

to the provisions of any Central or State law for the time being in force, file an Information Memorandum in the prescribed form to the Textile Commissioner within 30 days of such expansion.

In case of non-compliance of the sub-sections 1 to 4 of this Section, the owner or occupier of such cotton processing factories shall be punishable with a fine of Rs. 5,000/- for each day of default. Every person having cotton pressing factory or a cotton ginning & pressing factory shall submit an application in the prescribed form to the Textile Commissioner for obtaining a fresh Press Mark Number, within 60 days from the date of publication of this Act in the official gazette. On being satisfied that the application is complete in all respects, the Textile Commissioner shall allot a Press Mark Number within 60 days from the date of receipt of the application complete in all respects. The old press mark number allotted by the concerned State Government under the Ginning & Pressing Act, 1925 now repealed, shall be deemed to be valid for the purpose of this Act, and shall remain in force until the new Press Mark is allotted to the cotton pressing factory or the cotton ginning & pressing factory by the Textile Commissioner or one year from the date of publication of this Act in the Official Gazette, whichever is earlier.

Mexico is to take safeguard against textile imports from Asia

Mexico has announced detailed safeguard measures against textile imports from Asia at dumping prices. The Mexican industry associations Canaive and Canaintex are working closely with the authorities to monitor imports and since last December also a new price alert system is in place to detect practices of underpricing, or better dumping prices.

According to the Ministry of the Economy, since 1997 its Unit of International Trade Practices has initiated 209 investigations and 12 were textile-related and were mostly focused on exporters from Asia (including China, Hong Kong, Taiwan and South Korea). There are still special safeguard measures possible according to the WTO protocol with China but they end in 2013. Mexico is evaluating to make a claim at the WTO arbitary council.

The Mexican textile sectors cover the entire value

chain, including natural and man-made fibres and yarns, knitted and woven fabrics. Apparel manufacturers in Central America source fabrics from Mexico, especially denim, denim/Lycra blends and special man-made fibres qualities. The Mexican apparel industry produces basic garments such as five pocket denim jeans and knit tops mainly for export to the US. Mexican 2011 apparel exports amounted to US 5.1 billion and thereof USD 3.8 billion was exported to the U.S.A. Mexico ranks as fifth major exporter of apparel to America after China, Vietnam, Indonesia and Bangladesh. China and Hong Kong have made practically no textile investment in Mexico, because they prefer to export directly from their base. According to Jesús Castillo, Tax Partner for KPMG Mexico, Mexico is well recognised as a high quality manufacturer of export goods. Besides, the presence of large foreign retailers pushes the local garment manufacturers to be more efficient.

However, in reality Mexican textile and apparel manufacturers have a minor role in their own domestic market, because except for the middle-income segment, the market is dominated by foreign suppliers. The Mexican textile market is segmented in a flourishing luxury market, a middle-income market and a very price-competitive low-end market.

For Hugo Boss and other international brand Mexico represents up to 60% of sales in Latin America, but few of these brands have a local production. Other foreign companies such as Zara, C&A, Wal-Mart and Sears compete in the middle section with Mexican chains like Edoardo, Lineas, Liverpool, Suburbia and Palacio de Hierro. But the middle income customers are more and more also buy second-hand clothing imported from U.S.A. construction and civil engineering projects. However, the rise in demand is unlikely to be sustainable over the medium to long term. Japanese companies will face growing competition from low cost producers of basic items, especially those based in China. Further restructuring will occur in the industry as companies continue to relocate their operations to low cost countries and this will become increasingly acute as vehicle and automotive component production rises rapidly in China. As a result, volumes are expected to fall in the coming years and, although values could be maintained in the manufacture of some high performance industrial textiles, the overall trend will continue to be downwards.

previous year. The expected output decline is driven mainly by a combination of relatively weak global cotton prices and rising production costs, encouraging major growers to shift area to more profitable alternatives.

China and India are forecast to produce 30.5 million bales and 24.0 million bales, respectively, each a 9-percent decline from a year earlier. China's harvested area is also expected to decline 9 percent from the previous year to 5.0 million hectares in 2012/13. India's harvested area is forecast at 10.8 million hectares in 2012/13, down 11.5 percent from a year earlier.

India's production is revised down 4 percent from last month to 24.0 million bales, as low prices and a delay in the monsoon season have shaved production prospects. Australia and Brazil are forecast to produce nearly 4.3 million bales and 7.0 million bales in 2012/13, a decline of 13 percent and 20 percent, respectively, from the previous year. Australia's harvested area is expected to decline 18 percent to 475,000 hectares, while Brazil's area is forecast to contract 23 percent from a year earlier to nearly 1.1 million hectares.

Pakistan and Uzbekistan are expected to produce 9.7 million bales and 4.1 million bales in 2012/13, down 9 percent and 2 percent, respectively, from the preceding year. Area harvested in Pakistan and Uzbekistan is forecast to decline 3 percent from a year earlier to 3.1 million hectares and 1.3 million hectares, respectively.

The United States and the African Franc Zone (AFZ) are forecast to produce 17.0 million bales and 3.1 million bales in 2012/13, up 9 percent and 2 percent, respectively, from the previous year. Globally, 2012/13 harvested area is forecast at 33.3 million hectares, down 7 percent from a year earlier, and yield is projected at 745 kg/ha, similar to 2011/12.

Turkey to introduce new incentives for its textile industry

Turkish Government recently announced a new incentive package for its textile industry, namely tax exemptions, free land allocations, 50 % support for insurance premiums and is available during 2012 only

Last year's government approved support entailed reduced VAT rates, increasing import tax rates for fabrics and ready wear and quotas for cotton yarn. The new incentive package goes beyond these advantages and will certainly again propel the willingness of Turkish textile industrialists to invest in the state-of-the-art textile machinery and equipment. This is also the reason why ITM 2013 Texpo Eurasia has been removed from 2014 to May 19 to June 1, 2013 (see also Events www.textile-future.com). The organisers of the show predict that textile industrialists and new investors are planning to benefit extensively from these new incentives and this will translate into a new success for ITM exhibitors in 2013.

Indian Textile Ministry issues draft of cotton trade bill

In a bid to regulate the Indian cotton ginning and pressing industry and also establish a proper system of collecting statistical data pertaining to production and sales of the white gold, the Ministry of Textiles has formulated the draft of the Cotton Trade (Development & Regulation) bill.

As per the draft available with fibre2fashion, every cotton ginning and pressing and processing factory or trader engaged in trade of cotton and manufacture of cotton yarn shall be required to register himself in a prescribed form with the Textile Commissioner within a period of three months of enactment of rules issued for inviting registration.

Failure to register will be punishable with a fine equivalent to Rs. 10,000/- per day for the period of processing trade or manufacture without registration or with imprisonment up to 2 years or both.

Every person having or on having established a cotton processing factory shall, subject to the provision of any Central or State law, for the time being in force, file an Information Memorandum in prescribed form to the Textile Commissioner.

The Information Memorandum shall be filed within 30 days of the installation of a new cotton processing factory and within 120 days from the date of publication of this Act in the official Gazette by an existing cotton processing factory to the Textile Commissioner.

Every person on having expanded the capacity of an existing cotton processing factory shall, subject





World Textile News

Continued Growth in Nonwovens Production

EDANA, the international association serving the nonwovens and related industries, has released a public summary of its annual statistics on Nonwovens Production and Deliveries for 2011. The report is said to show growth in production volume for 2011 of 5.7%, with several market segments recording their best output ever in both tonnage and square metres, including baby diapers, medical, personal care wipes, civil engineering, automotive and agriculture.

Total deliveries reached 1,897,748 tonnes and 55,740 million square metres in 2011 and in global terms, the production of Greater Europe represented approximately 25%. According to EDANA, the 2011 expansion, albeit at a slower pace than the increase of 10.9% observed in 2010, has continued the positive growth of the industry after the hiccup of the recovery year after the economic crisis.

Positive signs

EDANA says additional positive signs were also recorded as Jacques Prigneaux, EDANA's Market Analysis and Economic Affairs Director explained:

"Each production process obviously has its own specific trends depending on the evolution of the market segments. Spunmelt production recorded two successive growths of more than 9% in 2010 and 2011. Within the fibre-based products, while thermo-bonded nonwoven production has been quite flat over the last two years, spunlace production recovered

the most, and was by far the most important dry laid output". EDANA says that even if trade flows in and out of the European Union are still limited compared to local production, the exports of nonwovens to the rest of the world have never been as high as the current period for both volume and value.

Last year, import into the region from China increased by 24% and China became the EU's most important supplier, but, for each sub-category of Nonwovens the EU-27 remained a net exporter of products.

The EDANA nonwovens database and statistical methodology, which is over 30 years-old (and has obviously been refined using latest IT features), is said to be unique and the largest of its kind in the world, based on an exhaustive annual survey with direct input from nonwoven producers.

With all significant players from Greater Europe and a large number of companies participating already from the Middle East and Africa in a parallel system (with data presented in February 2012 at the 3rd EDANA MENA Nonwovens Symposium), around 100 major nonwoven producers are directly involved, representing over 85% of the production in both regions. The remainder of the market is covered by qualified estimates for an equivalent number of generally much smaller players.

Global cotton production to dip in 2012/13

World 2012/13 cotton production is forecast at 113.8 million bales, a 7-percent decline from the



amounted to \$8.7 billion in 2011. Earlier, the UAE Minister of Economy Sultan Bin Saeed Al Mansouri said the sanctions imposed against Iran, affected both the cooperation between the UAE and Iran and the economy of the UAE itself. In late 2011, a number of countries, including the U.S., Canada, UK and other EU countries introduced a ban on any transactions with Iranian banks, including the Central Bank.

Iran seeks direct import of Pakistani textiles

Iran wants to import textile and clothing items directly from Pakistan, without the involvement of any third country, a statement of the Federation of Pakistan Chambers of Commerce and Industry (FPCCI) stated. According to the statement, Consul General of Iran Abbas Ali Abdollahi said that unlike presently, when Pakistani textiles and apparel items reach Iran via third country, they wish that these items should directly be shipped to Iran. During a recent meeting with FPCCI members, the Iranian Consul General said the two nations can boost their bilateral trade to up to US\$ 10 billion. He said that though Iran trades with several countries, it is looking forward to enhance its mutual trade relations with Pakistan, the statement stated.

Mr. Abdollahi said the trade between the two countries has decreased drastically in recent times due to financial and banking sector sanctions imposed by Western countries. While disclosing that Iranian consul offices have started issuing multiple visa of six months to Pakistani entrepreneurs, he stressed that the two nations should consider trading in their own currencies, rather than in any other currency.

FPCCI President Haji Fazal Kadir Sherani said that in spite of implementation of Preferential Trade Agreement (PTA) in 2006 between Iran and Pakistan, existing bilateral trade volumes between the two nations do not reflect the real potential of the two countries.

Bilateral trade volume between Pakistan and Iran stood at about US\$ 265 million in 2011.

Mr. Sherani stressed on inclusion of new items in the existing PTA, and also suggested that extent of concessions on some items already forming a part of the PTA should be raised. He informed that the Iranian Government has promised US\$ 330 million to Pakistan through the Friends of Democratic Pakistan initiative.

India begins paying for Iranian oil with local currency

India has begun using its currency to purchase Iranian oil. The move is part of New Delhi's effort to bolster exports to the Middle Eastern nation.

After tightening U.S. sanctions made it difficult for New Delhi to pay Iran for oil in dollars, Tehran agreed to accept nearly half the payment in Indian rupees.

The arrangement became operational recently. Rafique Ahmed with the Federation of Export Organizations of India says it will give a major boost to trade between the two countries as Tehran will have to use the rupees it earns from Indian oil companies to buy goods from New Delhi. "The oil companies have started to put the money in the rupee account and the flow of trade has started. They have deposited about \$550 million," said Ahmed. "They are expecting more flow of money to come in." Iran has been scouting for goods to buy with the Indian currency. In May, an Iranian trade delegation visited New Delhi to identify potential imports.

India mostly sells rice, sugar, pharmaceuticals and medical equipment to Iran. New Delhi is also considering selling wheat from its overflowing stocks. Indian traders say Iran could potentially become a big market for items such as tea, yarn, fabric and fertilizers.

Vijay Setia, the head of the All India Rice Exporters Association says some Indian exporters had faced uncertainty about payments in recent months, but those worries have been eased since an Indian bank began issuing lines of credit (LC) for exports to Iran.

"This is a sure payment - that you will get your payment," said Setia. "And, confidence of bank LC is definitely there and business is safe now, in a safe mode. They are feeling more secure." He says rice exports to Iran had slowed down. But he expects more rice to go to Iran in the coming months.

In a bid to encourage exports to Iran, India has also put in place tax incentives for its traders. Indian exports to Iran reached some \$2.5 billion in 2010. But they will have to nearly double to about \$5 billion if Tehran is to use up the rupees to be paid for the Iranian oil. India has cut down on oil purchases from Iran following pressure from the United States, but it still procures about 12 percent of its requirement from Tehran. India, along with countries like China, has said it will abide by United Nations sanctions and not follow those imposed by Western countries.





Iran news

Iran Textile News

Iran to Increase Imports of Indian Textiles

India plans to boost export of textile products exports to Iran, Indian Union Commerce Secretary S R Rao.

"...We are eyeing newer markets which have been initiated couple of years ago... Especially Middle East, CIS (Commonwealth of Independent States) and Iran. The scope is immense", Rao told reporters.

Besides these countries, he said, there is also the possibility of exporting Indian textiles to China, which itself is deemed as the largest textile exporter in the world.

"FIEO President (M Rafeeqe Ahmed) was saying that even China is vacating the traditional line that is where our textile products would also see greater scope of penetration. So there is good news coming up", he said.

"I wish it would have started by the beginning of this financial year, but it had taken some time. I think there is light at the end of tunnel...", he said.

Recalling the meeting with Apparel Export Promotion Council and Export promotion body Texprocil, he said, "EPC is saying that their order books are full which is good news. The (textile) business should be doing extremely well in traditional markets."

India is the second largest producer of textiles and clothing after China.

Iran plans to slash unemployment rate to 7% by 2015

Plans are underway to reduce the unemployment rate in

Iran to seven percent by 2015, said the deputy Iranian minister of labor and social welfare.

Mohammad-Hossein Forouzan-Mehr added that according to the plans, the unemployment rate will fall by one percent each year during 2013-2015, to reach percent percent, the Mehr News Agency reported.

The unemployment rate will be lowered by two percent this year, which ends on March 20, 2013, he added.

A member of Iran's high council of employment said that the council had developed a package of investment plans, worth 1.96 trillion rials (some \$160 billion), aimed to create 1.1 million new jobs this year.

The Mehr News Agency quoted Davoud Qaderi as saying that although the package was designed to create 2.5 million jobs, only 1.1 million of the jobs would be new.

The unemployment rate in Iran stood at 12.3 percent last year, showing a 1.2 percent fall compared to its preceding year, the statistical center of Iran reported.

Some 400,000 people were employed in Iran last year, which ended on March 19. The government announced over 1.6 million job opportunities were created last year, the Mehr News Agency reported on June 12.

UAE, Iran aim to expand trade relations

Foreign trade turnover between the UAE and Iran totaled \$25 billion in 2011, Iranian Ambassador to UAE Mohammad Reza Fayyad told Al-Jazeera.

The Ambassador noted that the country will expand trade relations and increase trade turnover.

Fayyad noted that reexport between the countries



Effect fusing of interlining on strength

The strength of fabric sewing were tested for significance at 95 percent level of confidence. Summarizes the LSD test results of fabric strength with different interlining is presented in Table VII. As shown in Table VII the different of fabric strength for woven interlining, knitted interlining and plain state is in significant at 5 percent level. For all types of fabrics, strength increases as interlinings (interlining with woven base fabric as well as knitted base fabric) are fused to them, which can also be clearly seen from Figure 2. When the shell fabric is fused to interlining, it becomes a composite and its bending stiffness and shear stiffness increase in all directions. It leads reduction in the freedom of yarns in fabric for any type of movement which eventually increases the strength of interlining fused fabric. Comparing woven and knitted base fabric interlinings, it may be seen that for all types of fabrics the strength when fused with interlining having woven base fabric is more than the strength when fused with interlining having knitted base fabric.

Table VII. Summary of LSD test results for fabric strength at different interlining

LSD	(I)	(J)	Fabric strength
	Interlining	Interlining	
	Knitted Warp	Woven	*,**\
		Plain	*,**
	Woven	Knitted Warp	*,**\
		Plain	*,**
	Plain	Knitted Warp	*,**
		Woven	*,**

Note:*The mean difference is significant at the 0.05 level

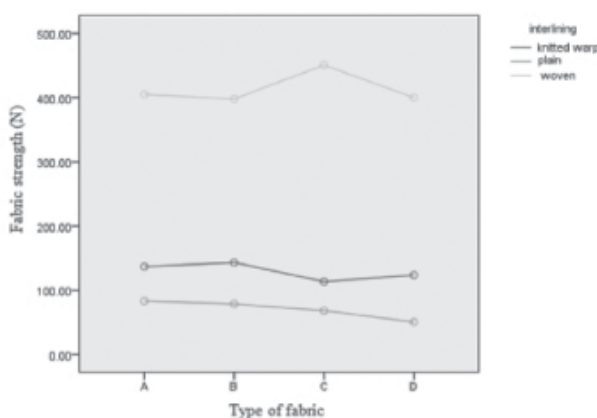


Figure2.Comparison of strength values for four types of fabrics in plain and interlining fused State

The woven structure of base fabric is also more compared to knitted structure, which is relatively open and flexible. So these factors lead to higher strength of fabric fused with woven base fabric interlining as compared to fabric fused with knitted base fabric interlining.

Conclusions

The aim of this work was to investigate the effect of fusing of interlining on strength of fabric sewing is investigated. Comparing various seams for strength of sewn fabrics, it was found that there is substantial change in strength for these seams. For LSb-2, LSb-1 and SSa the strength have significant difference with each other.

The strength of LSb-2 is maximum in all fabrics because for LSb-1 and SSa fabric specimen becomes two layered in seam zone which leads in more increase in strength as against LSb-1 and SSa where specimen is two layered in seam zone. When any interlining is fused to shell fabric its strength increases substantially.

The strength of interlining fused fabrics with woven base fabric interlining is higher than that with knitted base fabric interlining presumably due to higher strength of shell woven base fabric as compared to that of shell knitted base fabric interlining.

References

- [1] Fan, J., Leeuwner, W., & Hunter, L. (1997). Compatibility of Outer and Fusible Interlining Fabrics in Tailored Garments. Part I: Desirable Range of Mechanical Properties of Fused Composites Textile Res J, 137 – 142.
- [2] Kim, S. J., Kim, K. H., Lee, D. H., & Bae, G. H. (1998). Suitability of Non-woven Fusible Interlining to the Thin Worsted Fabrics International Journal of Clothing Science and Technology 10, 273 – 282.
- [3] Fan, J., Leeuwner, W., & Hunter, L. (1997). Compatibility of Outer and Fusible Interlining Fabrics in Tailored Garments. Part II: Relationship between Mechanical Properties of Fused Composites and Those of Outer and Fusible Interlining Fabrics Textile Res. J. 194 – 197.
- [4] KITECH. Apparel & Sweater Technical Service Center, in "Selection and Evaluation of Fusible Interlining" (in Korean), KITECH, Korea, 2000.
- [5] Dapkuniene, K., & Strazdiene, E. (2006). Influence of layer orientation upon textile systems tensile properties. Part1: Investigation of tensile strain and Resilience, Vol.12, pp.73-78.
- [6] Dapkuniene, K., & Strazdiene, E. (2006). Influence of layer orientation upon textile systems tensile properties. Part2: Investigation of tensile energy and Linearity, Vol.12, pp. 247-252.
- [7] Namiranian, B., & S, Shaikhzadeh Najar. (2009). Compression plate buckling behavior of fused fabric composites. International Journal of clothing Science and Technology. Vol. 21, pp. 311- 325.



Table I. Specifications of shell fabric samples

Sample code	Fabric density(cm ⁻¹)		Weave	*Thickness (mm)	Weight (g/m ²)	Fiber content
	Warp	Fill				
A	58	34	Plain	0.18	89	100% polyester
B	38	18	Twill	0.23	120	100% polyester
C	14	12	Twill	0.54	152	100% polyester
D	14	14	Twill	0.77	174	100% polyester

* thickness measured at pressure of 5 KPa;

Interlinings

Two types of interlining were selected, one with woven base fabric and the other with warp knitted base fabric. Same woven base fabric interlining and knitted base fabric interlinings was fused to all samples. The specifications of interlinings are shown in Table II.

Table II. Properties of interlinings

Sample code	Fabric density(cm ⁻¹)		Longitudinal	Type of adhesive	Weight (g/m ²)	Base cloth content
	Warp	Fill				
Woven	58	34	Polyester	Polyamide-3P	56	100% polyester
Knitted warp	38	18	Polyester	Polyamide-3P	39	100% polyester

* thickness measured at pressure of 5 KPa;

Method

For determination of effect of fusing of interlining on strength of fabric sewing, the fabric samples had to be sewn first. For sewing, seams were applied in warp direction of fabric specimen. Three types of seams (SSa,LSb-1,LSb-2) were applied to observe the effect of fusing of interlining on strength of fabric sewing. Then interlining was fused to fabric specimen before making strength test. Effect of type of interlining on strength of fabric sewing was also observe by taking two type of interlining with woven base fabric and knitted base fabric.

Sewing

JUKI lock stitch sewing machine model DDL-5500, N was used for all types of stitches. Two ply, 100 percent Polyester sewing thread and Schmetz sewing needle of fineness 80 Nm were used. The specifications of seams and stitch applied to shell fabrics in warp direction are shown in Table III.

Table III. Specifications of seams and stitch applied to shell fabrics

Type of Seam/Stitch	Stitch length	Code	Symbolic presentation
Double Lock Stitch	5 cm	SSa	
Double Lock Stitch	5 cm	LSb-1	
Double Lock Stitch	5 cm	LSb-2	

Fusing of interlining

Huangli SR-60 Flat bed fusing press with scissors action with working area 5* 30 cm was used for fusing of interlinings to shell fabrics. Time, temperature and pressure were selected according to requirements shown in Table IV.

Table IV. Parameters for fusing interlining to shell fabrics

	Type of interlining	
	warp knitted	woven
Applicable range of temperature(0c)	115-104	111-105
Applicable range of pressure(Pa)	2-4	2-4
Applicable temperature	109	110
Applicable pressure(Pa)	2	2
Applied time(s)	45	30

Strength testing

The fabric strength in warp direction was also measured by Instron tensile tester using the strip test mode. First, the materials were cut in a strip of 5*30 cm in the direction of warp. The length of fabric specimen between the two jaws was kept at 20 cm. Rate of extension for fabric testing was 300 mm/min. In this research work, five tests are performed for each specimen.

Results and discussion

In order to evaluate the effects of fusing of interlining on strength of fabric sewing, the results of experiments were statistically analyzed using analysis of variances (ANOVA) and LSD test methods at 95 percent confidence limit. ANOVA statistical results of effect sewing and interlining on fabric strength presented in Table V. It is shown that interlining is effective on strength of fabric sewing.

Table V. The AVOVA test result of interlining for fabric strength

Sig.	F	Mean Square	df	Type III Sum of Squares	Source
Corrected Model	5452713.023(a)	2	2726356.512	4.450	.018
Intercept	32662915482.653	1	326629154.826	53310.6	.000
Interlining	5452713.023	2	2726356.512	4.450	.018

Effect of fusing of interlining on strength of fabric sewing

Article

■ Elahe khodarahmi
Islamic Azad University of Yazd , Iran

■ Abstract

Purpose -The quality of fabrics and performance of garments are closely related to their basic low-stress mechanical and physical properties , and can therefore be controlled through fabric objective measurements. Fabric strength is one of the most important properties for the characterization of woven fabric quality. In the present study, the effect of fusing of interlining on strength of fabric sewing is investigated.

Design /methodology/approach – The effect of fusing of interlining on fabric strength is investigated. Comparisons were also made between different types of interlinings for their effect on strength of fabric sewing.

Findings – Strength has a good to strong correlation with interlining fused fabrics. Strength changes with the types of interlining used.

Originality/value – This paper provides information on the effects fused interlining on strength of fabric sewing.

Keywords: Strength, Fabric testing

■ Introduction

Interlining fabrics are used to support outer fabrics, as well as, to create and maintain the beautiful 3D shape and drape of a garment .Optimal combination of interlining and outer fabric is becoming critical for garment quality. Careful selection of interlinings can compensate for some of the shortcomings of outer fabrics, and conversely, the use of poor or unsuitable interlining can lead to inferior quality garments, even when good quality outer fabrics are used [1]. In fact, bonding of fusible interlining produces a “new” fabric in which the interlining properties are added to those of outer fabric [1]. The fitness of fusible interlining to the outer fabric is very important for wearing performance. Functions of fusible interlining in garments can be summarized as the ease of garment manufacturing due to stability of shell fabric, endowment of volume due

to good formability and silhouette and shape retention of garment due to cyclic dry cleaning [2]. Fused garment parts should have sufficient bond strength to withstand subsequent wearing and laundering, must pass good handle and drape and can not experience any excessive shrinkage or distortion. Besides they should be free of problems such as moiré effects, surface distortion, glazing, shading and flattening of pile fabrics [3].

Dapkuniene et al studied tensile properties such as tensile strain ϵ and resilience RT tensile energy WT and linearity LT using KES-F automatic tensile/shear system at garment wearing level loads Influence of layers' orientation upon textile systems mechanical behaviour, i.e. tensile strain ϵ and resilience RT at low tensile loads is significant for fused systems which are tensioned in transverse direction and insignificant for systems tensioned in longitudinal direction in respect to outer fabrics' warp direction.[5,6] .Namiranian and Shaikhzadeh the effects of fusible interlining lay-up and fabric weight on plate buckling behavior of fused fabric composites .They found that fusible interlining lay-up angle significantly influences on buckling parameters. The buckling behavior of fused fabric composite against lay-up interlining direction is in accordance with interlining buckling behavior [7].

To observe the effects of sewing, seams were made in warp made in warp direction of fabric specimen. Warp direction of seams was chosen because most of seams are applied in warp direction in garments. In this study, the effect of sewing and fusing of interlining on fabric strength is investigated.

■ Materials

Fabrics

Four different Polyester fabrics (A, B,C and D) samples. The fabric details are shown in Table I.

