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Fibre and Textile Analysis

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ARTIFICAL AND SYNTHETIC FIBERS

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Table of Contents

Chemical Fibers are man made and are obtained from natural substances, such as cellulose and are transformed with chemical synthesis. Chemical fibers are more slippery, brighter, thinner and stronger than natural fibers. The chemical fibers are divided into two groups; artificial and synthetic. These fibers are used for many different items. They share similarities but are very different fibers.

Chemical fibers are made through the process of polymerization. Polymers are made up of atoms and the chemical constructions affect the quality of the fiber's properties. There are two ways to create polymerization, and its either through polyaddition were small molecules add up in a single line to form a chain. The second is polycondensations when some of the molecules are removed by condensation which creates another chain. Both artificial and synthetic fibers are transformed onto a viscous state, then passed through die. They enter a machine which gives them a shape and than they are spun. They can be modified in many ways to create a desired outcome.

Artificial fibers are made from natural sources such as plants, animals and wood. Artificial fibers are more natural, environmentally friendly and come from an organic base. They process the natural fiber first than treat it with chemicals trying to match it to natural fibres as close as possible. Artificial fibers also have a higher weight in molecules. Artificial fibers aim to have soft qualities as natural fibers does, but to be superior in the sense of being stronger and more comfortable.

Synthetic fibers are produced from oils, coal, gas and recyclables. Those fibers are changed through the process of chemical synthesis. Synthetic fibers are non-organic and pollute the environment, but because of low production cost they are the most used. They are also faster to produce giving companies the ability to keep up with fast fashion. Synthetic fibers have a lower molecule weight.

The similarities they posses are they are both used for clothing and practical needs such as bedding. They come in a range of colours, giving people more options to choose from. They also do not absorb moisture well and form static easily. They can be used for jackets and stockings and usually both can be machine washed on a gentle cycle, but it does also depend on what other fibers it is mixed with. Both fibers mimic natural ones and are combined with chemicals to create affects the natural fibers wouldn't own. They are both used more than natural fibers because of these desired outcomes and the fact they can blend the materials together.

Some differences are synthetic fibers are sensitive to heat, prone to pilling, absorbs oils and fats well and is resistant to chemicals, moths, and mould. They can be used for swimwear, lingerie, raincoats and tire lining. The most common synthetic fiber is polyester. Polyester is blended with most clothes, bedding and underwear because it creates such a soft texture that feels nicer than cotton. An example of an artificial fiber is viscose which imitates silk has white and shiny fibers, it is light and less resistant when wet. It can be used for suits, ties, surgical products and blouses. It also blends easily with linen and wool. One of the main differences are the textures these fibers create. It can range from soft to rough, from delicate to durable and can be suited for warm weathers or colder temperatures.

Artificial and synthetic fibers are used for a variety of things. The mixture of the fibers produce resistant materials for our every day uses. They are man made and used for different functions to suit our needs. People need different materials for different uses, like protective gear, practicality such as feminine hygiene products or for fashion uses. The use of chemical fibers is more popular for the fact we can manipulate them and produce them faster.

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