Fibre properties

Polyester

- Strong to very strong fibre, industrial types are hard and abrasive
- No change in tensile strength when wet
- Fibre is produced as
    - A long extruded fibre for knitting of weaving
    - Or as a crimped staple fibre – to be spun with similar length cotton/wool fibres
- Good elasticity and sunlight resistance – very durable fibres
- Elasticity remains the same when wet
- Pure polyester absorbs little water (regarded as non-absorbent or hydrophobic), when spun with other fibres the absorbency will change
- Hydrophobic nature causes static electricity which will attract dirt and grime
- Heat insulator (heat does not yellow the fabric), prolonged steaming/ironing may soften fibres sufficiently to cause distortion of the fibre
- Polyester fabrics are not affects by acids.

Cotton

- Strong to very strong fibre – increases in strength by 10% when wet. (strength of fibre is enhanced by the convolutions in the fibre cross section)
- Inelastic and even more so when wet
- Good moisture absorbency, but is not quick drying
- Does not develop static electricity under normal conditions
- Good heat conductor – heat does not adversely affect cotton
- Acids will quickly destroy the fibre
- Cotton has good resistance to sunlight in unpolluted conditions (fair otherwise)
- Prone to biological attack in warm, humid conditions
- Some cottons may shrink on laundering (loosely spun/woven fabrics)

Linen

- Very strong – increases in strength by 10% when wet (strongest natural apparel fibre)
- Inelastic
- Good moisture absorbency
- Good to very good heat conductor – excessive steaming/heat will destroy the fibres
- Acids will quickly destroy the fibre
- Linen has good resistance to sunlight in unpolluted conditions (fair otherwise)
- Good durability as a fibre