

Next level protection from **OutDry**

Taking the title of PPE Innovation of the Year at this year's Professional Clothing Awards, we explore the technology behind **OutDry** for outdoor and protective clothing.

Fresh from having secured one of the most sought-after awards within the SATRA PPE Innovation category at the Professional Clothing Awards, Italian based **OutDry** have been recognised for more than 15 years as a major developer of technology for the outdoor and protective clothing market.

OutDry is the patented method of attaching a waterproof/breathable membrane to the inner outside layer of a piece of hand wear or footwear, and the business model behind it is focused on licensing this patented technology and trademark (licensed worldwide) to footwear and glove manufacturers.

Importantly, for the technology to be applied effectively it must be applied to products already in their 3D form, to ensure both the material and seams are sealed in one step. Predominantly utilised for gloves and footwear to date (and, recently, to backpacks too), OutDry offers real and complete waterproofing, avoiding weight increase due to water penetration, and keeping intact the insulation capabilities of the materials. At the same time, the greater volume of dry air that is formed between the foot and the membrane enhances the high breathability characteristics of the OutDry membrane: the result is greater comfort and no sense of the foot 'suffocation' typical of other waterproof linings on the market.

History of OutDry

Originally a brainchild of a group of Italian entrepreneurs who wished to combined extensive years of apparel knowledge with new technology, the company began life as 'Nextec'. The group of



experts 'cross pollinated' technical protective solutions from other industries such as the textiles and aerospace industries, exploring their applications to the apparel industry. The OutDry technology remained at the core of the business even at these primitive stages, although

its application to solid 3D objects was yet to be fully explored.

The laminating process

The unique aspect and benefit of using OutDry technology is the one-step laminating process. The lamination process is carried out in one step with the OutDry 3D press. This machine, patented by OutDry Technologies in more than 20 countries worldwide and developed in close collaboration with Sagitta Spa - Vigevano (a leader in the production of machinery for the footwear industry) can develop a uniform pressure of up to 10 tons on a fully three-dimensional surface, such as an already sewn and complete footwear upper. Temperature is also raised to activate the adhesive mesh required to bond the membrane to the internal surface of the upper. The process itself has four main stages: turning the sewn upper inside out and stretching it over a hard rubber silicon mould. The membrane set already equipped with adhesive mesh is then applied over the upper, and then the whole mould-upper-membrane block is then moved, by means of an automated system, to the pressing chamber where temperature and pressure are applied and the membrane is perfectly bonded with the upper. At the end of this step (which lasts 30 seconds in all), the footwear is removed from the mould and the normal manufacturing process continues. It is a quick process, which produces impressive lasting results in waterproofing.

Technology with endless possibilities

OutDry technology brings the possibility of quite literally, making any kind of shoe or glove waterproof, maintaining high breathability and comfort. Although the concept itself is over 35 years old, the first application of the technology dates back to 2005. Recognition on an international scale soon followed after winning an Ecodesign award at leading tread event Ispo in 2008. The OutDry technology, which fundamentally revolutionises the method of applying the membrane to items like shoes and gloves (where it is not possible - as it is in clothing



- to seal seams by tape), has opened up completely new opportunities both in construction and design of the footwear, and yet still stand the test of superior performance.

Industry applications

The technology, is now ultra-tested by a great number of brands making professional footwear and gloves for outdoor sports. It can in fact be applied to footwear in all segments where there is the need for protection from water and comfort. This can extend to safety, military, hunting, sailing, and golf shoes. Furthermore, the minimal thickness (30 thousandths of a millimetre) of the OutDry membrane allows this technology to be used on products which until now has been unthinkable: for example, soccer boots, running shoes, and golf gloves, because of its limited impact on the original design. The technology can now bring added value to a much wider array of products, for example - everyday footwear as well as specialist protective footwear.

Yet more industry wins

This April, OutDry walked away with two wins from the SATRA PPE Innovation Awards - Best Innovation in Security and Response PPE and the overall winner, PPE Innovation of the Year. The latter, the biggest award within the PPE sector at the event, entitles OutDry to £10'000 worth of support from testing house SATRA - a fantastic boost to test and certify product before they are launched to market. **Matteo Morlacchi** told director-e: "We are so proud to have won not just the award for security and emergency response, but also for the PPE Innovation of the Year. This win is invaluable in promoting our technology to the wider industry, and also allowing us the invaluable support from SATRA." ■

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