



POLYESTER

**Synthetic Fibres
&
the Fabric of Society**

Polyester is one of the most commonly-used fabrics in the world today. It is used in almost everything, from clothing to furnishings and even home insulation. Yet there are still mixed feelings about whether or not we should be using it, with some claiming that the benefits are outweighed by the drawbacks.

Polyester is a synthetic material, so of course it has a number of advantages over traditional textiles. It is wrinkle-resistant and is normally pre-shrunk, so it will hold its shape even after being washed at home. Most important, however, is its absorbency. Although it is a hydrophobic textile, polyester does in fact absorb oil, which means that a special finish can be applied to give it properties such as fire resistance. The versatility of polyester means that there is an almost infinite number of applications for the fabric.

That said, the production of polyester has a considerable impact on the planet. It is created through a chemical reaction that takes place between an acid and an industrial alcohol, and is derived from both coal and petroleum among other materials. The use of fossil fuels means that the production process carries with it a sizeable carbon footprint. What's more, it's a notably water-intensive process, using as much as $71,000\text{m}^3$ of water in the time it takes to make just one tonne of fibres!

Depending on your point of view, polyester can be seen either as a solution or a problem. It is extremely durable, long-lasting and warm, and can be specially treated to serve of wide variety of purposes. However, as with all synthetics, it isn't very breathable, which is something many find uncomfortable. What's more, the durability of the fabric is something of a double-edged sword, as it can take as long as 200 years to decompose! While the utility of polyester is beyond question, it seems clear that further developments are the way to bring the fabric into the 21st century.