Effect of Stitches and Seams on quality of Readymade Garments

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Abstract

Demand for readymade garments has increased because of hectic life schedule, economic condition and personal desire to improve the quality of life. Garment quality plays an important role in person's quality of life. Garment quality can be improved with appropriate sewing parameters. Garment manufacturers make garment as per consumer demand and needs. The objective of the study was to determine seam and stitch parameters considered by readymade garment manufacturers as per garment type. Data was collected from different local and export readymade garment industries with purposive sampling method. The results in this study showed that the different stitches and seams are used according to joining of particular part of garment. The study has also brought to light the specialized machines used for attaching different garment parts. It was concluded from this research that stitches and seam selection was important for overall quality of garment.

Keywords—Stitches, Seams, Readymade garment, Garment quality

INTRODUCTION

Apparel is one of the basic needs of human civilization along with food, water and shelter. Meeting these needs provide satisfaction and enjoyment in life. Apparel is a fascinating part of everyone's life and knowing something about the role of clothing helps us to understand our selves and others better. The quality of garment determines the satisfaction obtained: good quality garment improves the personality of an individual which in turn affects the quality of life.

The usage of ready-made garments is on the rise now-a-days. In current era life is very busy and everybody feels the urge to free themselves from various hassles like buying the cloth, giving it to the tailor for stitching, planning a design, going for a trial, and number of visits to the tailor to get them back. There are lot of benefits of readymade garments; it is available in all sizes, easy to wear, wash, and maintain, affordable price range for various income groups. Another reason for the increased demand of ready-made garments is that the manufacturers prepare the garments as per the requirement of the consumer. The desired quality of garment is prepared by, specialized machinery, selection of appropriate stitches and seams, sewing parameters, etc.

Garment quality depends mainly on sewing parameters which are used while constructing particular apparel. Sewing parameters consists of stitch, seam, type of sewing machine used, needle size, thread size, stitches per inch etc.

Stitches and seams are two important basic constituents of structure in a garment. Stitches are used to join the garment component together and seams give the shape to it. These two factors together with their performance properties add to the quality of the garment. Seam will interrelate with the components of the fabric to ensure the best product stability. The quality of garment depends on physical and performance features. The physical properties of a garment are influenced by the tools and methods used for joining garment parts together. The visual and functional requirements of the garment are mainly contingent with the performance features. Visual requirements are grounded on patterns, design, colors, trends and accessories. The functional requirements are more associated to the durability of the apparel end use. The seam enhances serviceability and durability for functional performance of the garment. Both the functional and aesthetic performance of a garment in terms of

durability and stability are affected by seam strength. The length of life of a seam in a garment should be as long as that of the other materials and both should be appropriate to the required end use of the garment. The garment manufacturer is concerned with the characteristics of the fabric and emphasis on the seam quality during production of garment. Alternatively, consumers are mainly considering appearance, comfort, wear ability and assess seam quality based on the seam appearance. [3]

The Apparel industry is India's second largest industry after IT Industry. At present, it is amongst the fastest growing industrial segment and is also the second largest foreign exchange earner for the country. The State of Gujarat has nurtured opportunities in manufacturing of high value addition products, by establishing modern process houses, and knitwear/ready-made garment plants, to meet domestic and international demand. In Gujarat, Ahmedabad city is known as a textile hub and has long been known for readymade garment production. Garment production houses produce garment for both domestic and export market. In production houses specialized machinery are available to meet quality standards and overall consumer satisfaction.

In garment assembling various types of seam and stitches are used. It has been observed that stitch and seam selection is done by the manufacturer depending on the end use of apparel. While buyers (consumers) give more importance to pattern of the garment.

A. Seam:

A seam is a method of joining two or more pieces of materials together by a series of stitches. The main purpose of seams is to provide functional properties to garment. Smooth, even seams contribute to aesthetics of the garment.

The British standard divides seams into eight classes according to the minimum number of parts that make up the seam. [2] These classes are described in table 1.

Table 1. Classification of Seam

Seam class	Name	Characteristics
Class-1	Super imposed seam	• Commonly used • Formed by superimposing the edge of one piece of material on another
Class-2	Lapped seam	• Usually used on long seams • Assembled by lapping two pieces of material • Uneven seam allowance because one side overlap the other
Class-3	Bound seam	• Is finished the raw edge of fabric with a second piece of material • Usually used for the edge of seams, necklines, hemlines, cuffs etc.
Class-4	Flat seam	• Performed with the plies of fabric being laid side by side. • Most commonly used on knitted fabric
Class-5	Decorative seam	• Used in attaching lace, ribbons, braid and embroidery, • Used in children's wear and lingerie.
Class-6	Edge neatening	• Neatening of the raw edge of the fabric • Known as over lock.
Class-7	Attaching of separate items	• Addition of separate items to the edge of a garment part • Mainly used for decoration or extra component purpose
Class-8	Single ply construction	• Made with the one piece of material such as belt loop.

B. Stitch:

The term stitches relates to both the thread interloping or inter locking used to make seams for joining two pieces of fabric that are sewn together. Stitches help determine the functional and aesthetic performance of a garment. Their durability, comfort and attractiveness are important performance considerations determined by the end use and design of the garment, the type of fabric used, the location of seam in which used and purpose of the stitches. The classes are described in table 2.

Table 2. Classification of Stitches

Stitch class	Name	Characteristics
Class-1	Chain stitch	• Contains a stitch formation which involves a single thread being looped through itself to form a chain.
Class-2	Hand stitch	• Worked by hand. • Used to enhance the finish and sometimes the performance of specific garments
Class-3	Lock stitch	• Made with minimum of two threads locking together in the center of the plies of fabric. • Extensively used within the clothing industry.
Class-4	Multi thread chain stitches	• Made with a minimum of two threads which inter-loop to make the stitch. • Referred to as the double lock chain stitch. • Mainly used for knitted garments.
Class-5	Overedge chain stitches	• Used to secure the edges of the seam. • Known as the over lock stitch • Widely used in readymade apparel.
Class-6	Covering chain stitches	• Involve minimum three threads • Used to cover seaming, hemming, lap seaming

As stitches and seams are important parameters that determine the quality of a garment. The objective of the present research was, "To study the impact of stitches and seam parameters on quality of readymade garments.

MATERIALS AND METHODS

This study uses primary data which has been collected from 30 garment manufacturers of Ahmedabad, in the state of Gujarat through structured questionnaire by using purposive sampling technique. The sample was selected from the list provided by Gujarat Garment Manufacturers Association. [4] The garment manufacturers selected for the study were producing for the domestic as well are for export purpose. An interview schedule was formulated for obtaining the relevant information about the stitch and seams used for assembling of particular garment.

This study was limited to woven garment products namely shirt, kurti, trouser and jeans. The study was focused on the stitch and seam used as main seams of the garment.

RESULTS AND DISCUSSION:

A. Stitch and seams used in Shirt:

In shirt 301 lockstitch was used to make superimposed and bound seam. This stitch is mainly used in main seams of shirt. 401 chain stitch was used for lapped seam it gives flat and neat appearance and adds to the strength of the seam. 504 overedge stitch was used for superimposed seam this gives strength and durability to the main seams of garment, it also help in preventing fraying of the fabric. (Table 3)

B. Stitch and seams used in Kurti:

It is observed from the table 3 that stitch and seams used in ladies kurti are mainly 301 lockstitch with superimposed and bound seam. This stitch is widely used in women's apparel. Bound seam is

commonly used in neckline area it gives neatness as well as strength to the garment. 504 overedge stitch made the seam appear better and improves the strength of the seam also.

Table 3. Stitches, seam and sewing machines used in manufacture of selected Garments

Sr. no	Garment	Garment part	Stitch	Seam	Sewing Machine
1	Shirt	Collar	301	Bound seam	Single Needle lock stitch
		Armhole	301+504/401	Superimposed/ Lapped seam	Single Needle lock stitch and 3 or 5 Thread over lock/ Single needle chain stitch
		Side seam	401	Lapped seam	Feed of the arm
		Cuff	301	Bound seam	Single Needle lock stitch
		Hemline	301	Superimposed	Single Needle lock stitch
2	Ladies Kurti	Neckline	301	Bound seam	Single Needle lock stitch
		Armhole	301+504	Superimposed	Single Needle lock stitch
		Side seam	301+504	Superimposed	Single Needle lock stitch and 3 or 5 Thread over lock
		Hemline	301	Superimposed	Single Needle lock stitch
3	Trouser	Belt	301	Bound seam	Single Needle lock stitch
		In seam	301+504/401/ 401+504	Superimposed/ Lapped seam	Single Needle lock stitch and 3 or 5 Thread over lock/ Double needle chain stitch
		Side seam	301+504/401+504	Superimposed	Single Needle lock stitch and 3 or 5 Thread over lock/Single needle chain stitch
		Hemline	301	Superimposed	Single Needle lock stitch
4	Jeans	Belt	401	Bound seam	Specialized belt attaching Machine
		In seam	401	Lapped seam	Feed of the arm
		Side seam	401+504	Superimposed	Single Needle chain stitch and 3 or 5 Thread over lock
		Hemline	301	Superimposed	Single Needle lock stitch

C. Stitch and seams used in Trouser*:*

In trouser variety of stitches and seams were used for joining of parts. (Table 3) 301 lockstitch was used in belt, hemline and sometimes in side seam also. Side seam was made by either 301+505 with superimposed seam or 401 with lapped seam same as inseam area. Sometime 401+505 are combined for use at side seam and inseam area depending upon fabric composition. Manufacturers stated that stitch selection basically depended upon buyer's requirement.

D. Stitch and seams used in jeans:

It is observed from table 3 that jeans are assembled mainly with 401 chain stitch. It has been stated by manufacturers that chain stitch gives maximum elongation amongst all types of stitches and due to

lycra content in the fabric used for jean manufacture, the fabric has good elongation. Lockstitch is used in hemline.

On analysis of data obtained from various manufacturers, it was observed that the manufacturers selected specific types of sewing machines depending on the type of seam to be produced. For example for superimposed and bound seams, single needle lockstitch machines were used while for lapped seam feed of the arm machines were used. These specialized machines are mainly used because with these machines neat seams with high speed can be prepared. The feed of the arm machines are specifically used to make side seams for shirts and inseam for Jeans, as these seam need to have streachability and flexibility which is provided with chain stitch made by these machines. Thus according to the shape of the garment part and seam type, specialized machines are used.

CONCLUSION:

On evaluation of stitches and seams used in garment assembling, lockstitch is mainly used in main seam of upper and lower garments. Chain stitch is widely used in jeans and trousers. Lapped seam is used to make long seams for joining garment parts. It gives flat effect and adds to neatness in garment. It can be also concluded that selection of appropriate stitch and seam enhances the garment quality. As stitches and seams are important factor for garment durability, which in turn reflects the garment quality. The stitches and seams are selected and applied by the manufacturer as per the demand of the buyers. The costing of the garment is also affected by the stitch and seam quality. Quality garments give self-confidence to the wearer and enhances the person's quality of life.

ACKNOWLEDGMENT

UGC BSR JRF Fellowship for providing funds to carry out the study is acknowledged.

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