

# Handbook of Textile Fibre Structure

Fibres are the basic building blocks of textiles. They are long, thin, flexible structures that can be spun into yarn and woven or knitted into fabric.

Fibres can be natural, such as cotton, wool, and silk, or synthetic, such as nylon, polyester, and spandex.

The structure of a fibre determines its properties, such as strength, elasticity, and moisture absorbency. These properties, in turn, determine the applications for which a fibre is best suited. For example, strong, elastic fibres are used in clothing that needs to be durable and stretchy, such as sportswear and swimwear. Moisture-absorbent fibres are used in clothing that needs to wick away sweat, such as activewear and underwear.

The Handbook of Textile Fibre Structure is a comprehensive guide to the structure, properties, and applications of natural and synthetic fibres. This book provides a detailed overview of the different types of fibres, their chemical composition, physical properties, and how they are used in various textile applications.



## Handbook of Textile Fibre Structure: Volume 2: Natural, Regenerated, inorganic and Specialist Fibres

(Woodhead Publishing Series in Textiles) by Jane Hardy

★★★★☆ 4 out of 5

Language : English  
File size : 20892 KB  
Text-to-Speech : Enabled  
Enhanced typesetting : Enabled  
Print length : 536 pages  
Screen Reader : Supported



Natural fibres are fibres that are derived from plants or animals. The most common natural fibres are cotton, wool, silk, and linen.

- **Cotton** is a plant fibre that is made from the seed hairs of the cotton plant. Cotton is a soft, absorbent fibre that is used in a wide variety of textile applications, including clothing, bedding, and home furnishings.
- **Wool** is an animal fibre that is made from the fleece of sheep, goats, and other animals. Wool is a warm, durable fibre that is used in clothing, blankets, and other warm weather gear.
- **Silk** is an animal fibre that is made from the cocoons of silkworms. Silk is a strong, lustrous fibre that is used in clothing, bedding, and other luxury items.
- **Linen** is a plant fibre that is made from the stems of the flax plant. Linen is a strong, durable fibre that is used in clothing, bedding, and table linens.

Synthetic fibres are fibres that are made from man-made materials. The most common synthetic fibres are nylon, polyester, and spandex.

- **Nylon** is a synthetic fibre that is made from polyamide polymers. Nylon is a strong, elastic fibre that is used in clothing, carpets, and other durable applications.
- **Polyester** is a synthetic fibre that is made from polyethylene terephthalate (PET) polymers. Polyester is a strong, wrinkle-resistant fibre that is used in clothing, bedding, and other home furnishings.

- **Spandex** is a synthetic fibre that is made from polyurethane polymers. Spandex is a very elastic fibre that is used in clothing, swimwear, and other applications where stretch is required.

The properties of a fibre are determined by its structure. The most important fibre properties are strength, elasticity, moisture absorbency, and durability.

- **Strength** is a measure of how much force a fibre can withstand before breaking. Strong fibres are used in applications where durability is important, such as clothing, carpets, and ropes.
- **Elasticity** is a measure of how much a fibre can stretch before it breaks. Elastic fibres are used in applications where stretch is required, such as clothing, swimwear, and bandages.
- **Moisture absorbency** is a measure of how much water a fibre can absorb. Moisture-absorbent fibres are used in applications where wicking away sweat is important, such as activewear and underwear.
- **Durability** is a measure of how well a fibre can withstand wear and tear. Durable fibres are used in applications where longevity is important, such as clothing, carpets, and upholstery.

Fibres are used in a wide variety of textile applications, including clothing, bedding, home furnishings, and industrial products. The type of fibre used in a particular application is determined by the desired properties of the final product.

- **Clothing** is made from a variety of fibres, including cotton, wool, silk, nylon, polyester, and spandex. The type of fibre used in a particular

garment is determined by the desired properties of the garment, such as comfort, durability, and wrinkle resistance.

- **Bedding** is made from a variety of fibres, including cotton, wool, silk, and synthetic fibres. The type of fibre used in a particular bedding product is determined by the desired properties of the product, such as warmth, comfort, and absorbency.
- **Home furnishings** are made from a variety of fibres, including cotton, wool, silk, nylon, polyester, and spandex. The type of fibre used in a particular home furnishing product is determined by the desired properties of the product, such as durability, comfort



## Handbook of Textile Fibre Structure: Volume 2: Natural, Regenerated, inorganic and Specialist Fibres

(Woodhead Publishing Series in Textiles) by Jane Hardy

★★★★☆ 4 out of 5

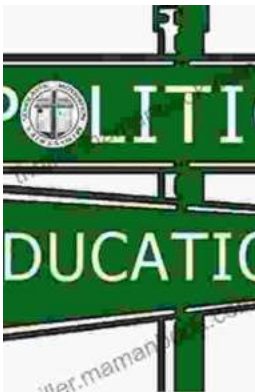
Language : English  
File size : 20892 KB  
Text-to-Speech : Enabled  
Enhanced typesetting : Enabled  
Print length : 536 pages  
Screen Reader : Supported





## **The Complete Beagle Dog Beginners Guide: Beagle Facts, Caring, Health, and Exercises**

Beagles are a popular breed of dog known for their friendly and affectionate personalities. They are also known for their distinctive baying...



## **The Origins and Evolution of No Child Left Behind: American Institutions and Education Reform**

The No Child Left Behind Act (NCLB) was a major piece of legislation enacted in 2002 that has had a significant impact on American education. The law was...