

Production of 'Technical Textiles' Scenario

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Pakistan still lags behind in technical textile products as neither the government nor the textile industry has made any serious efforts towards synchronizing textile products with the emerging needs of the world market by developing higher value-added products. Although the textile sector is the backbone of Pakistan's economy, the Government as well as the textile industry has kept their focus on conventional textiles, ignoring technical textiles and knowledge-based products.

Technical textile products are those required for special purposes such as fire fighting and protective gear, industry, aerospace, military, marine, medical, construction, geo-textile, transportation and other high-tech applications.

Presently, Japan, Germany, the US, the UK, France, Turkey and China are the key producers of technical textiles. These countries except China and Turkey have practically abandoned producing conventional textile products.

Traditional applications for technical textiles include tyre cords and ropes, but producers are increasingly manufacturing fibres used in high-tech products for a wider range of end uses. Industries, which are now involved in technical textiles, include agriculture, automotive, building and construction, medical/hygiene, packaging, protective clothing, sportswear and transport.

By realising its importance, China has launched a comprehensive programme called 'Double Incentive Scheme for Technical Textiles', whereas India has also announced a relief package for the promotion of technical textiles in the country.

Contrary to this, only a few textile mills in Pakistan deal in production of higher value-added products like technical textiles and have to contend with an absence of incentives from the Government and unfavourable conditions. Furthermore, Pakistan also spends a huge amount of foreign exchange every year on imports of higher value-added textile products in order to meet its local demand including aerospace, military, marine and medical sectors.

The lack of technological advancement in Pakistan has restricted cotton's presence in home textiles. These days when textile fibrous materials are becoming an integral component in bridges, architecture, combat vehicles, automobiles, aeroplanes, medical implants, protective wear against bullet, shock, radiation and heat, the idea of perceiving textiles only as apparel or home-textiles appears too narrow and restrictive.

The value of home textile articles weighing 10 kg would hardly be equivalent to 100 kg value of smart textile article. Most of the major cotton producing and textile exporting countries have done much in developing smart textiles. On the other hand Pakistan's monetary policies favour the big industrial set-ups. These industrial set-ups lack flexibility in their manufacturing, technology and processes. They cannot introduce new products especially technical textiles due to high complexities in corporate practices.

Banks and financial institutions turn a blind eye on technical and innovative aspects of the industry. They fear new experimentation of markets and its associated risks and keep revolving their money in the existing markets.

There is a huge gap between academia and industry which must be closed by establishing stronger links with the industry. Otherwise the research done in the institutions would never benefit the industry.

With the fast changing scenario in textiles, steps towards the "HRMS" will become more and more important. With economic liberalization and globalization, there will be tremendous amount of pressure for improving technical know-how, quality standards at every stage with reduced costs and use of eco-friendly products. Value-added technical textiles will become more important from the point of growth and profitability. At present world consumption of this sector is 19.6 million tonnes worth US \$75 billion in 2006 and will rise to 33.8 million tonnes worth US \$130 billion by 2010.

The historical progress of technical textiles has seen the advance of alternative textile forming technologies, most prominently, nonwoven techniques but also warp and weft knitting, stitch bonding and modern braiding methods. The use of loose fibres with sophisticated cross-sectional profiles for insulation, protection and fibrefill applications is another important growth area. In machinery development, the trend will be towards automation in all stages including computer colour match prediction and composition of designs in printing. The evolution will be towards equipments using less and less of water like continuous dyeing, HT steaming and 'thermosoling' are expected to make rapid strides.

In fibre technology and development, emphasis will be on the fibre blends and modification in cellulose. Fibers with better dimensional stability, soft handle coupled with modified dyeing properties will be in demand. The share of synthetic fibres in the technical textile sector will rise from 79% in 2000 to 81% by 2010. There will also be an increase in the share of non-wovens and will grow from 35% in 2000 to 39% by 2010 in weight terms. This increase will largely be at the expense of woven fabrics, whose share will decrease from 58% to 53%.

In finishing, functional knits, transparent fabrics weighing less than 100 g/m², micro-fibres, leisure wear, non-staining and easy care fabrics, fire proof, weather protection, free of harmful chemicals will be in demand. The tendency will be to evolve a "universal finish" which at one stage will impart easy care, flame retardant and bactericidal characteristics to the textile material. The development of synthetic polymer fibers, production of high performance fibers and high technology textiles will rapidly change the textile industry from science served to science based. ♦

World consumption of Technical Textiles

Quantity: Tonnes Value: US \$ Million

Product	Quantity		Growth % per annum	Value		Growth % per annum
	2000	2005		2000	2005	
Fabrics	3,760	4,100	1.7	26,710	29,870	2.2
Nonwovens	3,333	4,300	5.4	14,640	19,250	5.6
Composites	1,970	2,580	5.5	5,960	9,160	5.6
Other textiles	2,290	2,710	3.4	11,950	14,060	3.3
Total	11,353	13,690	3.9	59,260	144,680	3.7

Source: David Rigby Associates / Techtexil.