

ORTHOLITE® OPEN CELL FOAM TECHNOLOGIES



GLOBAL SCALE. LOCAL PRODUCTION.

For more than 25 years, we've been vertically integrated, wholly owned and delivering innovative solutions to meet the ever-changing challenges of our brand partners all over the world. Our global team of 3000+ has a presence on every continent where footwear is made, so every project is local: increasing efficiency, adaptability, and consistency while reducing cost, lead time, and stress. Because we're not just here to help you make more comfortable shoes, we're here to deliver the most profitable, sustainable, and enjoyable experience in the industry.



ortholite.com



OrthoLite® Foam Features & Benefits

Why OrthoLite® is the Undisputed Industry Leader

OrthoLite[®] is the leading manufacturer and supplier of OEM and open-cell foam insole technologies for the world's leading footwear brands. As a vertically integrated U.S. company with Higg FEM verified facilities around the globe, we collaborate with our brand partners to create and produce custom insole formulations that deliver unrivaled comfort, performance and sustainability. Here's how OrthoLite[®] innovation continues to set the standard:





Recycled Content All OrthoLite® formulations utilize recycled rubber and/or production waste foam ranging from 5% to 98% to support our end goal of Zero Waste.



Lightweight OrthoLite® foams are extremely lightweight enhancing performance with day-in, day-out airy comfort.



Washable OrthoLite® insoles are machine washable, coming out like virtually new every time while maintaining all of the comfort and performance benefits after washing. Gentle wash, air dry.

Antimicrobial The antimicrobial treatment is infused and cross-linked into every OrthoLite® foam and continuously resists microbe growth to provide built-in protection from fungus, bacteria and odor.

Long-Term Cushioning Unlike traditional foam, OrthoLite® foam compresses ass than 5% over the lifetime of

less than 5% over the lifetime of the product—so the cushioning, fit, comfort and performance virtually never change.



Moisture Management The unique open-cell structure of OrthoLite® foam creates a moisture management system, helping to move moisture away and provide a cooler, drier environment in any application.

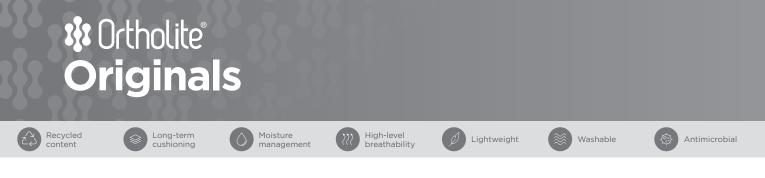


High-Level Breathability OrthoLite® foam with open-cell PU technology is breathable, allowing air to circulate around the foot, keeping the surrounding environment cooler and drier.

ortholite.com

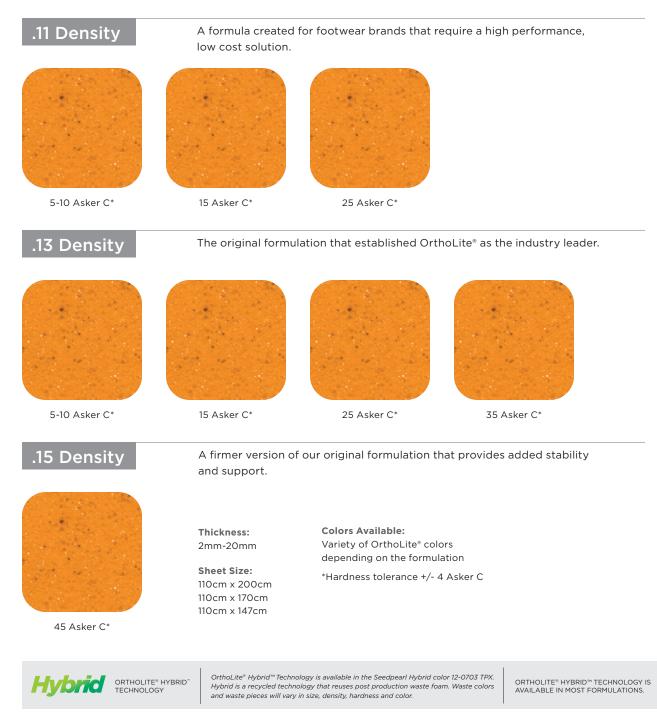


Not all OrthoLite* colors are available in all foam formulations. Certain colors may be subject to upcharge.



OrthoLite[®] Original formulations set the standard for comfort and performance.

From our earliest days, we've utilized recycled waste rubber ranging from 5% to 98% in every insole—leading the charge toward more sustainable products. OrthoLite® insoles can be customized to meet your exact specifications by combining formulations, densities, colors and mold designs, giving you a competitive advantage and unique comfort and performance story.





OrthoLite[®] operates with a sustainable mindset 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.



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.



REAL PROPERTY OF

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.

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



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%.



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



Hybrid Content Chart



Recycled content

Long-term cushioning Moisture management

D Lightweight

Washable

Antimicrobial

| Technology | Density | Hardness | Recycled Rubber | Hybrid* | Bio-Oil | Total Hybrid Content |
|--|-----------------------|---|--------------------|------------|----------|-------------------------|
| 🕸 Ortholite Originals | 0.11, 0.13, 0.15D | Varies by density. See technology sheet. | 5% | 15% | 0% | 20% |
| ₩ Ortholite° ¥25° | 0.12D | 20 C | 5% | 15% | 0% | 20% |
| ₩ Ortholite° ¥35 [™] | 0.145D | 25 C | 5% | 15% | 0% | 20% |
| ₿ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | 0.16D | 25 C, 35 C | 5% | 15% | 0% | 20% |
| ₩ Ortholite" ¥55" | 0.16D | 25 C | 5% | 15% | 0% | 20% |
| ₩ Ortholite° R&R [™] | 0.16D | 15 C | 5% | 15% | 0% | 20% |
| 🗱 Ortholite Imperial | 0.22D 0.30D (Plus) | 25 C 25 C, 30 C, 40 C | 5% 5% | 15% 15% | 0% 0% | 20% 20% |
| <pre>\$* Ortholite*</pre> Lazy | 0.15D | 75 F | 5% | 15% | 0% | 20% |
| 🕸 Ortholite" Ultra ï | 0.085D | 5-10 C, 15 C, 25 C | 5% | 15% | 0% | 20% |
| ₿ International State | 0.11D 0.13D | 15 C, 25 C 25 C, 35 C | 5% 5% | 15% 15% | 6% 6% | 26% 26% |
| str Ortholite" ECO | 0.13D | 15 C, 25 C, 35 C | 5% | 15% | 12% | 32% |
| ₿ Prtholite° ECOX40° | 0.185D | 25 C | 5% | 15% | 12% | 32% |
| 🗱 Ortholite EcoPlush | 0.15D | 26 C | 5% | 15% | 25% | 45% |
| W Ortholite® Hybrid Plus-Recycled® | 0.12D | 25 C | 7% | 43% | 0% | 50% |
| ₿ Ortholite° Hybrid Plus-Bio" | 0.14D | 24 C | 7% | 43% | 7% | 57% |
| រុះ Ortholite Ecol mpressionន័ | 0.15D | 70-80 F | 5% | 15% | 50% | 70% |

ORTHOLITE' HYBRID TECHNOLOGIES: OrthoLite* Bio-Oil Formulations replace petroleum with oil made from castor beans—a non-food plant. With this single decision, you can reduce your brand's resource consumption and carbon footprint. *OrthoLite* Hybrid[™] is a proprietary formulation that uniquely blends 5% recycled rubber with a range of 15%-43% postproduction waste foam offering uncompromised comfort, performance and less waste into landfills. OrthoLite[®] Recycled[®] is a result of our expanding commitment to the creation of more recycled technologies that close the loop on postproduction waste material and get us closer to the end goal of Zero Waste.

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St Ortholite Hybrid[™]









High-level breathability





Antimicrobial

Hybrid Comfort & Performance Technology

OrthoLite[®] Hybrid[™] is a proprietary formulation that can be used on its own or blended into other OrthoLite® formulations to upgrade the percentage of recycled content. The patented design* uniquely

blends 5% recycled rubber and 15% production waste foam to achieve a minimum of 20% recycled-contentfor uncompromised comfort and performance.



PRODUCT SUMMARY

We're always pushing our innovation further-in how our products perform, how they look, and how they are made. OrthoLite® Hybrid™ is a true game-changing technology, whether it's used on its own or combined with other formulations to up the recycled content. Combining 5% recycled rubber and 15% open-cell waste foam with virgin open-cell foam, it goes the distance and retains all the comfort and performance attributes OrthoLite® is known for and consumers expect using less petroleum and less energy, while adding less to landfills.

APPLICATION

Ideal for a wide range of applications, OrthoLite® Hybrid™ provides cushioning and performance critical in insole, strobel and upper applications. The OrthoLite® Hybrid™ formulation creates a cooler, drier environment inside all categories of footwear, so consumers can feel and perform their best.

Formulation Hybrid

Finished Goods:

Not available in sheets.

Zero Waste Initiative: All OrthoLite* formulations

utilize recycled rubber and/or

support our end goal of Zero Waste.

production waste foam to

OrthoLite[®] Hybrid[™] is available exclusively

as a finished molded or die-cut product.

MOQ Standard





Color Available: Seedpearl Hybrid 12-0703 TPX

*Patented Design: U.S. Patent D941,568 U.S. Patent D991,659

MESHOL Completed testing and approved

ORTHOLITE[®] HYBRID

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.



₩ Ortholite® HybridPlus-Recycled®





Long-term cushioning

Moisture management

High-level breathability



t (🏽

Washable



Antimicrobial

Closing the Loop on Waste

OrthoLite® HybridPlus-Recycled™ is a patented design* and the result of our expanding commitment to the creation of more environmentally conscious footwear technologies that close the loop on production waste material and get us all closer to the end goal of Zero Waste.

Through the creation of our dedicated in-house recycling facility, we continue to invest in the development of product solutions that optimize our supply chain from end to end by capturing and repurposing all waste material, the result is OrthoLite® Hybrid[™] and Recycled technologies.

PRODUCT SUMMARY

Meeting the increasing demand for more environmentally conscious products, OrthoLite® HybridPlus-Recycled[™] provides the unprecedented ability to elevate the recycled- content of your insoles to **50%**. Uniquely blending **7%** recycled rubber powder and **43%** recycled PU foam to achieve a total **50%** recycled content—using less petroleum and less energy, while adding less to landfills. And delivers all the comfort your consumers expect with the features they demand.

APPLICATION

Ideal for a wide range of applications, OrthoLite® HybridPlus-Recycled™ delivers comfort and performance critical in insole, strobel and upper applications. The OrthoLite® HybridPlus-Recycled™ formulation creates a cooler, drier environment inside all categories of footwear, so consumers can feel and perform their best.

Formulation HybridPlus-Recycled MOQ Standard 50% Total Eco Content 7% Recycled Rubber

Density: 0.12g/cm³

Hardness: 25 Asker C

Thickness: 2mm-20mm Thickness tolerance +/- 0.3mm

Finished Goods:

OrthoLite® HybridPlus-Recycled[™] is available exclusively as a finished molded or die-cut product. Not available in sheets

Zero Waste Initiative:

utilize recycled rubber and/or production waste foam to

All OrthoLite® formulations

support our end goal of Zero Waste.

Colors Available: Mint Green 11-4805 TPX

***Patented Design:** U.S. Patent D941,568



% Urtholite Hybrid Plus-Recycleo



OrthoLite[®] HybridPlus-Recycled[™] Technology is available in the Mint Green color 11-4805 TPX. Hybrid is a recycled technology that reuses postproduction waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

V Ortholite HybridPlus-Bio[™]



Recycled content

Long-term

management

High-level breathability Lightweight

Washable

Antimicrobial

Hybrid Technology Formulated with **Plant Based Bio-Oil**

OrthoLite® HybridPlus-Bio[™], a patented design*, expands our range of environmentally conscious formulations to further reduce the use of petroleum and gets us all closer to the end goal of Zero Waste.

Moisture



PRODUCT SUMMARY

Meeting the increasing demand for more environmentally responsible products, OrthoLite® HybridPlus-Bio™ uniquely blends 7% recycled rubber and 7% bio-oil derived from castor with 43% recycled production waste foam that combined, utilizes less petroleum and less energy, while adding less to landfills. OrthoLite® HybridPlus-Bio[™] formulation creates a cooler, drier environment inside all categories of footwear, so consumers can feel and perform their best.

APPLICATION

Ideal for a wide range of applications, OrthoLite® HybridPlus-Bio™ delivers environmentally conscious comfort and performance critical in insole, strobel and upper applications, and delivers all the comfort and performance underfoot that your consumers expect from OrthoLite®.

| | | | | 1 2 2 |
|---|---|----------------------|-----------------------------------|--|
| Formulation HybridPlus-Bio | MOQ Standard | 57% | Total Eco Content | 7% Bio-Oil 43% Production Waste F 7% Recycled Rubber |
| Density: 0.14g/cm ³ Hardness: 24 +/-4 Asker C Thickness: 2mm-20mm Thickness tolerance +/- 0.3mm | Finished Goods: OrthoLite® HybridPlus-Bio" is a exclusively as a finished molde product. Not available in sheet Zero Waste Initiative: All OrthoLite® formulations utilize recycled rubber and/or production waste foam to support our end goal of Zero M | ed or die-cut ts. | Mint G 11-480 *Paten | |

ORTHOLITE® HYBRID

OrthoLite® HybridPlus-Bio™ Technology is available in the Mint Green color 11-4805 TPX Hybrid is a recycled technology that reuses postproduction waste foam Waste colors and waste pieces will vary in size, density, hardness and color

St Ortholite® Recycled





Long-term

Moisture management

High-level breathability) Lightweight

🛞 Washable

Antimicrobial

Closing the Loop on Waste

OrthoLite® Recycled[™] is a result of our expanding commitment to the creation of more sustainable technologies that close the loop on postproduction waste material and get us closer to the end goal of Zero Waste.

Through the creation of a new R&D 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 OrthoLite^{*} Hybrid and Recycled technologies.

PRODUCT SUMMARY

Responding to the increasing demand for more environmentally responsible products, OrthoLite® Recycled[™] provides our brand partners the unprecedented ability to increase the eco-content in their insoles with our recycled postproduction waste material making it easier than ever to achieve the highest eco-standards and sustainability goals.

APPLICATION

OrthoLite® Recycled[™] delivers the perfect fully recycled solution for eco-friendly support, stability and under foot comfort in either a single density or dual-layer option. In a dual-layer application where a firmer base is required with softer foam on top, OrthoLite® Recycled[™] delivers immediate step-in comfort while retaining all of the key attributes that OrthoLite[™] is known for. OrthoLite® Recycled[™] is also ideal for Strobel layers and upper applications.

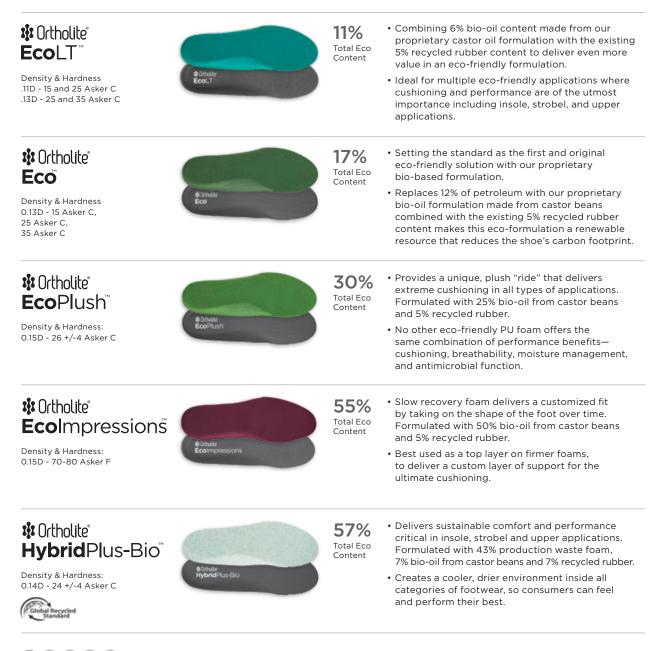
| | | | 1000.000.00 | E STATE FOR EVERY STATE | R H & SH WE |
|--|--|--|--|-------------------------|--------------|
| Formulation | MOQ | OO/ Total | 98% Postproduction Waste Material | ALL SECURE | |
| Recycled | Standard 30 | 8% ^{Total} Eco Content | 2% Water-based Binder | Line Call | |
| Recycled Density: 0.19-0.27g/cm ³ Hardness: 29-43 Asker C Thickness: 2mm-20mm *Thickness tolerance +/- 0.3mm | Finished Goods: OrthoLite* Recycled is available exclusively as a finished molded or die-cut product. Not available in sheets. Contact your OrthoLite* representative regarding molded specifications. Zero Waste Initiative: All OrthoLite* formu- | Colors Avai OrthoLite® *Color will w to the use of postproduc material. | ilable: Colors* vary due f recycled | | 3: Ortholite |
| | lations utilize recycled rubber and/or production waste foam to support our end goal of Zero Waste. | MESHO Completed and approv | testing | | |

% Urtholite
Recycled



Eco-friendly Performance from Plant-based Bio-Oil

OrthoLite[®] Bio-Oil formulations reduce the need for petroleum-derived ingredients by using an eco-friendly, proprietary castor oil and recycled rubber formulation. For over 20 years, OrthoLite[®] has led the industry in the innovation, development and production of environmentally friendly insoles. Starting with our very first formulation, our open-cell technology has included 5% recycled shoe rubber, which has kept thousands of tons of waste material out of landfills. OrthoLite[®] Bio-Oil formulations replace petroleum with oil made from castor beans—a non-food plant. With this single decision, you can up your eco content to reduce your brand's resource consumption and carbon footprint.



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State Ortholite® EcoLT™



Long-term





High-level breathability 💥 Washable

Antimicrobial

Eco Technology Formulated with Bio-Oil

OrthoLite® Eco LT[™] brings innovative eco-upgrades to our original .11D and .13D formulations, replacing a portion of the petroleum with plant-derived bio-oil.

PRODUCT SUMMARY

Responding to the growing demand for more eco-friendly products, OrthoLite® expands our industry-leading range of environmentally friendly products with the introduction of OrthoLite® Eco LT[™].

The exclusive formulation allows you to reduce your carbon footprint while expanding your range with more eco-friendly offerings. OrthoLite[®] Eco LT[™] combines 6% bio-oil content made from our proprietary castor oil formulation with 5% recycled rubber content—delivering an eco-friendly foam with uncompromised comfort and performance.

APPLICATION

OrthoLite[®] Eco LT[®] is ideal for a wide range of eco-friendly applications where cushioning and performance are critical—including insole, strobel and upper applications. True to all OrthoLite[®] foams, it provides a cooler, drier, healthier environment inside the shoe, with long-lasting cushioning.

6% Bio-Oil 11% Total Eco Content Formulation MOQ 5% Recycled Eco LT Standard **Density: Density: Colors Available:** OrthoLite® Colors .11D 13D Seedpearl Hybrid 12-0703 TPX Hardness: Hardness: 15 and 25 Asker C 25 and 35 Asker C *Hardness tolerance *Hardness tolerance +/-4 Asker C +/-4 Asker C **Thickness:** Thickness: 2mm-20mm 2mm-20mm *Thickness tolerance *Thickness tolerance +/- 0.3mm +/- 0.3mm **Sheet Size: Sheet Size:** Zero Waste 110cm x 200cm 110cm x 200cm Initiative: 110cm x 170cm 110cm x 170cm All OrthoLite® 110cm x 147cm 110cm x 147cm formulations utilize recycled rubber and/or production waste foam to support

Hybrid ORTHOLITE® HYBRID" TECHNOLOGY

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

ORTHOLITE[®] HYBRID[™] TECHNOLOGY IS AVAILABLE IN MOST FORMULATIONS.

our end goal of Zero Waste.

xis Ortholite® ECO



Long-term cushioning



High-level breathability Lightweight

(≋)

Washable

Antimicrobial

Eco Technology Formulated with 12% Bio-Oil

OrthoLite[®] Eco[™] expands on our popular Eco LT[™] formulation more than doubling the bio-oil content to further reduce the use of petroleum.

PRODUCT SUMMARY

OrthoLite® Eco™ is the next evolution of our industry-leading range of environmentally friendly products—with an exclusive formulation made with 12% bio-oil content. By replacing a portion of the petroleum with plant-derived bio-oil sourced from castor beans, we're able to help you reduce your carbon footprint while providing your customers with the legendary comfort and performance of OrthoLite®.

APPLICATION

OrthoLite[®] Eco[™] can be used in any footwear application where a more eco-friendly comfort and performance solution is wanted. This formulation is ideal for insoles, strobel and upper applications.

| Formulation | MOQ | 17% Total Eco Content | 12% ^{Bio-Oil} |
|------------------------------------|---|-----------------------------|--|
| Eco | Standard | I /O Content | 5% Recycled Rubber |
| | | | and the second |
| Density: 0.13g/cm ³ | Colors Available: Fairway 18-6320 TPX | | 123 |
| Hardness: | Seedpearl Hybrid 12-07 | 703 TPX | |
| 15 +/-4 Asker C | | | |
| 25 +/-4 Asker C 35 +/-4 Asker C | | | Sec. |
| Thickness: | | | S. S |
| 2mm-20mm | | | |
| Sheet Size: | | | |
| 110cm x 200cm | | | |
| | | | |
| | Zero Waste Initiative: | ATHOLIA ATHOLIA | 1. 1. |
| | All OrthoLite® formulation utilize recycled rubber a | | |
| | production waste foam | | |
| | support our end goal of | Zero Waste. | |

Hybrid ORTHOLITE® HYBRID" TECHNOLOGY

OrthoLite[®] Hybrid[™] Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

St Ortholite® **Eco**Plush[®]



Long-term



High-level breathability Lightweight

25% Bio-Oil

5% Recycled

0% Total Eco Conter

Washable

Antimicrobial

Eco Technology Formulated with 25% Plant-based Bio-Oil

OrthoLite[®] Eco Plush[™] elevates the eco content of our original plant-based formulation to meet the need for more sustainable footwear solutions and deliver all the comfort and performance benefits of OrthoLite® PU foam technology.

Moisture

PRODUCT SUMMARY

OrthoLite® Eco Plush™ is the next evolution of our industry-leading range of environmentally friendly products-an exclusive formulation made with 25% plant-based bio-oil content. By replacing a portion of the petroleum with plant-derived bio-oil sourced from castor beans, we help to reduce our collective carbon footprint while continuing to deliver on our promise of more sustainable comfort and performance underfoot.

APPLICATION

OrthoLite® Eco Plush™ delivers a plush ride and can be used in any footwear application where a more sustainable comfort and performance solution is wanted. This formulation is ideal for insoles, strobel and upper applications.

MOQ

Standard

Formulation Eco Plush

Density: 0.15g/cm3

Hardness: 26 +/-4 Asker C

Thickness: 2mm-20mm

Sheet Size: 110cm x 170cm **Colors Available:** Online Lime 17-0145 TPX Seedpearl Hybrid 12-0703 TPX

Zero Waste Initiative:

All OrthoLite[®] formulations utilize recycled rubber and/or production waste foam to support our end goal of Zero Waste.





ORTHOLITE[®] HYBRID

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

■ Colmpressions



Long-term cushioning



High-level breathability Washable

Antimicrobial

Top-Layer Eco-Foam that Molds to the Foot

OrthoLite[®] Eco Impressions[™] provides immediate step-in comfort and molds for a truly custom fit over time.

PRODUCT SUMMARY

OrthoLite® Eco Impressions[™] makes an extremely comfortable first impression—and a lasting impression. Containing our highest percentage of bio-oil content, the exclusive formulation is specifically designed to mold to the shape of the foot over time for a truly custom fit.

APPLICATION

OrthoLite® Eco Impressions[™] is best used as a top layer on a firmer OrthoLite® base that cradles and supports for ultimate cushioning. The formulation is also ideal as lining foam—giving the whole shoe a custom-feeling fit.

MOQ

Standard



Top layer: OrthoLite® Eco Impressions[™] for step-in comfort

Bottom layer: Firm foam layer for cradling support

Formulation Eco Impressions

Slow Recovery Return Rate: 10-20 Seconds

Density: 0.15g/cm³

Hardness:

70-80 Asker F

Thickness: 2mm-12mm

Sheet Size: 110cm x 170cm Finished Goods: Available in sheets and die-cut.

Contact your OrthoLite^{*} representative regarding molded specifications.

Zero Waste Initiative: All OrthoLite[®] formulations

utilize recycled rubber and/or production waste foam to support our end

goal of Zero Waste.

Colors Available: Tawny Port 19-1725 TPX Seedpearl Hybrid 12-0703 TPX

55% Total Eco Content 50% Bio-Oil

5% Recyclec Rubber

USDA Certified Biobased Product: Certified 46% Biobased





OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.





Long-term



High-level breathability 🗯 Washable

Antimicrobial

Lightweight Comfort & Performance Insole Technology

OrthoLite® Ultra™ is designed to meet the ever-increasing demand for ultra-lightweight comfort in today's active lifestyle footwear.

PRODUCT SUMMARY

OrthoLite® Ultra™ is proprietary foam technology that was developed to specifically reduce weight without sacrificing the comfort and performance that active consumer's demand.

• Available in an ultra-cushy option with a hardness rating of 78-90 Asker F that delivers a customized, ultra-soft memory foam feel underfoot.

APPLICATION

Engineered to perform at optimal levels for kids and adults while on the field of play, at the gym or simply walking, OrthoLite® Ultra™ is ideal for both active lifestyle and sport. The formulation provides long-term cushioning and a cooler, drier, healthier environment inside the shoe. Beyond insoles, OrthoLite® Ultra™ can be used in strobel applications, quarter panel linings, tongues, heel pads and collar foam.

Formulation Ultra

Density: 0.085g/cm³

Hardness: 5-10 +/-4 Asker C 15 +/-4 Asker C 25 +/-4 Asker C

Slow Recovery 78-90 Asker F

Thickness: 2mm-20mm

Sheet Size: 110cm x 147cm 110cm x 170cm 110cm x 200cm Density: 0.095g/cm³

MOQ

Standard

Hardness: 33 +/-4 Asker C Thickness:

2mm-20mm **Sheet Size:** 110cm x 147cm 110cm x 170cm 110cm x 200cm Colors Available: Red 19-1764 TPX Green 16-5932 TPX Antique Bronze 17-1028 TPX Fossil 17-0909 TPX Lime Green 14-0452 TPX Burnt Sienna 17-1544 TPX Yellow 13-0858 TPX Lemon Chrome 13-0859 TPX Seedpearl Hybrid 12-0703 TPX

5% Total Eco Content

5% Recycled

Zero Waste Initiative: All OrthoLite®

formulations utilize recycled rubber and/or production waste foam to support our end goal of Zero Waste.



Hybrid ORTHOLITE® HYBRID

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

XSeries



Long-term



High-level breathability Lightweight

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Washable

Antimicrobial

High-rebound Formulations with Customized Elasticity

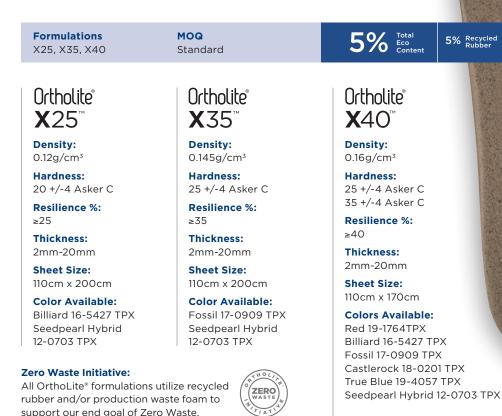
OrthoLite[®] X Series is our range of performance formulations with the highest rebound, that let you dial in the perfect elasticity for your insole application.

PRODUCT SUMMARY

Responding to the growing demand for higher levels of rebound, OrthoLite® expands upon our game-changing options with customized elasticity offerings. The range allows you to pick the precise rebound for your needs—or create a Good/Better/Best offering for your consumers. It starts with OrthoLite® X40^{°°}, that set the industry standard for high rebound performance with an elasticity rating over 40%. OrthoLite® X35^{°°} and OrthoLite® X25^{°°} foams achieve elasticity ratings of 35 and 25 percent.

APPLICATION

The OrthoLite[®] X Series is ideal for footwear used in high-impact sports or minimalist footwear. Its high levels of cushioning in thinner layers of foam also make it a great fit for dress shoes.



10 Ortholite X40



OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.





Long-term



High-level breathability Washable

Antimicrobial

Another Pinnacle OrthoLite® Formulation for Maximum Rebound & Energy Return

OrthoLite® raised the bar to new heights with the launch of X40[™] that set the industry standard for high-rebound comfort and performance. Now OrthoLite® takes rebound to incredible new heights with even more rebound and energy return.

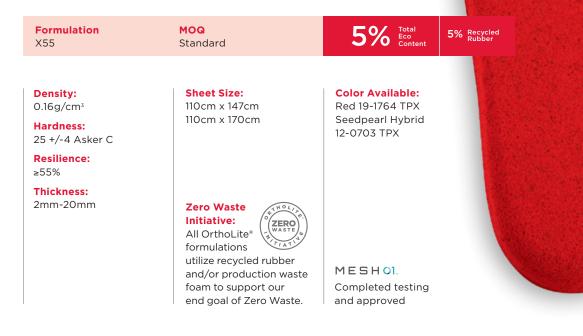
Moisture

PRODUCT SUMMARY

With an unprecedented 55% resiliency, OrthoLite® X55[™] foam provides the ultimate wearing experience-with awe-inspiring step-in comfort and all-day energy return that sets a new standard in comfort and performance. The feeling is lively, with the immediate perception of energy, making it ideal for all footwear categories including casual and dress footwear. When used in athletic footwear, OrthoLite® X55™ gives the feeling of propulsion during high-energy sports while providing superb stability and support. Simply by upgrading into X55[™], our brand partners can market products with the most energy return ever developed and experienced.

APPLICATION

OrthoLite® X55™ is engineered to enhance every wearing occasionincluding casual, dress, outdoor and athletic footwear. X55" resiliency and energy return help contribute to less foot fatigue and provides unrivaled stability, comfort and performance under all conditions from on the court, to out on the trails, or on the way to the office.



ORTHOLITE[®] HYBRID[®] TECHNOLOGY

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

Imperial™



Long-term cushioning



High-level breathability Washable

Antimicrobial

High-density, Ultra-cushioning Foam with Superior Rebound

OrthoLite[®] Imperial[™] provides outstanding cushioning even in thin applications—making it the perfect choice for a wide range of uses.

PRODUCT SUMMARY

OrthoLite® Imperial" foam brings ultra thin cushioning to new levels. Its .22 density offers high levels of cushioning and rebound in thin applications while maintaining all of the OrthoLite® comfort and performance attributes of breathability, moisture management and antimicrobial functions.

APPLICATION

OrthoLite® Imperial[®] is ideal for low profile footwear and dress shoe applications requiring a lightweight, high density and very thin cushioning and support layer. This formulation works well for full insoles, strobel layers and heel pads.

Formulation Imperial **MOQ** Standard



5% Recycled Rubber

Density:

0.22g/cm³

Hardness: 25 +/-4 Asker C

Thickness: 2mm-20mm

Sheet Size: 110cm x 100cm

Finished Goods: Available in sheets

and die-cut. Contact your OrthoLite® representative regarding

Zero Waste Initiative:

molded specifications.

All OrthoLite* formulations utilize recycled rubber and/or production waste foam to support our end goal of Zero Waste.

Colors Available: Blue Grass 18-5128 TPX

Seedpearl Hybrid 12-0703 TPX

Crtholite

Hybrid ORTHOLITE® HYBRID

OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.





Long-term cushioning management

High-level breathability Lightweight

Washable

Antimicrobial

Optimal Rebound & Recovery Insole Technology That Supports Dynamic Movement

OrthoLite® R&R[™] delivers exceptional comfort and maximum recovery—with high energy-return to restore and rejuvenate feet.

Moisture

PRODUCT SUMMARY

OrthoLite® R&R™ (Rebound & Recovery) is a high-performance formulation that responds to dynamic movement with maximum energy-return that supports faster recovery. With softer properties and higher density, the unique feeling of OrthoLite® R&R[™] allows tired feet to recover with less stress.

APPLICATION

OrthoLite® R&R[™] provides a unique dual-layer feel in a single-density solution while also providing all day comfort and support. Delivering immediate step in comfort due to its softer feel and higher density that combine to create high energy return that allows tired feet to recover with less stress. In addition, OrthoLite® R&R[™] is a great performance technology that is versatile under all conditions from simply walking to dynamic athletic movements.

| | | | | A REAL PROPERTY AND A REAL |
|---|--|-----|-------------------------|--|
| Formulation R&R | MOQ Standard | 5% | Total Eco Content | 5% Recycled Rubber |
| Density: 0.16g/cm3 Hardness: 15 +/-4 Asker C Thickness: 2mm-20mm Sheet Size: 110cm x 170cm | Colors Available: Castlerock 18-0201 TPX Seedpearl Hybrid 12-0703 | ТРХ | | |

Zero Waste Initiative:

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ORTHOLITE[®] HYBRID[®] TECHNOLOGY

OrthoLite[®] Hybrid[™] Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

vitor Ortholite® Lazy™



Long



Moisture management High-level breathability Lightweight

🐊 Washable

Antimicrobial

Fast-molding Foam with Instant Rebound

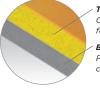
OrthoLite[®] Lazy[™] gives a custom fit—quickly molding to the shape of the foot and then instantly rebounding when the foot is removed.

PRODUCT SUMMARY

OrthoLite[®] Lazy[™] foam conforms to the foot to create a comfortable, custom fit—and rapidly rebounds to its original shape when the shoe is taken off. It gives the feeling of newness and plush, supportive comfort every time the shoe is put on.

APPLICATION

OrthoLite® Lazy[™] formulation is best used as a top layer on a firmer OrthoLite® base layer. As the bottom layer cradles and supports, the OrthoLite® Lazy[™] top layer creates maximum cushioning and comfort.



Top layer: OrthoLite® Lazy™ for step-in comfort

Bottom layer: Firm foam layer for cradling support

Formulation Lazy

Slow Recovery Return Rate: 3-5 Seconds

Density: 0.15g/cm³

Hardness: 75 Asker F

Thickness: 2mm-12mm

Sheet Size: 110cm x 170cm

Finished Goods:

MOQ Standard

Available in sheets and die-cut.

Contact your OrthoLite® representative regarding molded specifications.

Zero Waste Initiative:



utilize recycled rubber and/or production waste foam to support our end goal of Zero Waste.

Colors Available: Yellow 13-0858 TPX

5% Total Eco Content

Seedpearl Hybrid 12-0703 TPX

% Ortholite Lazy



OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

X-Sorb



Long-term



High-level breathability Lightweight

🛞 🛛 Washable

Antimicrobial

Ultra-high Density, Impact-absorbing Foam for Superior Comfort & Protection

OrthoLite® X-Sorb[™] is the highest density, lowest rebound foam ever engineered by OrthoLite®—providing outstanding shock-dampening and energy absorption. The formulation is ideal for a wide range of applications across footwear, sports and safety equipment where unequaled comfort, performance, stability and mobility are critical.

PRODUCT SUMMARY

With its extraordinarily low resiliency and high density, OrthoLite® X-Sorb[™] foam deadens impact forces before they're transferred to the body. Low elongation and ultra-high tensile strength allow it to stretch and rebound— enhancing range of motion while maintaining all the signature OrthoLite® attributes. With OrthoLite® X-Sorb[™], footwear can deliver superior confidence and under-foot protection, and sports equipment can enhance safety and reduce fatigue without adding bulk.

APPLICATION

OrthoLite® X-Sorb[™] is perfect for any situation that requires exceptional comfort and protection from impact and vibration. In footwear, it can be used in both single- and dual-layer applications—with a softer foam on top to deliver immediate step-in comfort. For safety and sports equipment, its tensile strength and minimal weight provide protection while reducing fatigue and enhancing performance—while allowing for full range of motion.

| Formulation X-Sorb | MOQ Standard | 5% Total Eco Content 5% Recycled Rubber |
|------------------------------|---|--|
| | | |
| Density: | Sheet Size: | Colors Available: |
| 0.18D | 110cm x 170cm | Grey 17-1501 TPX |
| Hardness: | 110cm x 147cm | Seedpearl Hybrid 12-0703 TPX |
| 15 +/-4 Asker C | Finished Goods: | |
| Compression Set: ≤5% | Available in sheets and die-cut. | |
| Resilience %: ≤8% | Contact your OrthoLite® representative regarding molded specifications. | Zero Waste |
| Thickness: | | Initiative: |
| 3mm-20mm | | All OrthoLite® |
| | | formulations utilize recycled rubber and/or production |

Ortholite
 Sorb



ORTHOLITE® HYBRID" TECHNOLOGY OrthoLite® Hybrid™ Technology is available in the Seedpearl Hybrid color 12-0703 TPX. Hybrid is a recycled technology that reuses post production waste foam. Waste colors and waste pieces will vary in size, density, hardness and color.

ORTHOLITE[®] HYBRID™ TECHNOLOGY IS AVAILABLE IN MOST FORMULATIONS.

waste foam to support our end goal of Zero Waste.



VOLUME 24.1

ORTHOLITE® TECHNOLOGY

1 Ortholite **O**-Therm[™]



Long-term



High-level breathability Lightweight



Washable

THERMAL PROTECTION UNDERFOOT

Antimicrobial

The World's First and only Aerogel-infused Open-cell PU Foam, the Ultimate Cold and Hot Weather Footwear Solution

Moisture

OrthoLite® O-Therm™ insole technology creates a thermal barrier that elevates and reduces footwear temperature regulation to an unprecedented level, infusing open-cell PU foam with a proprietary aerogel creating the lightest, most advanced version of the world's most insulative material delivering unmatched thermal insulation and all-day comfort in cold and hot weather conditions underfoot.

PRODUCT SUMMARY

The proprietary aerogel in OrthoLite® O-Therm™ traps micro-pockets of air without the need for loft and won't lose its effectiveness when compressed under foot. Unlike other aerogel solutions, OrthoLite® O-Therm[™] requires no special handling and or encapsulation—truly a world's first!

OrthoLite® O-Therm[™] is the superior thermal barrier that is measurably more effective at blocking cold and heat underfoot than conventional insole technologies. Third party lab tests conducted by Vartest labs for cold and heat blocking performance, confirm the benefits of OrthoLite® O-Therm[™] and its ability to deliver underfoot protection at extreme cold temperatures of -108°F or excessive heat at 140°F. Like all other OrthoLite® insoles technologies, O-Therm delivers on our promise of maximum breathability, performance, and unrivaled comfort. With the remarkable innovation of OrthoLite® O-Therm™, consumers can stay out longer, perform better and go farther in cold and hot weather conditions.

APPLICATION

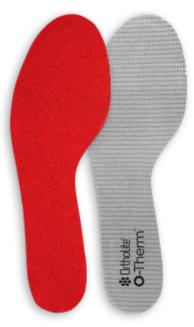
OrthoLite® O-Therm™ is the optimal underfoot thermal barrier, with a thickness range from 2mm-20mm, you can dial in the level of cold or heat block performance based on the thickness of the foam you select. OrthoLite® O-Therm[™] can also be combined with a wide range of OrthoLite® top-layer foams to create a custom insole solution tailored to a broad range of footwear categories.

Available in molded and die-cut applications, OrthoLite® O-Therm™ is also an ideal thermal barrier solution for footwear linings and Strobel layersbringing unsurpassed cold block and heat block technology without adding bulk or weight.

OrthoLite® O-Therm™ Molded Insole

Top Cover Fabric





| Formulation OrthoLite® O-Therm™ | MOQ Standard | 5% Total Eco Content 5% Recycl |
|------------------------------------|--|---|
| | | |
| Density: | Application: Cold and Heat Block | Color Available: Lava Red PMS 1795 |
| 0.11g/cm ³ | | Lava Red PMS 1795 |
| Hardness: | Finished Goods: | |
| 25 +/-4 Asker C | Available in molded and die-cut. | |
| OrthoLite O-Therm™ | and die-cut. | |
| thickness: | | |
| 2mm-20mm | | |
| Sheet Size: | | |
| 110cm x 200cm | | |
| | | Zero Waste Initiative: All OrthoLite® |
| | | formulations |
| | | utilize recycled rubber |
| | | and/or production wast |
| | | foam to support our end |

OrthoLite® O-Therm™ Die-cut Insole

goal of Zero Waste.

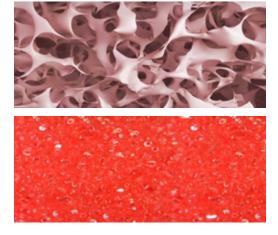


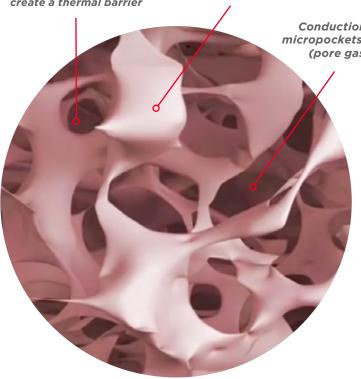
OrthoLite[®] O-Therm[™] Aerogel Thermal Foam Performance

Aerogel is embedded in the polymer reducing its thermal conductivity, and by so increasing the thermal resistance of the matrix creating an optimal thermal barrier from cold and heat.

Nano pores inside a multi-porous structure create a thermal barrier Conduction through the foam matrix







KEY ATTRIBUTES OF AEROGEL



THERMAL INSULATION

- · Nano pores inside a multiporous structure creates a thermal barrier
- Thermal conductivity: 17 to 22 mW/m.K



LIGHTNESS

- Lightest man made material. Only weighs 3x the weight of air.
- Air porosity is more than 90%!
- Low density enhances the performance of the shoe with airy comfort.



HYDROPHOBICITY

- Super hydrophobic. Repels water and moisture.
- Contact angle of more than 160°C
- Moisture is moved away from the foot to provide a drier. healthier shoe environment

vi Ortholite® **O**-Therm™



Long-term cushioning



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High-level
breathability
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🎆 Washable

THERMAL PROTECTION

UNDERFOOT

TESTING PROTOCOL

OrthoLite® worked with renowned third party thermal test laboratory, Vartest Laboratories, to quantify the thermal performance of OrthoLite® O-Therm[™] aerogel insoles under extreme cold and heat conditions.

Testing was performed on 3 insole thicknesses: 2mm, 4mm and 6mm. Each insole had a CK mesh top cloth. Results were reported over 10 minutes. The tests were performed with components layered from top to bottom as follows:

- 10psi of force to simulate a person standing on the insoles
- Silicone disc on top of insole used as human skin surrogate
- Thermocouple/thermometer
- Insole
- Thermocouple/thermometer
- Cold testing: dry ice base temperature is -108.4°F (-78°C)
- Heat testing: The hot plate base temperature is 140°F (60°C)

COLD TESTING

The protocol for cold testing used dry ice to establish a base temperature of -108.4 $^{\circ}$ F (-78 $^{\circ}$ C).

HEAT TESTING

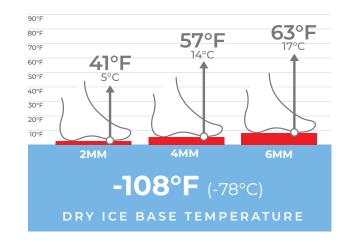
The protocol for heat testing used a hot plate to establish a base temperature of $140^{\circ}F$ ($60^{\circ}C$).



Testing conducted at Vartest Laboratories

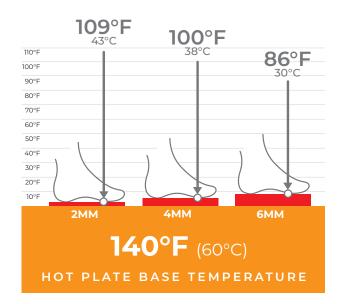
Cold Blocking Results

With a baseline temperature of -108°F underfoot, third party lab tests show that increasing the thickness of OrthoLite® O-Therm™ underfoot measurably increases the level of thermal resistance/temperature specifically in the area measured underfoot. The chart below demonstrates those changes applying a thickness range of 2-6mm of OrthoLite® O-Therm™.



Heat Blocking Results

With a baseline temperature of 140°F underfoot, third party lab tests show that increasing the thickness of OrthoLite® O-Therm™ underfoot measurably increases the level of thermal resistance/temperature specifically in the area measured underfoot. The chart below demonstrates those changes applying a thickness range of 2-6mm of OrthoLite® O-Therm™.



St Ortholite **3D**Skive



Long-term

management

High-level breathability Lightweight

Washable

Antimicrobial

Visible Technology with Step-in Comfort

Moisture

OrthoLite[®] 3D Skive[™] is a proprietary cutting technology providing a new level of comfort and performance.

PRODUCT SUMMARY

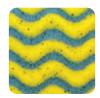
OrthoLite[®] 3D Skive[™] features an exclusive comfort and performance design with unique cutting geometries that amplify breathability and cushioning. The design is available in a range of

textures-wave, egg crate and pebble pathwith 3mm peaks and valleys creating instant step-in comfort and massage-like feel while maintaining their shape over time.

OrthoLite[®] 3D Skive[™] Heel combines wave and egg-crate cutting geometry to amplify heel cushioning. The embedded two-layer oval design uses exclusive OrthoLite[®] 3D Skive[™] foam technology to create instant step-in comfort. This visible technology is an excellent selling feature, drawing consumers to the product.

APPLICATION

OrthoLite[®] 3D Skive[™] is the perfect solution for all day comfort-best used in a comfort, casual or dress application to provide soft underfoot stimulation. Consumers will love the underfoot feel, while enjoying a cooler, drier, healthier environment inside the shoe.



Wave:

This textured cushioning technology delivers massaging comfort. Available in both singleand dual-density.

Egg Crate:

The textured cushioning creates the sensation of walking on air. Available in both single- and dual-density.

Pebble Path:

The organic pebble pattern based in reflexology stimulates and relaxes the foot. Available in single-density.

Thickness: 5mm-7mm

Sheet Size: 33cm x 110cm

Formulations:

Due to our proprietary cutting technology, OrthoLite[®] 3D Skive™ is available with most all of our formulations with the exception of OrthoLite[®] Lazy[™], OrthoLite[®] Impressions[™], and OrthoLite^{*} Imperial[™].

Colors Available:

OrthoLite[®] Colors

Zero Waste Initiative: All OrthoLite*

formulations utilize recycled rubber and/or production waste foam to support our end

goal of Zero Waste.

kivë Pebble Path

MESHOL Completed testing and approved

Comfort foam insoles

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