



# SUSTAINABILITY INSIGHTS

“

**Our mission is simple—inspire brands and consumers through a relentless commitment to innovation and solutions that deliver unmatched comfort, performance, and sustainability.**

”

**— GLENN BARRETT**  
FOUNDER AND CEO OF ORTHOLITE



 **Ortholite®**



# SUSTAINABLE INNOVATION

## FROM DAY 1

**FROM THE VERY BEGINNING, WE HAVE ASPIRED TO BE BETTER TO THE PLANET.**

After all, the products we make are designed to get people outside—going farther, doing more, being more comfortable and performing their best. Our work towards more sustainable products started with our first insole back in 1997, engineered with game-changing technology that repurposed rubber waste. It set the precedent for using recycled rubber—and we’ve used it in billions of insoles ever since.

Today OrthoLite® is the world’s leading supplier of open-cell foam technology, and the innovator and creator of OrthoLite Cirql™, the patented, revolutionary alternative to traditional plastics that provides footwear brands and their factory partners with a more sustainable, circular choice in materials.

With trust-based relationships throughout our global supply chain and production facilities located around the world, OrthoLite’s commitment to prioritize more sustainable products, process, and circular solutions has an immense and measurable global impact, and that’s why 500+ of the world’s leading footwear brands choose OrthoLite® with a shared vision for the potential future of sustainable footwear.



**ORTHOLITE'S ZERO WASTE INITIATIVE** is focused on our continued commitment to the creation of more sustainable technologies to help close the loop on post-production waste material and get us closer to the end goal of Zero Waste. Through the creation of our in-house recycling center, we have invested in the continued development of more sustainable solutions that optimize our supply chain from end to end by capturing and repurposing all waste material. The result is a range of product solutions with 5% to 98% recycled content.

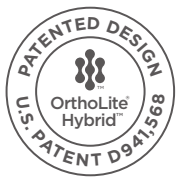
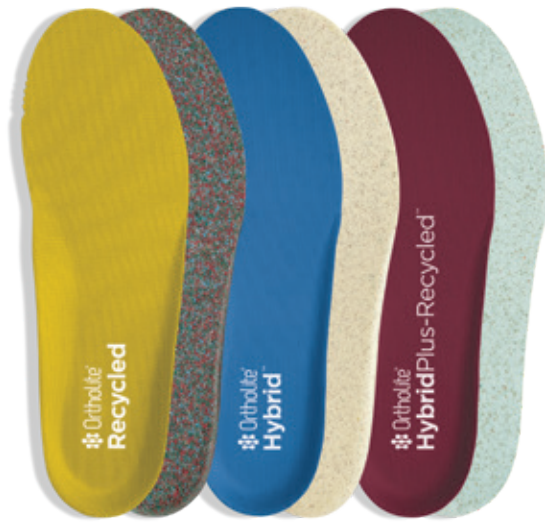
## OUR GOAL OF **ZERO WASTE**

OrthoLite® also earned Global Recycled Standard (GRS) and RCS certification for our range of insoles with a minimum of 20% recycled material. In addition, OrthoLite has achieved the Recycled Claim Standard (RCS) certification that covers all OrthoLite insoles that contain a minimum of 5% recycled content.





# WASTE RE-IMAGINED



## RECYCLED RUBBER

Take a close look at any OrthoLite® insole and you'll notice the tiny black flecks. That's part of our proprietary technology—recycled rubber from the production of outsoles—and we've used it in every insole we've ever made since 1997. It adds resiliency, breathability, cushioning and comfort, and helps to prevent over 1.3 million pounds of recycled rubber from entering landfills each year. It helps us do our part within the footwear community to close the loop within the production process.

## HYBRID TECHNOLOGY

OrthoLite® Hybrid™ is a patented design that is GRS certified and uniquely blends 5% recycled rubber and a select range of 15%-43% production waste foam to achieve a custom range of recycled content — for uncompromised comfort and performance attributes OrthoLite® is known for and consumers expect.



# MADE FROM NATURE

## SUSTAINABLE COMFORT FROM PLANT-BASED BIO-OIL

OrthoLite's proprietary plant-based bio-oil comes from castor beans—a non-food source that doesn't compete with food crops and uses very little water to grow. The rapidly renewable plant has been naturalized in warm climates all over the world and can grow ten feet in a single season.

The use of castor oil reduces the need for petroleum in our products and uses fewer natural resources to produce. It allows us to provide our brand partners with a more sustainable solution, to create insoles with uncompromised comfort and

performance, while dramatically limiting the impact on the planet.

By partnering with OrthoLite®, you can take a step towards increasing the eco-content of your products to help reduce your brand's resource consumption and carbon footprint.



**26%**  
ECO CONTENT  
OrthoLite®  
EcoLT™



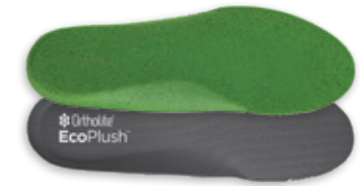
**32%**  
ECO CONTENT  
OrthoLite®  
Eco™



**32%**  
ECO CONTENT  
OrthoLite®  
EcoX40™



**45%**  
ECO CONTENT  
OrthoLite®  
EcoPlush™



**57%**  
ECO CONTENT  
OrthoLite®  
HybridPlus-Bio™



**70%**  
ECO CONTENT  
OrthoLite®  
EcoImpressions™





# 350+

## FORMULATIONS AND COUNTING



	Recycled Rubber	Hybrid	Bio-Oil	Total Combined Content	BETA Tested	RCS Certified	GRS Certified	USDA Certified Biobased
OrthoLite® Originals	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® X25™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® X35™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® X40™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® X55™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® R&R™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® Imperial™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® Lazy™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® Ultra™	5%	15%	0%	20%	●	●	Hybrid	
OrthoLite® Eco LT™	5%	15%	6%	26%	●	●	Hybrid	
OrthoLite® Eco™	5%	15%	12%	32%	●	●	Hybrid	
OrthoLite® Eco X40™	5%	15%	12%	32%	●	●	Hybrid	
OrthoLite® Eco Plush™	5%	15%	25%	45%	●	●	Hybrid	●
OrthoLite® HybridPlus-Recycled™	7%	43%	0%	50%	●	●	Hybrid	
OrthoLite® HybridPlus-Bio™	7%	43%	7%	57%	●	●	Hybrid	
OrthoLite® Eco Impressions™	5%	15%	50%	70%	●	●	Hybrid	●



# PROOF IN TRANSPARENCY

**AT ORTHOLITE®, OPERATING WITH A SUSTAINABLE MINDSET** has been central to our DNA since our inception and our continued commitment to work towards sustainability is a natural extension of our mission and vision. We know that as an industry, the onus is on all of us to help mitigate our environmental impact and protect the planet.

We embrace the critical importance of accountability and providing full transparency through globally recognized third party resources that demonstrate our ongoing progress and leadership in environmental sustainability in both product and process.

OrthoLite has undergone extensive third-party testing and analysis and we are proud to have implemented and attained the following third-party tests, certifications, and validations.





## THIRD PARTY

# VALIDATION



The Sustainable Apparel Coalition is a coalition for action that brings together expertise from across the globe to develop sustainable solutions for the apparel, footwear, and textile industries. The Sustainable Apparel Coalition is the creator of the Higg Index.



Established in 2012, the Higg Index is a sophisticated tool that seeks to provide footwear and apparel manufacturers with the opportunity to work towards a cleaner, healthier future for people and the planet.



United States Department of Agriculture's (USDA's) BioPreferred® program awards a certificate to products containing bio-based material. OrthoLite® Eco Impressions™ test result indicates that its bio-based content is 46%. OrthoLite® Eco Plush™ test result indicates that its bio-based content is 25%.



RCS certification is a voluntary, international standard intended for any product containing at least 5% recycled material.



OrthoLite® has earned GRS certification - a voluntary product standard for tracking and verifying the content of recycled materials in a final product - for all insoles with a minimum of 20% recycled material.



OrthoLite® BETA Lab testing validates the percentages of recycled rubber and bio-oil in every product.



# THE HIGG INDEX

**ESTABLISHED IN 2012, THE HIGG INDEX IS A SOPHISTICATED TOOL** that seeks to provide footwear and apparel manufacturers with the opportunity to work towards a cleaner, healthier future for people and the planet.

In 2019, OrthoLite® began implementing the Higg FEM (Facility Environmental Index). The Higg Index helps us assess performance across seven environmental impact areas that are verified, standardized, and provide credible data and transparency that are actionable. From water use to chemicals management, we utilize the Higg FEM to measure impacts holistically and make annual improvements across our facilities.

OrthoLite's Higg scores translate to several tangible differentiators for our brand partners and contribute to value chain transparency and alignment with consumers who value environmental stewardship as we actively work to effect positive, lasting change.





# HIGG FACILITY ENVIRONMENTAL INDEX

## FEM SEVEN WORKSTREAMS



ENVIRONMENTAL  
MANAGEMENT  
SYSTEM



AIR  
EMISSIONS



ENERGY



WASTE



WATER



CHEMICAL  
MANAGEMENT



WASTE  
WATER

ORTHOLITE  
VIETNAM **98%**

ORTHOLITE  
CHINA **95.2%**

ORTHOLITE  
INDONESIA **75%**

**FACTORY HIGG CERTIFICATIONS** All OrthoLite® factories are in the process of becoming Higg certified. We have dedicated EHS (environmental, health, and safety) teams responsible for measuring and managing the execution of the certifications. To date, OrthoLite has completed the first round of Higg certifications in Vietnam, Indonesia, and China. Our India and Spain factories are in the process of being certified. All scores reported have third party verification.\*

\*Scores reported as of 2023.



# SUSTAINABLE EFFICIENCIES AND INNOVATION

**PROCESS EFFICIENCIES** Our continued investments in sustainable innovation and automation are intended to expand our capacities and improve process efficiencies through auto-foaming, die cutting, and our patented auto-molding technologies. Through our collective use of these processes, we aim to reduce energy, and waste, and conserve natural resources while reducing our carbon footprint on a global scale.

**SOLAR** The 4300 solar panels at our Vietnam facility can produce up to 2 megawatt output annually, providing 80% of the daily energy demands and can offset nearly 3,500,000 kg of carbon emissions annually, equivalent to planting 200,000 trees or eliminating 1,500 tons of coal burned each year. Solar also powers our OrthoLite Cirql™ factory, and we will install it in other factories across the globe.

**LOCAL FOR LOCAL** Operating 10 locations across 6 countries and 3 continents and proximity to T1 factories provides an invaluable benefit for our brand partners. This local-for-local approach provides a more efficient means of transporting finished goods and reducing the amount of time and energy used to transport them.

## VIETNAM SOLAR INSTALLATION

**4,320**  
SOLAR PANELS

**2**  
MEGAWATT OUTPUT

**3,500,000**  
KG OF CARBON OFFSET



**AUTO POURING**



**AUTO DIECUTTING**



**AUTO MOLDING**



## NEW SUSTAINABLE PRODUCT INNOVATION



Our commitment to developing more sustainable process and products is paramount to our global sustainability strategy and achieving the sustainability goals of our brand partners while continuing to strive towards a reduced environmental impact on the planet.

**OUR GOAL OF ZERO WASTE**, and the utilization of plant-based bio-oils has led us to the development of two of our latest GRS Certified product innovations—HybridPlus-Bio™ and HybridPlus-Recycled™.

**ORTHOLITE® FIBER-FUSION™ TECHNOLOGY** is a glueless top cover technology that requires no glue or traditional top-cover materials. The result is less waste, increased breathability, and elevated comfort.

**ORTHOLITE® O-THERM™** is the only aerogel infused insole technology that requires no foils or added layers providing unparalleled cold and heat blocking properties for all categories of footwear.

**BLUE BOX PROGRAM** As an alternative to shipping products in single-use corrugated boxes, we ship finished goods to footwear factories in recyclable and reusable blue boxes. Having this closed-loop packaging option reduced CO<sup>2</sup> output by roughly 19,000 metric tons in 2022.

**CLOSED  
LOOP**  
RECYCLABLE  
AND REUSABLE  
PACKAGING

CO<sup>2</sup>  
REDUCTION OF  
**19,000**  
METRIC TONS  
IN 2022



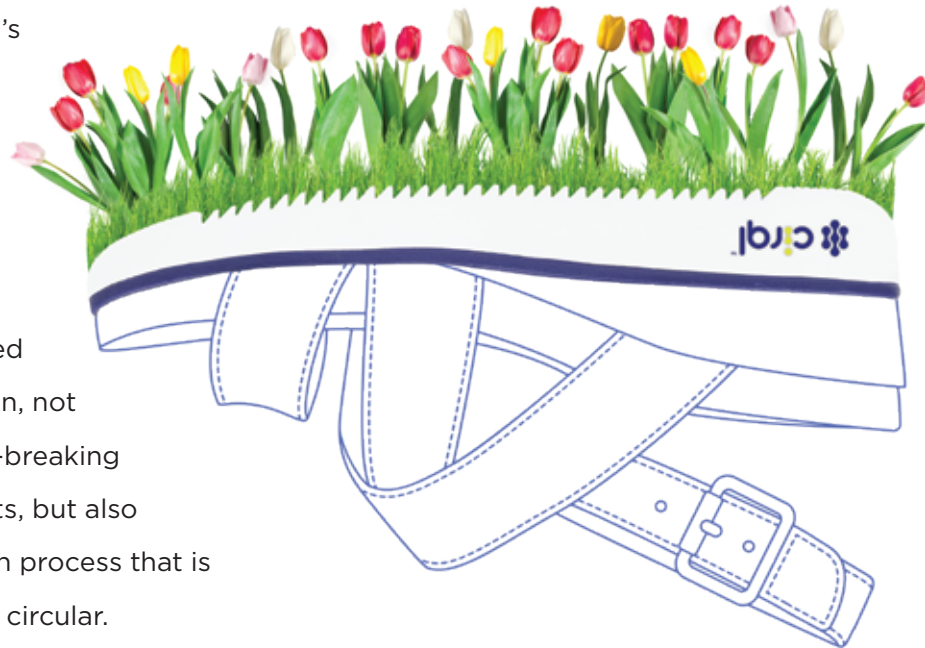
## OUR VISION

We strive to help lead the footwear industry towards true circularity by reducing carbon footprints, delivering more sustainable materials solutions, and working towards the elimination of hazardous chemicals in the manufacturing process.

# STEP INTO CIRCULARITY

OrthoLite Cirql™ is the world's first traditional plastics-free footwear materials solution that is recyclable and industrially compostable.

A true soil-to-soil and circular solution, it is designed to reduce waste and pollution, not just in our patented, ground-breaking biopolymer made from plants, but also with a zero-waste production process that is solar powered, scalable, and circular.



### SUSTAINABLE BENEFITS OF ORTHOLITE CIRQL



Traditional  
Plastics-Free Foam



Chemical-Free  
Foaming Process



Recyclable  
Foam



Patented  
Worldwide



Depolymerizable



Non-Persistent  
Microplastics



No Forever  
Chemicals



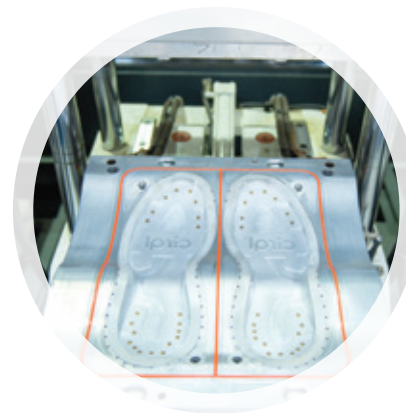
Zero Waste  
Process



# PRODUCTION & CENTER OF EXCELLENCE

Headquartered in Ho Chi Minh City, Vietnam with production facilities close by, the OrthoLite Cirql™ Center of Excellence serves as blueprint for both the manufacturing home for Cirql and a testing ground for exploring new pathways for scalable and more sustainable production for the entire footwear industry.

OrthoLite Cirql's manufacturing process is ingeniously simple: we believe that our patented, chemical-free foaming process is the key to uniting the environmental promise of plant-based innovation and the comfort and performance needs of footwear.



## **Solar Powered Facility**

### **Chemical-Free Foaming Process**

### **Foams Are Produced “Physically”**

### **Non-Crosslinked Foam**

### **Nitrogen Expanded Foam**

### **Ultra Low Part Shrinkage**

### **Ultra Low Warping**

### **Low Environmental Impact**

### **Zero Waste Production**

### **Efficient Cycle Times**



The OrthoLite Cirql™ name, products and methods of manufacture are covered by US Patents 11,155,009; 11,413,799; 10,843,429; 11,465,377. Additional US and international patents are pending. More information can be found at <https://ortholitecirql.com/patents/>





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