

Changing Apparel Sourcing Trends: From Cotton to Synthetic

Global Demand Trends

The current global demand of fiber and yarn is split into about 41% for cotton and other natural fibers and 59% for man-made fibers.

In 2005, the global demand of fiber and yarn was about 74 million tons, with demand for cotton and other natural fibers amounting to about 33 million tons and that for polyester and other synthetic fibers totaling about 38 million tons. By 2011, this demand increased to 84 million tons of which cotton and other natural fibers comprised about 34 million tons and man-made fibers were about 50 million Tons¹.

Further, by 2021, the annual growth in global demand of man-made fibers is expected to double and reach a CAGR of about 4% in comparison with annual growth rate of 2% for cotton and Other Natural Fibers¹.

Demand for Staple and Filament Fiber

The demand for staple fibers was about 50 million tons in 2005 and made up about 70% of the global fiber and yarn demand. This was estimated to be 53 million tons in 2011, which is only about 63% of the global demand. Further, the demand for staple fiber is expected to reach 65 million tons by 2021, corresponding to a CAGR of 2%¹.

The demand for filament yarn was 21 million tons in 2005, was accounting for about 30% of the global demand. In 2011, this was estimated to be 31 million tons, or about 37% of global demand of fiber and yarn. The demand for filament yarn is expected to reach 48 million tons, i.e. about 42% of global demand of fiber and yarn¹ by 2021.

Thus, the demand for staple fibers is expected to grow at a CAGR of merely 2% whereas the demand for filament yarn is expected to grow at much faster rate of about 5%¹.

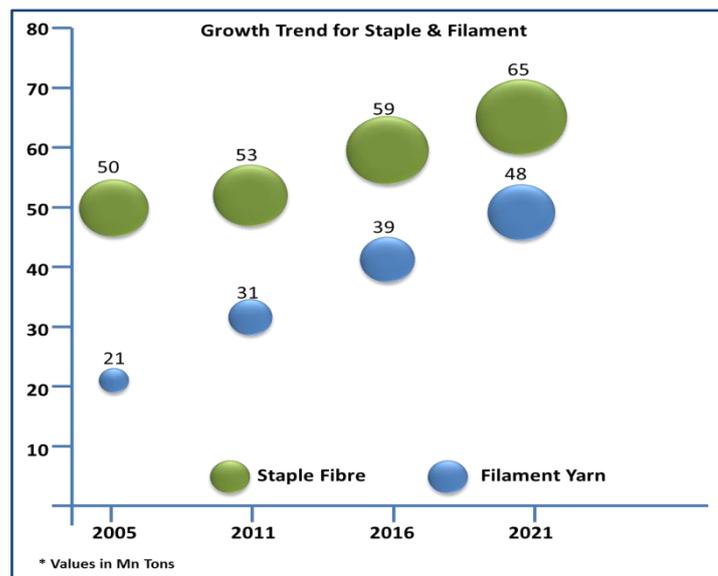
Versatility of Design and Application

Since the characteristics of man-made fibers are driven by technology and process advancement, changes in the latter always provide an opportunity to incorporate more design aesthetics and functional aspects with ease and consistency. This makes products made of man-made fibers more versatile than those made using cotton and other natural fibers. Also, technological advancements contribute to a significant increase in process efficiency along with a reduction in investment costs, thus leading to reduced manufacturing costs.

Synthetic fibers find use in a variety of applications ranging from apparel to home textiles to non-woven and technical textiles used in automotive and aerospace components, medical devices, defense materiel etc.

Diminishing Capacity for Cultivating Natural Fibers

With a growing requirement for food grains and also an increasing demand that land meet multiple needs, the amount of land available for cultivating natural fibers may diminish and will even reduce the amount of land currently available for such cultivation. This can lead to a reduction in cultivating capacity and thus impact the supply of cotton and other natural fibers. Such a shortage in supply typically propels people to use more and more synthetic fiber-based products.



Increasing Cost of Cotton and Other Natural Fibers

Due to such issues as diminishing availability of land for cultivation, increase in cultivation cost, lower yield, dependence on climatic conditions and being prone to weather calamities, and also due to loss caused by insects and pesticides, the price of cotton and other natural fibers is always subject to sudden changes, often in significant increments. This fluctuating price of cotton and other natural fibers demotivates demand for the same, and drives the inclination for products made of man-made fibers.

Shift in Demand of by Retailers

Fluctuations in supply, cost and limited scope of design and application are among the major factors which collectively affect the global retail demand of products made of cotton and other natural fibers. The resulting trend, of a shift away from using such products, is expected to continue and, consequently, retailers are expected to increase the procurement of products made of man-made fibers.

Synthetic fibers have the potential to be designed in a manner similar to cotton apparel, at lower costs. The price of synthetic fibers has not seen major swings and is therefore a more predictable option for retailers.

Key Changes in Garment Manufacturing

In the event a garment production facility changes its product profile from cotton-based products to synthetic fiber-based product, it will require significant changes to be made in the production process and approach. These changes are primarily to the result of differences in the physical properties of synthetic fabrics as compared to cotton-based fabrics. Some of the key changes required are enumerated below.

Spreading and Cutting: Due to the slippery nature of fabric, the height of spreading lay needs to be reduced which in turn will reduce cutting capacity. The reduced height of the spreading lay will also result in smaller bundle size (in case the production lines are working with PBU system) which will increase bundle handling during sewing.

Sewing: Sewing operations will also have added piping and use of French seam instead of Super Impose seams compared to cotton-based garments. To maintain curves, shape and size while stitching, there will be an increase in of the need for In Line Pressing, Stay Stitch, Shearing Stitch, Basting and Edge Cutting operations. Sewing machines will also require changes in pressure foot, feed dog and throat plate to adjust to the fineness of synthetic fabrics.

Finishing: Considering the differing physical properties of synthetic fabrics, high technology pressing and finishing machines will be needed to finish garments in the required shape and to avoid shine marks, crease marks etc. during operations.

Synthetic fibers are definitely here to stay, and the overall demand for synthetic fibers is only going to increase. Synthetic fibers will find varied usage because of specific properties which can be designed during the manufacturing process. Garment manufacturers who have been predominantly using cotton-based fabrics will need to reexamine their requirements to become conversant in manufacturing synthetic fiber-based fabrics.

(1) Source: Technopak Textile and Apparel Compendium, 2012.

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