

# WATERPROOF, BREATHABLE MEMBRANE SYSTEMS BECOME DESIGN HIGHLIGHTS

Trans-Textil and Penn Textile Solutions expand the 3D warp knit laminates portfolio

**Waterproofness for reliable protection and comfort through high breathability are the basic requirements for membrane systems in functional multi-layer products - for example for outdoor, sports and workwear. In connection with the partial 3D structure of the warp-knit laminates, Trans-Textil GmbH and Penn Textile Solutions also make the breathable moisture barriers a versatile design factor.**

Metallic gold or in bright colors, the Topaz® membrane systems add visual highlights to the partially open structures of the 3D warp knit laminates. These are based on the Dremshape® technology from Penn Textile Solutions and are incorporated directly into the manufacturing process. They allow the targeted design of functional zones in order to meet the specific requirements of the different body regions. For example, mesh zones with a defined hole size for made-to-measure breathability or abrasion-resistant 3D structures can be placed exactly where they are required. This means that the clothing is durable and extremely climate-friendly.

## Individual laminate design from the membrane system to the upper fabric

Thanks to the flexible membrane production, any color variants can be produced according to customer requirements within a very short time without any problems in terms of performance. Alternatively, transparent membrane systems allow a view of the lining layers of a 3-layer laminate that are colored or designed using environmentally friendly transfer printing.



Whether baselayer, 2-layer mid-layer or 3-layer hard and soft shell: with the Jaquard Warp Knit technology from Penn Textile Solutions and the special membranes from Trans-Textil GmbH, clothing concepts can be realized that are precisely tailored to the needs of the wearer. In addition, a coherent design language can be conveyed to the consumer from undershirts to jackets.



The customer is involved in the development process from the very first step and has the opportunity to shape the performance of his material together with the partner's development teams according to his wishes. This ranges from the choice of yarn to the design and color of the materials to the selection of the right membrane system.

### **Quality from Germany with ecological standards**

The highly elastic materials from Trans-Textil are processed using the unique Point-in-Point® lamination technology, in which the PU hotmelt adhesive systems are applied evenly and precisely depending on the material combination and requirements as a point grid. This not only ensures robust and durable workmanship and the highest possible breathability, but also maintains the 4-way stretch factor for optimal ergonomics and freedom of movement.

In combination with other environmentally friendly technology modules such as the PFC-free, water-repellent surface finish Topaz Clean4Green®, Trans-Textil realizes functional textile products for insulation jackets, hard or soft shells with the highest demands on performance, design and environmental performance. All materials, including the Topaz membrane systems, are certified according to STANDARD 100 by OEKO-TEX® and are processed in Germany in accordance with the strictest environmental requirements in accordance with REACH. The complete production chain „Made in Germany“ offers high flexibility and short distances, which contributes to the lowest possible CO<sub>2</sub> pollution from transport routes. The concept was recently awarded the title “100% Jury Like” at the Performance Days.



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We will be glad to provide further high-resolution pictures upon request.

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