Nylon Fibers

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Abstract

Textile and industrial filaments constitute the largest application for nylon fibers, accounting for more than 80% of the nylon resin consumed in 2018 and forecast to grow at about 4% per year for the next five years.

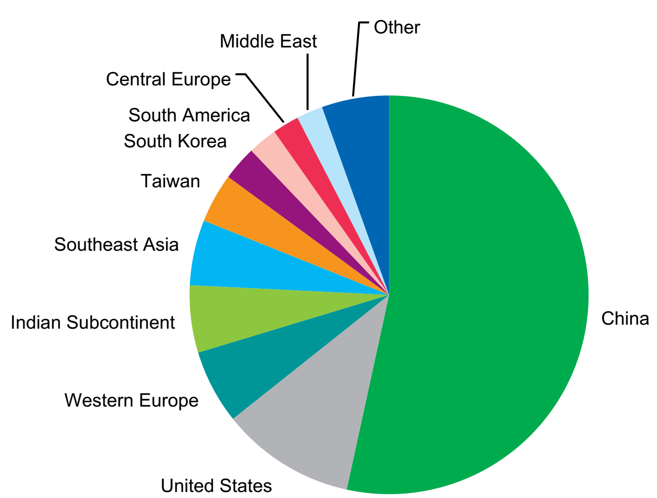
Northeast Asia continues to be the center of the world's nylon fiber manufacturing industry. In 2018, Asia accounts for more than two-thirds of the world's nylon fiber output (with China accounting for 56% of the world's nylon fiber production).

The increase in nylon fiber production in Asia (excluding Japan) over the past 15 years is a reflection of greater regional economic growth and expanding textile output for domestic and export markets. This will continue as nylon fiber exports shrink as a result of growing Chinese production.

In the past 10 years, production of nylon fiber in China has increased at a rate of about 10% per year. The only other region to exhibit growth over the same time frame is Southeast Asia. Most other Asian countries, such as Japan, South Korea, Taiwan, and India, have experienced no growth or even declining production. Nylon fiber production in other regions such as North America, Europe, and the Middle East has also declined in the past five years.

The following pie chart shows world consumption of nylon fibers:

World consumption of nylon fibers—2018



Source: IHS Markit

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Since about 2003, the nylon fiber industry has shifted from North America and Western Europe toward Asia. This was followed by a shift from Japan, South Korea, and Taiwan toward China. This change has spurred growth in nylon 6 fibers as China does not produce or import the more expensive nylon 66 resin and nylon 66 fibers.

The market for nylon fibers is different in each region. For example, textile fibers are predominantly consumed in Asian countries and China is the world's largest nylon fiber consumer for textiles. In 2018, it accounted for 72% of the world's consumption of nylon textile fiber. On the other hand, staple fiber or bulk continuous fiber (BCF) consumed in the manufacture of carpet is predominant in North America and Europe, accounting for more than 80% of the world's consumption of nylon BCF.

Nylon fibers consumed in textile applications remain the dominant end use in 2018. Nylon textile yarn can be found in various articles of clothing from intimate apparel to outerwear. Nylon fiber's high tensile strength and abrasion resistance have proven equally beneficial in automotive (belting, hoses, airbags, tire cord, etc.) and other industrial applications, although an increasing share of all these applications has been substituted by polyester over the years. Combined, nylon fiber demand in both textile and industrial yarn applications accounted for nearly 83% of total demand globally.

Asia will continue to lead the world's demand growth, at around 2.5% per year. China's growing domestic economy and its major role as a global supplier of durable goods will fuel much of this growth. Market maturation has begun to spread further into Asia as historically high growth rates have fallen to below-GDP levels. In Western Europe, the United States, and Japan, greater emphasis is being placed on various higher-cost applications. Advancements in nylon fiber technologies, including processing modification, can improve wearing comfort (warmth and cooling), improve touch and feel, increase durability, and minimize odor; these will give nylon textile filament a market boost, but will likely do little to deter overall regional declines outside of Asia.

The global market for nylon fibers is expected to grow at an average annual rate of about 4% during 2018–23.

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