



Education



4.0 Polyester: Video Transcript

Polyester is the most used fibre in the world and is derived from crude oil. Like nylon, the molten polymer is extruded to produce continuous filaments in a process called spinning.

Polyester is a hydrophobic fibre, meaning it repels water, so it cannot be dyed using water soluble dyes. They are therefore dyed with disperse dyes, which are only partly soluble in water and held in a fine dispersion in the dye bath.

Polyester is dyed at high temperatures. Usually at 130 °C, which is above the glass transition temperature of the polymer. This is the temperature at which the polymer goes from a hard glassy material to a soft rubbery material. At this temperature, the dye can penetrate the fibre.

There are many engineered polyester fibres available such as hollow fibres for thermal wear and fibres with different cross-sectional shapes to aid moisture wicking which cools the wearer.