



PHOTO CREDIT: ORTHOLITE

Comfort from the inside out

OrthoLite, with headquarters in the U.S.A., is a major volume producer of moulded foam inserts for footwear. Its particular forte is its ability to quickly create products individually tailored to its customers' requirements and then deliver them efficiently to their factories from its manufacturing facilities in Asia and the Far East. That it has been immensely successful is borne out by the fact that its inserts are used by many leading brands including Nike, Asics, New Balance, Merrell, Puma, Vans and Timberland. In addition, it has extensive sales direct to consumers via the internet.

In common with many other insert producers, it also exploits the physical advantages of open cell urethane foam to offer maximum comfort and shock

absorbency, plus excellent moisture absorption and desorption properties to reduce friction. The company also claims that, based on independent testing, the structure of the foams it uses for its inserts offers 95-100% breathability, allowing air to circulate in and around them to keep the foot cooler and drier inside the shoe and reducing the opportunity for the microbes associated with foot odour to accumulate. There are in fact seven different formulations available to manufacturers.

Lazy OrthoLite is a slow recovery foam formulated to create 'instant gratification' when the shoe is first tried on. It conforms to the foot when pressure is applied and rebounds to its original shape when released.

.13 Density is the standard OrthoLite formulation available in hardnesses from 5-45 degrees Asker C and thicknesses from 2-20 mm. Due to the cell structure, its very low compression set prevents the material from breaking down and ensures optimum comfort long term.

.11 Density OrthoLite was created to provide a more economical foam option. With the same base properties as .13 Density, it has all the standard OrthoLite features with only slightly reduced compression set and tear properties but at lower cost.

Eco OrthoLite foam uses a non-food source bio oil as a substitute for the 20% of petroleum content normally found in the polyol portion of urethane

foams, thus using a renewable resource and reducing the company's carbon footprint.

ESD OrthoLite (Electro-Static Dissipating) was created for use in industrial footwear and, in particular, where static-sensitive devices are involved such as in warehouses and laboratories. The human body can be a prime generator of static electricity. ESD foam safely discharges static and protects against the accumulation of electrostatic charges.

X-40 is OrthoLite's response to a demand for insoles with higher rebound properties. It offers a more than 40% increase in elasticity rating which provides greater comfort for high impact activities. This new technology is claimed to be a first that will reset industry standards.

OrthoLite Impressions is the ultimate memory foam and has been engineered specifically for footwear to provide 'step in comfort' when first worn and to mould itself to the foot to provide an individual custom fit. It is also thought to be the first open cell foam to be made with an almost 50% bio oil content.

DO IT YOURSELF

While all that has been said so far is eminently satisfactory, there must be something more that really sets the company apart the others. In fact, there are several things. The first is the way that it works closely with its customers, major brands operating in a fast-moving consumer-driven market. To satisfy their needs, OrthoLite has to respond quickly to any new demand that may arise. Unfortunately, it found that the big chemical companies which supply the polyols used in urethane foams were simply not able to move fast enough.

CEO Glenn Barrett remarks: "We understood our customers' needs. The problem was that we just could not obtain new formulations fast enough from the big suppliers to meet their schedules. We were caught in the middle and it was really frustrating. So, we had to find a solution and the answer was simple; we make the polyols ourselves."

At the same time, consumers were pushing footwear brands into offering products with less environmental

impact. A decision was made to build a factory to produce urethane foams from bio oil in place of the conventional petroleum. Extensive research showed that the alternative technologies that could produce an eco-friendly insert without severely sacrificing performance and consistency of quality were limited.

Opened in 2009, its Dongguan factory uses one that will as its raw material: castor beans, a non-food crop that also thrives under adverse conditions.

As Glenn Barrett goes on to say: "We now have total control of every facet of our production from formulating the polyols we need to meet changing customer requirements and market trends to producing the finished inserts. It means we can promise customers what they want and when they want it, with complete confidence".

PARTNERSHIPS

Another key aspect of OrthoLite's success lies in the partnerships it creates with its customers, sports brand Puma being a good example. In 2010, Puma introduced its Sustainability-Index (S-Index) standard as a benchmark for sustainable products and setting a goal of having 50% of its international collections manufactured to this standard by 2015, using sustainable materials and applying best practice production processes. In 2010, it incorporated the proprietary Eco OrthoLite technology into its range of performance and lifestyle footwear lines, the first major brand to do so. It now features in more than a third of the company's footwear products.

Bob Michalski, Group Head: Footwear Development USA at Puma says: "Eco Ortholite foam provides enhanced comfort allied to lightweight, breathability as well as anti-microbial and odour fighting capabilities. This aligns with our product value and sustainability goals as we're reducing Puma's carbon footprint, since Eco Ortholite uses less petroleum." Clearly a case of giving the customer just what he wants.

TAILORING PERFORMANCE

OrthoLite inserts are produced using multi-stage pressure moulding. This enables them to be constructed with different foams in different layers or segments to meet the individual

customer's specification. For instance, a firmer compound may be used in the metatarsal area of a running insole for motion control while a softer one will be used at the rear to absorb heel strike. The shapes of the mix of higher and softer durometer foams are strategically placed for cushioning, stability, etc., depending on the application. Industrial work boots for example will often have a harder durometer around the heel area for extra support.

The huge number of possible formula combinations means that customers' exact needs can be met regardless of the footwear concerned. Furthermore, using different colours for the separate segments of the insert allows them to demonstrate to the consumer the technology that has been built into their shoes. The fact that over 100 million pairs of shoes produced each year now feature its inserts proves that OrthoLite's thorough customised approach clearly works in terms of both performance and customer satisfaction. 📌



OrthoLite has created highly successful partnerships with many leading brands.

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