

WHAT MAKES CELL-TEC ECO SHIRTS DIFFERENT ?

The shirt is made from a Temperature Sensitive Smart Fabric - a Thermo-Dynamic Effect.

WE HAVE ENGINEERED A SHIRT FABRIC TO BE COOLER IN WARMER CLIMATE AND INSULATE IN COOLER

CLIMATE- these conditions sometimes exist through the duration of a single day.

Two vital factors need to work:

1. Thermo-dynamics.

Thermo-Dynamics is the Law of Equilibrium- which means balancing the capacity of water/moisture distribution between the body and the shirt fibres.

Balancing moisture absorbency of a fabric from the body, and at the same time not drawing too much moisture away from the body so as to cause de-hydration and saturating the shirt fabric before the regulated percentage evaporates away. This is technically called Hydrophilic and Hydrophobic Balance.

2. Textile fibre balance in the Shirt Fabric

This fibre selection is a deliberate Innovation of combining Bamboo fibre and Polyester Micro-fibre equally. Bamboo fibre is inside, which will be located next to the skin on the shirt, while the Micro-fibre would be outside.

The Inner layer of Bamboo fibre at specific body temperature allows and naturally regulates body moisture to

firstly, transfer to the Bamboo and then, secondly, by capillary action, again naturally regulate a transfer to the Outer layer of Micro-fibre to be evaporated away from the fabric and body by the prevailing air temperature.

This natural process which exists because of the combination of the two fibres interacting together, allowing the body only to release a naturally regulated amount of moisture, thus automatically COOLING the wearer in Warmer climates. The reverse occurs in Cooler climates as the fabric insulates and warms the wearer naturally.

The main contributor to the wearer Warming up, more so, than they should in Warmer Climate, is artificial moisture loss or imbalance from the body from fibres/fabrics not suitably engineered to naturally regulate moisture balance or ones which use chemicals to artificially draw too much moisture away. A confusion or conflict then arises- between moisture and heat. The wearer may not feel wet, at the same time heating up more than they should, thus becoming heat stressed by de-hydration which is very dangerous.

Main Safety features of the Cell-tee Eco Shirt: The Only Shirt in the World incorporating this Fibre Blend.

Thermo-Dynamic- Temperature Sensitive Smart Fabric -balancing body moisture control thus minimising Heat Stress problems. Of course the wearer has to contribute by taking due diligence in warmer climate.

Highest UV Protection - 50+ UPF as per Australian Standard 4399:2017

Visibility for Day/Night 24/7 - using Lightweight Reflective Film -applicable to Safety Shirts

Air Flow Sports Design - underarm gussets, collar and sports style for more comfortable use.

CELL-TEC ECO SHIRTS

SUSTAINABILITY: Bamboo-Minimal environmental impact, absorbs maximum carbon, produces maximum oxygen, minimum water irrigation, no or low chemical requirements, smart clean yarn.

COMFORT: Thermo-dynamic Temperature Smart Textile/Shirt, Climate Active-COOLER IN WARM CLIMATE, ultra Soft touch to body, allows maximum breathability, perspiration/moisture balance. In COOLER CLIMATE keeps the body warmer-maximum insulation properties. 24/ 7 Segmented Film adds minimal weight to the garment - as if it's not there.

SAFETY: Sun Protection rating UPF 50+ AS 4399;2017, 24/7 Day/Night option uses Reflectivity Segmented stretch film. Ignition burn rate 2 times longer than synthetics, no melting on skin - if ignited burns to brown ash.

DURABILITY AND STRENGTH: Ripstop affect-strong PK Knit construction. Bamboo 3 times stronger than Cotton yarns. Maximum shirt strength using Raglan sports style design.

PERFORMANCE: Combination of Temperature Smart Bamboo Fabric and Sports Shirt design with Underarm mesh Air vents results in the maximum wearer comfort and user flexibility. Clearly out performs everything-Polyesters.Cotton Back/Polyesters and Cotton Light drills and Ripstops.

OKETEX: Clean green dye-house certified. All fabrics/colours used- dyed in these premises.

ETHICAL LEADERSHIP: Amfori- BSCI Business Social Compliance Initiative and SA8000 Social Accountability International Compliance. Fair treatment of Workers, no child or forced/compulsory labour, no slave labour, adequate health & safety guidelines, fair working hours, supply chain management of human rights and worker protections.



BAMBOO RICH

- SUSTAINABLE CHOICE
- RIPSTOP PK KNIT - STRONG
- UPF 50 -50+ AS4399:2017



SUSTAINABLE - BAMBOO FIBRE

- * Minimum Enviromental Impact.
- * Lower Carbon Footprint.
- * Minimum or No Irrigation - Low water usage.
- * Soil preservation and Erosion Prevention.



COMFORT

- * THERMO - dynamic Fabric, Cooler when Warmer, Warms in Cooler Temperatures.
- * Ultra - Soft Bamboo finish.
- * Moisture Balance - Perpiration / Breathability Vents.



SAFETY

- * 24/7 Reflectivity with Reflective Film. 50 - 50+ UPF Highest Sun Protection.
- * Burns to Ash if Ignited - not molten bead like Polyester.
- * No Wind Chill effect, like Polyester.



CELL-TEC ECO BAMBOO QUALITIES AND ENVIRONMENTAL ADVANTAGE

BAMBOO FIBRE

Ref 2021-3

Bamboo is a Cellulose fibre available in nature as approx 1300 grass species.

Bamboo Culm is used in the production of Re-generated Cellulose or Bamboo Rayon for use as part component of our Cell-tee Eco High-Visibility, Sports and Fashion Polo Shirt product ranges.

Our preference for the raw material source is not monoculture plantation based, but from developing countries.

If raw material is sourced from plantation production, FSC (Forest Sustainability)certified sourced fibre is used.

BAMBOO PROCESSING:

Our preference for processing of Bamboo fibre is the Lyocell process which incorporates a Closed Solvent Loop System, which is a chemical process, and is less resource intensive and more environmentally friendly. It uses a Jet wet spinning technique and recycles chemicals rather than dispersing them into the environment. Any

residual chemicals are disposed of responsibly. For example, waste water solutions are recycled and used again.

BAMBOO-ENVIRONMENTAL SUSTAINABILITY EFFECTS:

Bamboo requires approx. 1 /3 water usage of Cotton crops in plantation farming.

Bamboo requires Minimal irrigation for forest farming, as a matter of fact, some harvestable species can grow rapidly without any irrigation- thrive on the oxygenated air gases.

Harvestable natural Bamboo can grow with hardwood trees and mitigate slash and burn necessity from an economic yield.

Bamboo has a LOW CARBON FOOTPRINT -can uptake 5 times more Greenhouse gases than forest trees and produce 35% more Oxygen.

Bamboo average yields per hectare plantation farming is 6 tonnes compared with Cotton at 2 tonnes.

Bamboo acts as a natural SOIL PRESERVATION grass- fast root growth and an extensive root system producing many nutrients such a Nitrogen assists in Soil Health and Mitigates ground erosion.

Bamboo species used for Textile fibres such as Bamboo Kun do not usually require Pesticides, Fungal sprays or extensive Fertilizer chemicals such as used in Cotton farming.

Bamboo is Bio-degradable - it can be completely biodegraded in soil by micro-organisms and sunshine.

Decomposition does not cause any pollution to the environment.

BAMBOO- USAGE ADVANTAGES:

MOISTURE -TRANSPORT PERFORMANCE PROPERTIES - Bamboo has a larger moisture regain capability than other natural fibres eg Cotton, Wool, Hemp etc. This is because of physical loose fibres and addition non-cellulose substances that exist in Bamboo fibre. It is not from a tree, an animal or a plant bud - it is from a grass.

This allows moisture transfer when combined with a Micro-fibre blend in a Cell-tee Eco Shirts to breathe and cool the wearer.

Bamboo fibre is naturally antibacterial, bacteriostatic and assists with deodorization.

Bamboo fibre is a fine hydroscopic and permeable, smooth and soft fibre and has natural Ultraviolet protection.

Bamboo has BREATHABILITY AND COOLNESS qualities inbuilt being approx. 1-2 degrees lower in temperature to wear than other textile garments.

CELL-TEC ECO gains the label as an AIR CONDITIONED SHIRT.