Global High-Performance Fiber Market - Segmented by Type, End-User Industry and Geography - Trends and Forecasts (2015-2020)

Description: The global High-performance fibers market is valued at 9 billion USD in 2014, and is expected to grow at a CAGR of 8.5% till 2020.

High-performance fibers are those that are engineered for specific uses that require exceptional strength, stiffness, heat resistance, or chemical resistance. There exist a wide variety of fibers with widely ranging properties. High-performance organic fibers have also become very important in recent years. Aramids are among the best known of the high-performance, synthetic, organic fibers.

High-performance fibers are deemed as important strategic materials. Notably, aramid fiber, carbon fiber and high-strength PE fiber are the most widely applied high-performance fibers with the most impressive comprehensive performance. China's high-performance fiber industry is expected to keep a growth rate of above 10% in the next six years.

The worldwide aramid fiber capacities concentrate in a minority of businesses in the US, Japan and China. In particular, meta-aramid market is in a large part dominated by the US-based Dupont with the capacity accounting for 62.5%, while in the para-aramid market, Dupont and Japan-based Teijin take major share in the world, with the proportion exceeding 80%.

Glass fibers are the most important reinforcement materials used in fiber reinforced plastics, as these offer a range of desirable properties such as low weight, high strength, high modulus, impact resistance, and chemical and electrical resistance. Glass fiber reinforced plastics are employed in various applications due to these characteristics.

PBI (polybenzimidazole) is another fiber that takes advantage of the high stability of conjugated aromatic structures to produce high thermal resistance. The ladder-like structure of the polymer further increases the thermal stability. PBI is noted for its high cost, due both to high raw material costs and a demanding manufacturing process.

Carbon fiber characterizes outstanding mechanical property and chemical stability but weak toughness, being widely applied in industry, sports goods, aviation and aerospace, etc. In particular, the demand for carbon fiber in industrial fields shows the most rapid growth, with the application proportion rising to 60% in 2014.

The high-strength PE fibers reached the annual demand approximating 55,000 tons, as opposed to its output of 11,000 tons at most.

High-performance fiber are used in an increasing number of markets - from Aerospace & Defence, Medical, Automotive, Sporting Goods, Alternative Energy, Electronics, Construction and Infrastructure and a number of other segments.

Drivers

The growing trend towards lower vehicle weight, lower emissions and enhanced fuel efficiency is expected to drive the consumption growth of high-performance fiber in the automotive and transportation industry. The high sales growth of the passenger cars in emerging markets such as China and India is also expected to boost the market.

Challenges

The industry is expected to face certain Challenges such as the need of huge investment in R&D for their production and innovation as the major edge is provided by these materials is directly dependent on its performance. Also, pressure of cost of production provides another major hurdle for this industry.

Opportunities
Innovation in the application of the products provide a vast domain for the manufacturers to explore with these high performance fiber. The increasing scope in the automotive industry and new avenues in wind energy sector provide good opportunities as well.

What the report contains

The report elucidates the situation of high-performance fiber around the world and studies the markets of the high-performance fiber type which include Polybenzimidazole (PBI) Fiber, Carbon Fiber, Aramid Fiber, Glass Fiber, High-Strength PE Fiber, Polyphenylene sulfide (PPS) Fiber and others.

Lastly, the report is divided by geography - North Americas, Europe, the Asia-Pacific (APAC), South America and Middle-East & Africa (MEA); where-in the market share of each region is analyzed and estimates are provided for the next 5 years. The various end-user industries of high-performance fiber have been discussed in detail in addition to a comprehensive overview of the market.

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