Strike off submission for approval:



Picture 3.4.3.a: Printing Strike off submission for approval

To obtain approval, each printing strike-off must be submitted to the buyer. The submission form must comply to this standard.

Sample Development Plans for Knit Garments

3.4.4. Sample submission for approval:



Picture 3.4.4.a: Sample submission for approval

We must deliver a sample with measurement specifications after submitting all strikeoff, lab-dipped fabric, and LD trim. The next sample has been ordered after receiving the buyer's approval.

CHAPTER- 4: DISCUSSION OF RESULTS

4.1. Tech pack analysis:

The Tack pack is the first document a merchant receives from a buyer. This data pack includes a variety of information about the garment, including the style, measurement, stitch, trims, color, and many other parameters that assist a retailer in creating a sample. Thus, a thorough analysis of the tack pack is required.

4.1.1. Girl's Brief:

Point Which Includes In Tech Pack :

1. A simple introduction page with all the necessary details about the chosen style. This page also includes some excellent preview comments.
2. The style's basic construction manual is included on the construction page.
3. All size ratios with acceptable tolerance are included on the measurement page.
4. Base fabric information with elastic information page.

Point Can Added For Clear Idea :

1. A construction image with additional stitch information. The tech pack provided by the buyer only highlights the most important information, thus any construction artwork that includes stitch specifics will be helpful to the supplier or developer.
2. The base fabric and the Color Way (CW) serial can be challenging to distinguish. If the purchaser chooses a symmetrical color scheme in relation to the base color.
3. Waist Band Elastic should be more specifically described given the height of the area.

Sample Development Plans for Knit Garments

4.1.2: Boy's Trunks:

Point which includes in tech pack:

1. A simple introduction page that provides all key details about the chosen style and includes informative preview comments.
2. A construction page with an attached photo. Recognizing the stitching technicalities and the overall appearance of the clothing is greatly aided by this page.
3. A measurement specification page that lists all sizes and their largest tolerance.
4. The best-possible artwork on the details page for the base fabric color, Color Way (CW), and elastic.

Point Can Be Added For Clear Idea:

1. Elastic wording height With the exception of the elastic wording height, this speech sheet contains all the essential facts about the clothing. This is a significant aspect.

4.1.3: Men's sports wear : LS RUN TEE:

Point which includes in tech pack :

1. The color of the base fabric, its composition, its construction, the stitch type (only flatlock), and its GSM.
2. The location of the heat seal on the garment and the cut and sew position as an artwork.

Point can added for clear idea:

1. There is no print information even though the color combination appears to have an AOP (All Over Printing). Developers should communicate clearly via email and other methods, but doing so takes time.

Sample Development Plans for Knit Garments

2. There are no specific stitch details about the garment, only that flatlock will be used, how many needles will be used, and whether bartack or FD stitch is required. If it has also been put by art, it might be friendlier.

3. Since there is no measurement chart, the measurement developer must contact the buyer via email or another form of communication, which is problematic.

4.1.4: Girls Cami:

Point which includes in tech pack:

- (1) Basic introductory page with clear data for the style.
- (2) Construction page with construction artwork.
- (3) Base Fabric, rib specification with bow specification.

Point can added for clear idea:

- (1) The picot added to the garment has not any clear specification about. Which type of picot need to attach.
- (2) In tech pack bow color was cloud dancer but besides cloud dancer they ask for DTM (Dye to Match) bow which seems confusing.

4.2. Artwork Study:

Point which Includes In Artwork:

1. Repetition unit measurement.
2. The design uses their pantone for all colors.
3. Print color and sorted base color.

Study of artwork:

1. The same design has the same measurement and repeating unit.
2. A single style uses the same four out of the five colors consistently.

Sample Development Plans for Knit Garments

4.3: Difference between mini marker and marker:

From section 3.3, we may learn about markers and micro markers with screenshots of patterns. Several of our experiments with markers and micro markers are shown here.

Mini Marker	Marker
(1) Includes all part together.	Includes one particular body part.
(2) Includes 1 set garment only	Including all available set and size
(3) Efficiency is so less	More efficiency comparatively mini marker.
(4) Less Production friendly	More Production friendly.
(5) Not used for production.	Used for production

Table no 4.3.i: Difference between mini marker and marker

4.4: Study about sewing:

From the organization, we can obtain the process breakdown, which is fundamentally necessary for production. The process breakdown not only outlines the steps involved in sewing a particular garment but also the overall time needed to complete the project.

Operation Breakdown (Initial)

Pro Category:
 Style No: **456137 / DT-KR-107 /451182**
 Description: **Long sleeve running t-shirt**
 Buyer: **Sport Direct**
 Fabrication: **N/A**
 Date Created: **Monday, November 22, 2021**
 PO No:

Cutting smv
0.000
Sewing+Finishing smv
8.869



PART/SECTION	SL	Machine Type	Machine Tools	Process Description	Repetition	Skill	Seam Length	Time (min)	Allow.	Final Time (min)	
PREPARATION		Cutting Printing									
	1	Manual	N/A	Match all cut parts	1	Helper		0.330	11%	0.366	164
	2	1N/2T/PM	N/A	Make label	1	Operator	8	0.090	15%	0.104	577
Make back	3	2N/4T/OL	Guide	Join side panel with back part with label 2x	2	Operator	120	0.580	16%	0.673	89
Make front	4	2N/4T/OL	Guide	Join side panel with front 2x	2	Operator	120	0.550	16%	0.638	94
Make sleeve	5	2N/4T/OL	Guide	Join sleeve panel with front part 2x	2	Operator	125	0.550	16%	0.638	94
Make sleeve	6	2N/4T/OL	Guide	Join sleeve panel with back part 2x	2	Operator	125	0.550	16%	0.638	94
	7	2N/4T/OL	Guide	Join shoulder 2x	2	Operator	30	0.330	16%	0.383	157
	8	1N/2T/PM	N/A	Mark & make V neck ring 1x	1	Operator	10	0.165	15%	0.190	316
	9	1N/2T/PM	N/A	Reverse, straight tack & servicing neck rib 1x	1	Operator	65	0.350	15%	0.403	149

CHAPTER 5: CONCLUSION

The sample development plan is determined by the needs of the buyer. Buyer to buyer varies. In this thesis, various buyer processes are examined, and some conclusions are drawn. These issues are covered below:

1. It is evident from studying several tech packs that each tech pack is unique to the buyer, though some of the information could help create a clearer vision if it were included. These problems can be minimized by communicating with the buyer appropriately.
2. When studying artwork, it was discovered that while a particular style uses the same color in various samples, it does so throughout all samples with prints. So, it is essential to avoid using different shades on them.
3. Through studying marker, it was discovered the divisions between marker and mini marker with pictures, as well as their intended uses.
4. The Standard Minute Value (SMV) concept is made clear with visual examples in the sewing section.

From this thesis learners can learn and find out about various tech packs, what is included in them, and how to make them easier to access, as well as about different types of artwork and artwork studies, mini markers and markers, the distinction between the two, and pattern screenshots from this thesis. Every style and location where a different stitch has been used has a sewing machine. Submission of the sample along with the supporting documentation, such as lab dip cloth, lab dip trim like an elastic bow, and others SMV and the breakdown process. The core of completing an order is sample development plan. The construction of samples with the greatest possible correctness must be given additional consideration. This thesis will be helpful to anyone who wants to learn about the Sample development plan.

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