




Contract Fabrics and Environmental Sustainability

A photograph of a forest floor covered in vibrant green moss. Tall, slender tree trunks stand vertically, with sunlight filtering through the canopy, creating a dappled light effect and visible light rays (crepuscular rays) in the air.

Sustainability

“..the meeting of human needs without overwhelming Nature or society..”



Raw Material Extraction

To remain competitive and to preserve our environment, natural resources should be used in the most efficient way and without depleting the planet's resources.

Recycled waste can be injected back into the economy as secondary raw materials.

Unfortunately, no matter how much we recycle, our economy still remains largely dependent on raw material extraction for the moment.





Performance versus Sustainability

Added Chemistry: A Balancing Act



Added Chemistry: Phthalates

Phthalates are a group of chemicals commonly found in PVC manufacturing.

They are plasticisers and make these plastics soft and pliable.

They work very well and are cheap and easy to incorporate into the manufacturing process.





End of Life: Recycled Polyester

Polyester fabric hasn't been around forever. Our grandparents were clothed in natural materials such as wool, linen and cotton and in fact, by the end of World World II, the latter accounted for over 80% of fibre consumed.



The Most Sustainable Fabrics: Hemp

The hemp plant grows like a weed, and because it is naturally resistant to most pests, most pesticides, herbicides, fungicides are unnecessary. It also thrives on less water than most crops.





Biomimicry: The Lotus Leaf (Water Repellency)

The Lotus Leaf is superhydrophobic thanks to the microtopography of its surface.

It has a rough microsurface meaning that water does not rest upon it because roughened surfaces tend to reduce adhesive force on water droplets.

Dirt particles then adhere to these droplets allowing the surface of the leaf to remain clean, even in muddy habitats.



Surface finishes inspired by the self-cleaning mechanism of lotus plants have now been applied to paints, glass, textiles, and more, reducing the need for chemical additives.



Global Change Award Winner 2019

Green Nettle Textile

Nettles are true survivors, requiring just some sun, a minimum of water and whatever soil you have.

The crop also has another super power – the plant stalks can be turned into a sustainable linen-like fabric.

Moreover, process leftovers can be used to make paper and dyes.



Learning Outcomes

Attendees will understand what makes a contract fabric

Attendees will be aware of what components of contract fabrics are harmful or unsustainable and with what they can be replaced.

Attendees will know what fabrics in current production are the best from a sustainability perspective

Attendees will be aware of future directions of fabrics based on biology

Attendees will be aware of innovations in textile production

