



FIBRE 52™

Performance  
meets  
*Sustainability*

*Better  
Performance*

*Better for the Planet*



*Simple,  
inexpensive*

*Delivering on the qualities  
brands and consumers  
care about most*

## THE PERFORMANCE COTTON CONSUMERS NEED


Cotton is nature's perfect gift. It's in the shirts we wear, the linens on our bed, a baby's first onesie. It's all around us.

*THE PROBLEM?* Growing and processing cotton consumes billions of gallons of water.

While efforts are underway to reduce the amount of water needed to grow cotton globally, the traditional process used to clean and dye has been slower to change. That process uses massive amounts of precious water, high heat and harsh chemicals.

**Abundant & Biodegradable**   
Cotton doesn't pollute our waterways with microplastics and is naturally soft and breathable.

**25 Million Tons**   
of cotton are produced worldwide annually, with a global economic value of over \$600 billion<sup>1</sup>

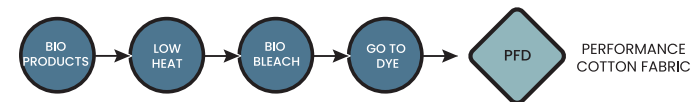
**625 Gallons of Water**   
are currently needed from farm to store to make just one cotton shirt<sup>2</sup>

### FIBRE52™ Process Uses Fewer Steps

TRADITIONAL COTTON TREATMENT



FIBRE52™ TECHNOLOGY PROCESS



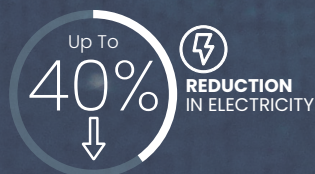
<sup>1</sup> [link.springer.com/chapter/10.1007/978-981-15-1472-2-1](https://link.springer.com/chapter/10.1007/978-981-15-1472-2-1)  
<sup>2</sup> [TheWorldCounts.com/challenges/consumption/clothing/cotton-farming-water-consumption](https://TheWorldCounts.com/challenges/consumption/clothing/cotton-farming-water-consumption)

Introducing

# FIBRE52™

This new technology is a game changer for **sustainability** in the Prepare for Dye and dye stages of cotton-rich fabrics. The patent-pending process and chemistry **saves time, water, and electricity** without ever sacrificing quality or dyeability. It **works with existing machinery**, using lower temperatures and fewer bath drops.

FIBRE52™  
WORKING WITH NATURE  
FOR A BETTER COTTON



## THE COTTON NATURE WANTS

Fibre52 prepares cotton – *knit, woven, non-wovens or raw fiber* – for a perfect dye job without using harsh, toxic chemicals.

It replaces the traditional bleach PFD and dye process with biochemistries that clean away impurities without stripping the unique properties that make everyday cotton resilient, soft, breathable and hydrophobic.

## Plug N Play

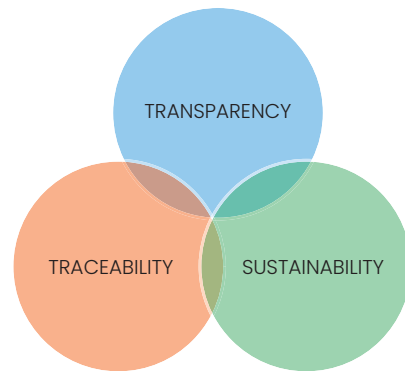
FIBRE52™ doesn't require additional capital investment. It's easily transferable and fully compatible with all existing machinery. When the mills, brands and consumers see the benefits of Fibre52 – *the environment and all of us win.*

Fibre52  
*is cost-neutral.*



# A MORE SUSTAINABLE FUTURE

Transparency, traceability and sustainability are quickly becoming textile industry drivers.



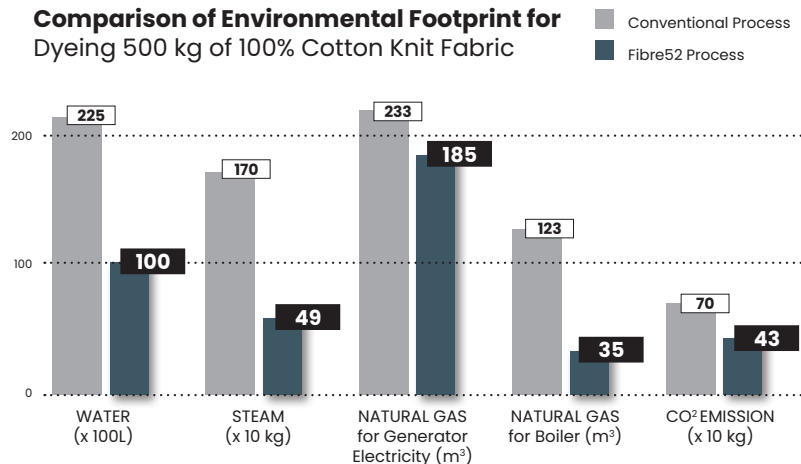
- ✓ Major fashion brands want it.
- ✓ Mills and dyehouses want it.
- ✓ Most importantly, consumers want it.

FIBRE52™ appeals to customers who care about the climate, world water resources and the call to reduce CO2 emissions.



## LESS IMPACT, BETTER FOR THE ENVIRONMENT

**Comparison of Environmental Footprint for Dyeing 500 kg of 100% Cotton Knit Fabric**



# FIBRE52™ ECO-Edge



Fibre52 is here to help. Using this process can help brands reach their sustainability goals, while also giving mills that use Fibre52 a competitive advantage over mills that don't.

- ✓ Cost neutral for mills with the benefit of lower water and energy usage
- ✓ Mills can spend less time and money managing toxic effluent
- ✓ Increased mill floor productivity and profitability. Fibre52 takes less time than traditional PFD and dye methods
- ✓ Compatibility with major sustainability certifications brands and consumers want

### A Closer Look



Non-toxic, bio-active products versus toxic chemicals

No fluorocarbons or PFAS chemicals are used\*

Similar to, or lower price than, traditional bleach and dye chemistries

Global fashion consumers listed quality and durability as leading purchasing factors, with 65% citing the importance of their environmental impact, according to a 2022 report from Bain & Company.<sup>1</sup> Those using Fibre52's process stand to benefit in all three areas.

NOTES: 1 <https://www.bain.com/insights/how-brands-can-embrace-the-sustainable-fashion-opportunity/>

\* PFAS are present throughout the global water supply and small amounts can occasionally be found in products. Fibre52 does not intentionally use nor add PFAS chemistries in its process.

# FIBRE52™ PERFORMANCE COTTON

Yoga, jogging, even a nice walk – comfortable clothing that performs is a staple of modern fashion. Until now, synthetics have been a go-to, but with Fibre52, cotton makes a comeback.

Unlike the traditional PFD and dye process, Fibre52 retains cotton's natural performance characteristics.

And unlike Man Made Fibers (MMFs) such as polyester and viscose, Fibre52 Cotton biodegrades at the end of life.

NOTES: 1 (NCSU TPACC Lab: Dynamic Sweating & Heat release Analysis);  
2(NCSU TPAC Fabric wet-cling test); 3 (AATCC 66)

## Breathable



Fibre52 Cotton allows for better airflow, so that sweat drops vaporize and permeate through the fabric. This lets the wearer maintain a comfortable microclimate temperature.<sup>1</sup>

## Not Clingy



Cotton processed and dyed with Fibre52 doesn't cling to sweaty skin, unlike normal cotton and many polyesters.<sup>2</sup>

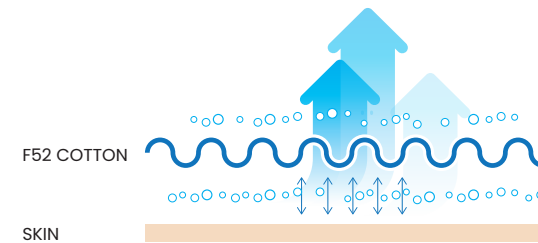
## Naturally Soft



Fibre52 Cotton is naturally soft without the aid of a chemical finish.<sup>3</sup>

# OUTSTANDING COMFORT & BREATHABILITY

## Dynamic Sweating Condition Fibre52 Cotton Fabric



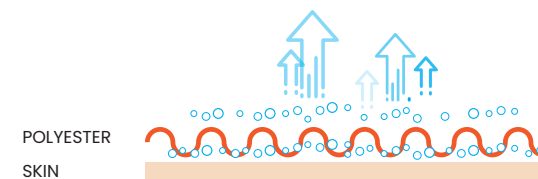
## COMFORTABLE MICROCLIMATE

Fibre52 Cotton allows for better airflow, so that sweat drops vaporize and permeate through the fabric. This lets the wearer maintain a comfortable microclimate temperature.

- SMART SWEAT REGULATION:** Remains drier, even in heavy sweating conditions of the skin during summer.
- SMART THERMAL REGULATION:** Maintains a similar skin-like temperature in the microclimate. Fibre52 Cotton provides thermal comfort during the winter and summer.



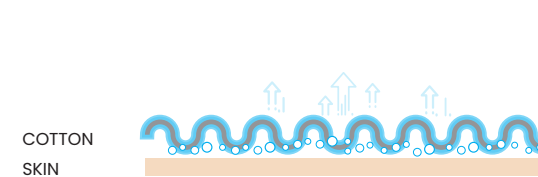
## Dynamic Sweating Condition Polyester Fabric



## CHILLING EFFECT

Polyester readily wicks the sweat and sharply drops the microclimate temperature. This creates an uncomfortable chilling effect. Fabric clings to the skin while wicking the heavy sweat, creating skin irritation.

## Dynamic Sweating Condition Cotton Fabric



## FABRIC CLINGS

Cotton absorbs the sweat, becoming damp and heavy. Wet fabric clings to skin and causes discomfort. Provides uncomfortable wet-chilling effect when absorbing sweat in cold weather.



## LIKE A DUCK

Fibre52 Cotton is a natural, dual action, water-resistant, moisture management fiber, processed without fluoro chemistries. Our fabric provides highly rated resistance when tested with the AATCC spray test.

### WATER RESISTANCE: SPRAY TEST AATCC TM127-2017(2018)e

FIBRE52™ COTTON	CONVENTIONAL COTTON
11 mbar	0 mbar

## DURABLE, STRONG, COLORFAST

Because Fibre52 keeps cotton in its natural state and doesn't use harsh chemicals to strip and break down the fiber, Fibre52 Cotton is stronger and has excellent colorfastness.

### BURST STRENGTH ASTM D 3786-06 (Textile)

FIBRE52™ COTTON	CONVENTIONAL COTTON
105 psi	90 psi

INSTRUMENT TruBurst Model 810  
 MACHINE S/N 810/07/1016 1000kPa  
 MANUFACTURER James H Heal & Co. Ltd

### COLORFASTNESS TO ACTUAL LAUNDERING AATCC 61-2013e (2020)

FIBRE52™ COTTON	CONVENTIONAL COTTON																																
	S5																																
S4	S5																																
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Acetate						4.5																											
Cotton						4.5																											
Nylon						4.5																											
Polyester						4.5																											
Acrylic						4.5																											
Wool						4.5																											



## A GLOBAL APPROACH

Fibre52's name pays homage to the 52 chromosomes that make up the cultivated cotton grown in the US and other countries around the world.

Tests around the world confirm that Fibre52 is consistently dependable and repeatable for all shades. With support from major industry associations and learning institutions, Fibre52's team of textile chemists are showing cotton is cool once again.

***We think it's revolutionary - but you decide.***

Fibre52 makes for naturally better cotton, just in time for a world hoping to reduce plastic and microfiber pollution.



FIBRE52™

— WORKING WITH NATURE  
FOR A BETTER COTTON

LEARN MORE  
[Fibre52.com](https://Fibre52.com)