

## **Fibres and their primary properties**

Fibres are the basic or smallest unit of fabric. Fibres are spun into yarn and then produce fabrics either through weaving, knitting or felting. Fibres may be long or short. Some fibres are shiny while some are without lustre. Some may be smooth in touch while some are course. So, fibres have varying properties .On the basis of origin fibres may be classified as natural or manmade.

### Classification of raw fibrous materials on the basis of length

- Filament fibres
- Staple fibres

#### Filament fibres:

- Long fibres measured in yards or metres .
- They may me natural or manmade.

e.g. Silk fibre is the only natural filament fibre.

Man made fibres are example of filament fibres.

#### Staple fibres:

- Short fibres are called staple fibres .
- Measured in inches.
- All natural fibres except silk are staple fibres.
- e.g. Cotton and wool.

On the basis of origin fibres are of two types

- Natural e.g. Cotton, jute, linen, flax, silk, wool etc.
- Manmade e.g. Rayon, nylon, Polyester ,rubber etc.

Some important Primary properties of fibres

**Staple:** It is basically associated with length and diameter and is an essential requirement for fabric construction. Fibres must be long and fine enough to be spun into yarn and then woven into fabrics.

**Strength**

It is another important property of fibres. Fibres should be strong to make a durable fabric. The strength of the fibres is very much influenced by the moisture present in the atmosphere.

**Elasticity**

Elasticity enables fibres pliable enough to wrap round each other to produce a yarn and then into fabrics. It also helps in making the fabric wrinkle free and maintaining the shape and size of the fabric.

**Uniformity to staple**

Fibres of uniform length and width spin better and produce uniform and smooth yarns throughout the length.

**Spinning quality**

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Fibres are spun into yarn and then woven into fabrics but is only possible when these fibres have better spinning quality. For good spinning quality cohesiveness of fibres is important. Uniform length, width, pressure applied during twisting and nature of surface are important factors which play important role in contributing cohesiveness between fibres.