

## **THE CLASSIFICATION OF TEXTILE FIBERS IN MANUFACTURING**

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Textile fiber is a material mainly made from natural or synthetic sources. This material will be converted into the making of textile yarns and fabrics; woven, knitted, nonwoven, and carpets. [1, p. 22]

There are many types of textile fiber - cloth, rope, household and etc. Fiber can be classified into two different types- Natural fiber and Synthetic fiber. [4, p. 150]

There are three main sources that can be obtained to produce this kind of fiber. Cellulosic fiber (origin from plant), Protein fiber (origin from animal) and also Mineral fiber. [2, p. 58] Cellulosic fiber could be obtained and categorized into three main types, Seed, Bast/Stem, and Leaf. Protein fiber could be obtained from three categories, Hair, Wool, and Filament. [5, p. 77]

The term Synthetic fiber refers to materials that is not originated in natural sources but are developed by human by using chemical and mechanical process. Synthetic fiber is well-known as the Man-made fiber. Synthetic fiber is produced in a filament yarn or filament staple yarn based on the end-use. There are two base types of man-made that have been widely used by the textile industry, Natural Polymer base and Synthetic base [4, p. 115]

Natural fiber requires a long time to restock the production although it is renewable sources but in terms of continuous production, natural can't fulfill the needs. Unlike natural, Synthetic fiber takes a shorter time to restock the production but still because of the widely use of oil, it takes a much longer time to renew the oil sources.

Manufacturer needs a high cost in terms of production for Natural fiber. Natural base products need to be sold at a high price compare with the Synthetic.

Natural fiber is originated from the natural sources which make it have the ability to degrade on naturally or with chemically helps. This would make the life expectancy of natural to be shorter than synthetic. Natural fiber will contribute less to environment's pollution. This will make natural fiber tends to be green-earth in terms of life expectancy and environment's pollution. [2, p. 84]

Synthetic fiber requires chemical treatment for the finishing process. Some of the chemical substances used have the serious possibility of health risk problem such as menopause and cancer [3, p. 180]

In order to sustain the oil's stock on the production of synthetic fibre by replacing it with new sources, several research and developments have been done in order to do so. Soy fibre and Corn fibre are some of the new advancement in regenerated fibre's product base on their stock availability and good properties. Although natural fibre seems loss in terms of availability compare with synthetic, many countries already have their own farms or fields in order to meet the local and world demands such as China(wool, cotton), Australia(cotton,wool), Sudan(wool), and Greece(cotton). [5, p. 118]

#### REFERENCES

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