



CELLIANT®



POWERED BY:  
CELLIANT

# AMPLIFYING HUMAN POTENTIAL

CELLIANT® is a science-backed infrared (IR) technology that improves health and wellness by promoting restful sleep and enhancing performance and recovery. CELLIANT's natural blend of IR-generating bioceramic minerals is embedded into fibers, yarns and fabrics, powering bio-responsive textiles. CELLIANT is a key ingredient used by world-class brands in products spanning apparel, sleepwear, bedding, upholstery, uniforms and medical supplies.

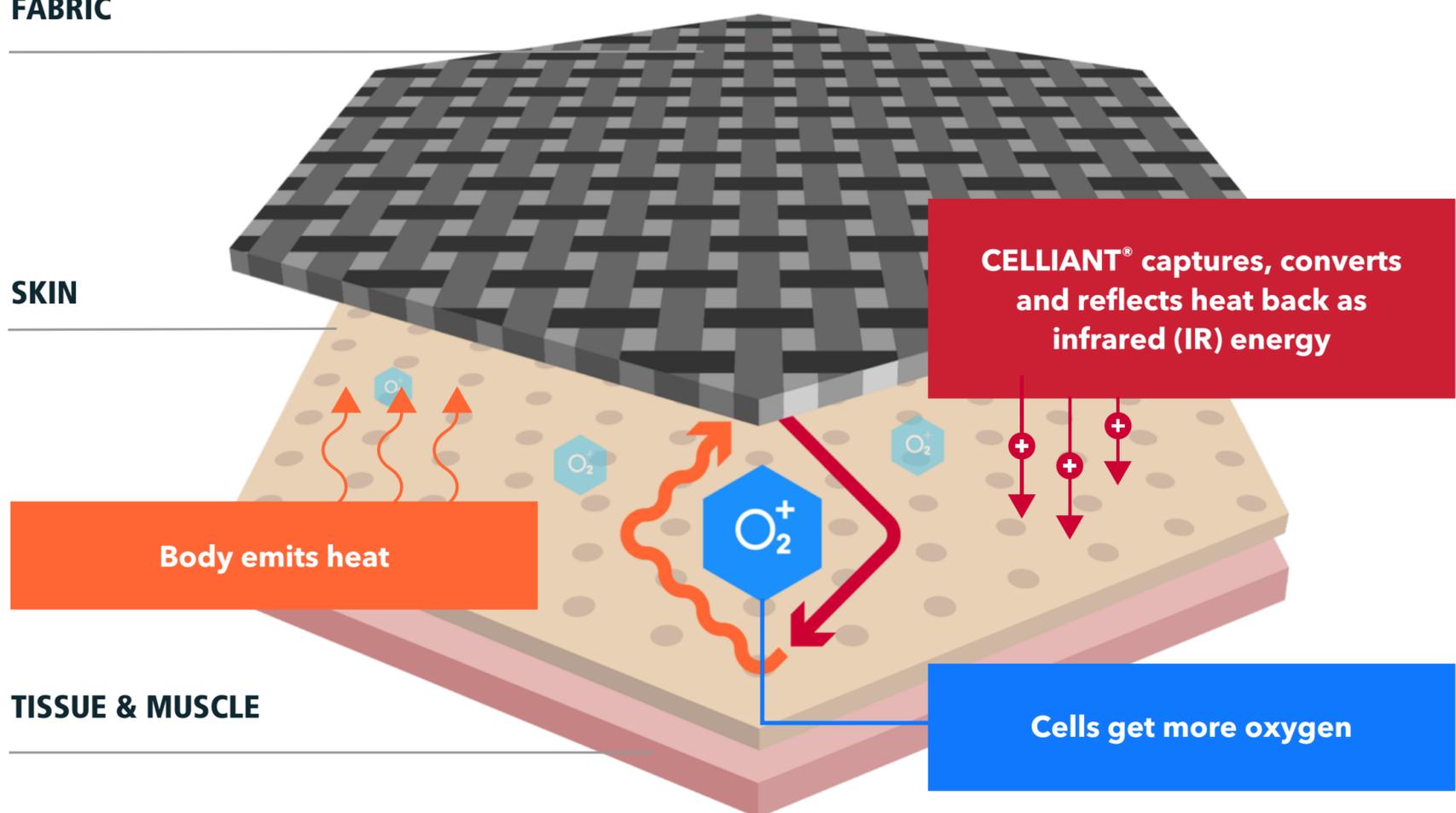
# HOW IT WORKS

CELLIANT's proprietary natural mineral blend gives any textile-based product the ability to absorb the body's heat. Once absorbed, the heat is converted by the minerals into full-spectrum infrared energy and is reflected back to the body. This increases local circulation and improves cellular oxygenation, resulting in CELLIANT's numerous benefits.

FABRIC

SKIN

TISSUE & MUSCLE





Clinical trials show that CELLIANT provides a

# 12%

grip strength increase\*

[LEARN MORE](#)

# PERFORM STRONGER

CELLIANT powers the world's leading performance apparel, workwear and upholstery because of its ability to absorb the body's heat and transform it into full-spectrum infrared energy. This energy is returned to your body and gives you improved strength, speed and endurance.

\* Source: Effect of Shirts with 42% CELLIANT® Fiber on tcPO2 Levels and Grip Strength in Healthy Subjects: A Placebo-Controlled Clinical Trial, Dr. Ian Gordon, Dr. Mark Vangel and Dr. Michael R Hamblin - Long Beach VA Memorial Hospital, 2019  
<https://celliant.com/wp-content/uploads/2021/08/Effect-of-CELLIANT%C2%AE-Armbands-on-Grip-Strength-in-Grip-Strength-in-Subjects-with-Chronic-Wrist-and-Elbow-Pain.pdf>

# RECOVER FASTER

CELLIANT-powered infrared apparel, wraps and braces, bedding, mattresses and upholstery help improve local circulation and increase cellular oxygenation, allowing you to recover quicker from physical exertion. In addition, CELLIANT improves the body's ability to regulate its temperature, so you stay more comfortable while you're relaxing and recovering from physical activity.



CELLIANT has been clinically shown to provide an average increase of

# 8.4%

in TcPO2\*

[LEARN MORE](#)

\* Source: Randomized Controlled Trial Comparing the Effects of Far-Infrared Emitting Ceramic Fabric Shirts and Control Polyester Shirts on Transcutaneous PO<sub>2</sub>, Dr. Ian Gordon, James Wason, Dr. Lawrence Lavery, Dr. Michael R Hamblin and MS Thein - Long Beach VA Memorial Hospital, 2014  
[https://celliant.com/wp-content/uploads/2021/09/Randomized-Controlled-Trial\\_web-1.pdf](https://celliant.com/wp-content/uploads/2021/09/Randomized-Controlled-Trial_web-1.pdf)  
NOTE: The minimum threshold to pass TcPO<sub>2</sub> testing is an average increase of 7%. The present study has added to the body of evidence that suggest that FIR-emitting garments can exert real measurable physiological effects, and deserve further study for medical indications.



# SLEEP BETTER

Good sleep is critical to good health. Whether you run hot or cold, CELLIANT-powered infrared mattresses, top-of-bed products and sleepwear promote restful sleep by increasing local circulation, helping regulate body temperature. When you're the right temperature, you tend to stay asleep longer and wake less frequently during the night.



In a pilot clinical study, people sleeping with CELLIANT-powered responsive textiles averaged

# 18.3

more minutes of sleep per night\*

[LEARN MORE](#)

\* Source: CELLIANT Pilot Sleep Study, Dr. Marcel Hungs & Dr. Annabel Wang, University of California - Irvine Medical Center, 2010  
Results not achieved by all subjects in the study. Further studies are warranted before drawing conclusions as CELLIANT® sleep benefits.  
[https://celliant.com/wp-content/uploads/2021/09/Double-Blind\\_web.pdf](https://celliant.com/wp-content/uploads/2021/09/Double-Blind_web.pdf)



# IMPROVED WELLNESS. IMPROVED FABRICS.

CELLIANT infrared technology not only promotes wellness in individuals, it also enhances the fabrics it powers. CELLIANT textiles have been shown to dry up to 30% faster\* than traditional fabrics, inhibit the growth of odor, and help to regulate body temperature. In addition, CELLIANT is durable, will not wash out, and lasts the useful life of the product it powers.

Source: Drying Time For Fabric Heated by an Infrared Light Source mechanical test, testing performed by Intertek Consumer Goods, September 2012



# MATERIALS AND MEDIUMS

Our scientists selected naturally occurring thermo-reactive minerals, each for their unique properties. We grind this blend of minerals into an extremely fine powder. The CELLIANT powder is then added to a carrier (polyester, nylon or viscose) and made into a yarn, fiber or fabric.



**MINERALS**



**POWDER**



**CARRIER**



**FIBER**



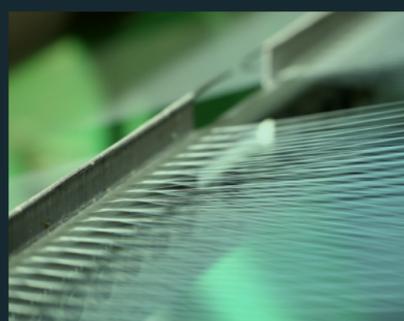
**YARN**



**FABRIC**



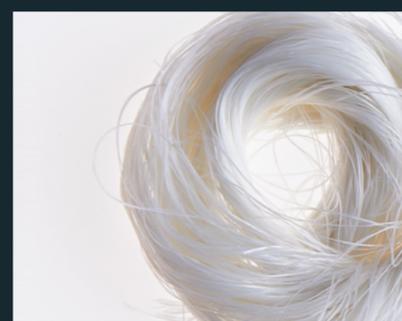
**CELLIANT<sup>®</sup>  
PET AND rPET**



**CELLIANT<sup>®</sup>  
NYLON**



**CELLIANT<sup>®</sup>  
VISCOSE**



**CELLIANT<sup>®</sup>  
WITH REPREVE<sup>®</sup>**

**CELLIANT COMES IN A VARIETY OF MEDIUMS:**

STAPLE FIBER

SPUN YARN

FILAMENT YARN

INSULATION

FABRIC

NON-WOVEN

PRINT

A wide range of custom blends are available.



# AWARD WINNING IR TECHNOLOGY



CELLIANT Viscose is the first in-fiber sustainable viscose infrared solution for brand partners seeking an alternative to synthetic fibers. Nature-based CELLIANT Viscose is certified by FSC® or PEFC™, which guarantees the origin of the raw materials is in sustainably managed sources. Our specialty viscose partner Kelheim Fibres was awarded a dark green / green shirt in Canopy's 2021 Hot Button Report, which not only stands for responsible raw material sourcing but also is an overall sustainability indicator for viscose fibre producers. CELLIANT Viscose is a ISPO Textrends Fall/Winter 2022/23 Selection.

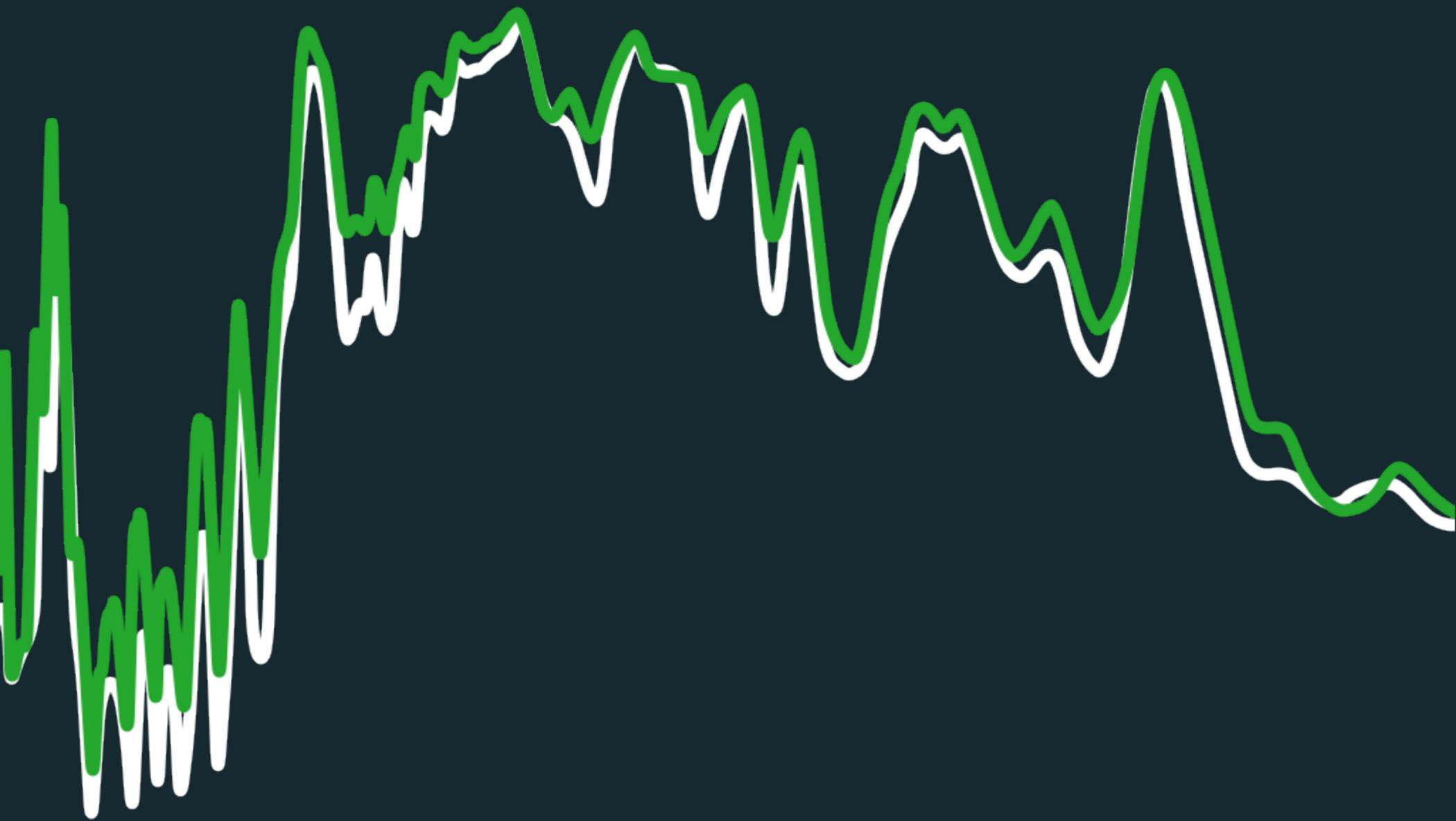


Pure white expands the potential applications of CELLIANT to crisp white performance and athleisure apparel, athletic uniforms and jerseys, towels, bedding, baby clothes, medical apparel and more. Pure white is the foundation that makes delicate pastel fabrics, as well as any color, possible. Pure white CELLIANT is a Top Ten winner in the Fibers & Insulation Category of ISPO Textrends Fall/Winter 2023/24. Pure white CELLIANT is also a finalist in the Sustainable Textile Innovation category of the Drapers Sustainable Fashion 2022 Awards.



CELLIANT with REPREEVE marries CELLIANT infrared technology with REPREEVE's rPET sustainable fibers made from recycled plastic bottles and pre-consumer waste in a new solution that is better for you, and better for the earth. CELLIANT with REPREEVE has received two award distinctions since launching in the fall of 2022, including being recognized as a Selection in the ISPO Textrends Fall/Winter 2024/25 and as a Finalist in the Sustainable Textile Innovation category of the Drapers Sustainable Fashion 2023 Awards.





# BACKED BY SCIENCE

CELLIANT has been tested and validated in numerous peer-reviewed published studies. Our Science Advisory Board works with primary investigators to rigorously test and demonstrate the science of infrared and its benefits. This includes experts in photobiology, nanotechnology, sleep medicine, human physiology, diabetes and wound care.



As part of the 513(g) submission process, the FDA reviewed and commented on appropriate health and wellness claims for CELLIANT® products.

The FDA has determined that CELLIANT® products are medical devices as defined in section 201(h) of the Federal Food, Drug and Cosmetic Act and are general wellness products.

The FDA determined products containing CELLIANT® are medical devices because they are intended to temporarily increase blood flow and local circulation at the site of application in healthy individuals.

The FDA has not approved or designated CELLIANT® products for any purpose and has not made any determination about, or endorsement of, its stated use or benefits.

CELLIANT® is designated as a Class 1 Medical Device in Australia, Canada, the European Union, Japan, New Zealand, the United Arab Emirates and the United Kingdom. CELLIANT® is cleared to market in China, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand and Vietnam, with more countries and regions to follow.



# QUALITY ASSURANCE

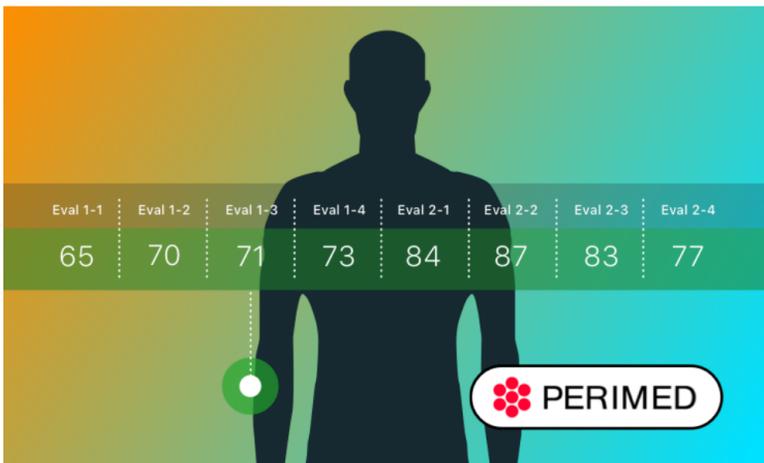
CELLIANT has a localized effect and therefore the product design, quantity and placement of CELLIANT must meet stringent requirements in order to satisfy the expectations of the consumer when purchasing a CELLIANT product. Authorized CELLIANT partner mills ensure that products meet the highest quality standards. We test products before they go to market at independent third-party labs and in our IRB certified clinical laboratory to ensure all products meet the established usage requirements and integrity standards.





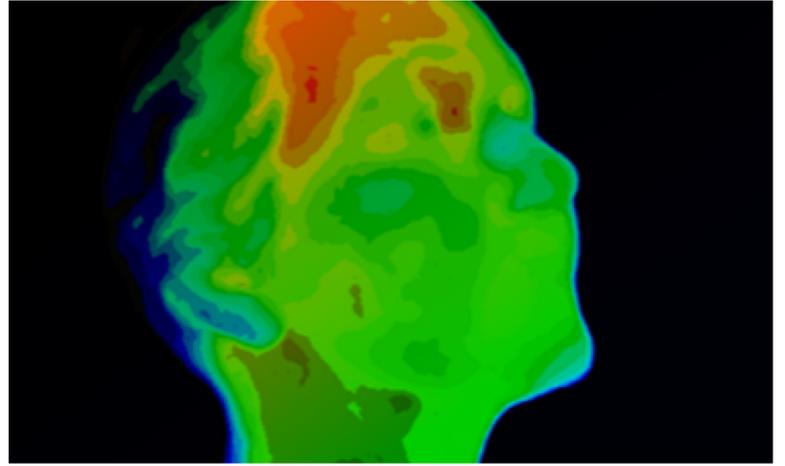
## ASH TESTING

Ash Testing is used to prove that CELLIANT minerals are present in our partners' products in the required amounts. Sample products are sent to a U.S.-based, independent, 3rd-party lab where they are ignited to burn off the organic materials, and what remains are the CELLIANT minerals. For CELLIANT-powered products to pass Ash Testing, the remaining CELLIANT minerals must be present in the prescribed amounts based on our usage and product loading standards.



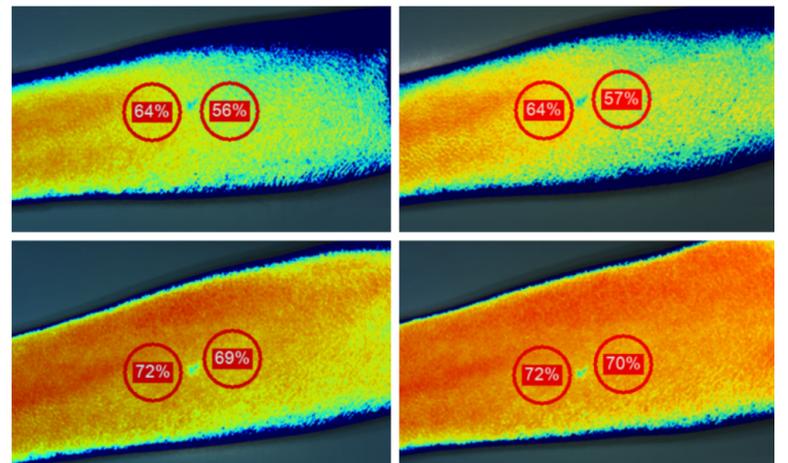
## TRANSCUTANEOUS OXIMETRY PRESSURE TESTING

Transcutaneous Oximetry Pressure (TcPO<sub>2</sub>) Testing is used to prove that CELLIANT-powered products increase tissue oxygenation, improving local circulation. Prior to the test commencing, we control for environmental and physiological variables. Each TcPO<sub>2</sub> test uses two fabrics: a control fabric and a CELLIANT-powered prototype. Each fabric is measured for 80 minutes, and readings are taken at 20-minute intervals. For CELLIANT-powered products to pass TcPO<sub>2</sub> Testing, they must demonstrate an average minimum increase of 7%. This test is completed in our in-house IRB certified clinical laboratory using a PeriFlux 6000 TcPO<sub>2</sub> System.



## EMISSIVITY TESTING

Emissivity Testing is used to prove that CELLIANT-powered products emit infrared energy at significant levels. Emissivity Testing is done in a U.S.-based, independent 3rd-party lab. For CELLIANT-powered products to pass Emissivity Testing, they must emit an average increase of .25 milliwatts per centimeter squared that is generated in the 2.5-20 micrometer range when tested at 35°C.



## HYPERSPECTRAL IMAGING TESTING

Hyperspectral Imaging (HSI) Testing is used to prove an increase in tissue oxygen saturation. HSI Testing is done on human subjects at our IRB registered lab using a Kent Imaging Snapshot NIR V3.0 machine. Each test uses two fabrics: one control fabric and one CELLIANT-powered prototype. HSI Testing uses multiple wavelengths of near-infrared light that penetrates approximately 2-3mm into the superficial tissue to measure relative amounts of oxygenated and deoxygenated hemoglobin in the local area. For CELLIANT-powered products to pass HSI Testing, they must meet a minimum increase of 6% tissue oxygen saturation.

# POWERING WORLD-CLASS BRANDS

CELLIANT technology powers brands across multiple industries and products – everything from apparel to mattresses and bedding, wetsuits to office furniture, uniforms to products for animals.

These are just some of our incredible brand partners.

AEON

amazon

BEAR

CRYPTON

DESIGNTEX

DFND

KT TAPE

KYMIRA

MEDLINE

mey

OXEEGO  
SPORTSWEAR

purecare

sunlighten

TECNICA

UNDER ARMOUR



# PARTNERSHIP & LICENSING

CELLIANT is an ingredient brand that works with companies and innovators of all sizes to integrate our proprietary formula into their product lines. Our global team works with each potential partner to determine the best application and supply chain solution to meet their needs.

We license our technology to brand partners. We offer our raw materials at cost, which reduces a brand's barrier to entry and risk. We receive payment once the products are sold (vs. getting paid on the inventory you make). This creates a true partnership.

## WHY CELLIANT?

- ✓ Differentiate your products in a crowded marketplace with a science-backed, clinically validated technology that has regulatory status in numerous countries and provides a unique selling proposition.
- ✓ Provide consumers the lifestyle gains they're seeking with textiles that deliver a host of health and wellness benefits.
- ✓ Amplify your values and messaging through a strategic partnership with an ingredient brand committed to innovating new and improved, more sustainable offerings.
- ✓ Command a premium for your products with CELLIANT, the leader in infrared (IR) bio-responsive textiles.

# GET IN TOUCH

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