

3D WARP KNIT LAMINATES

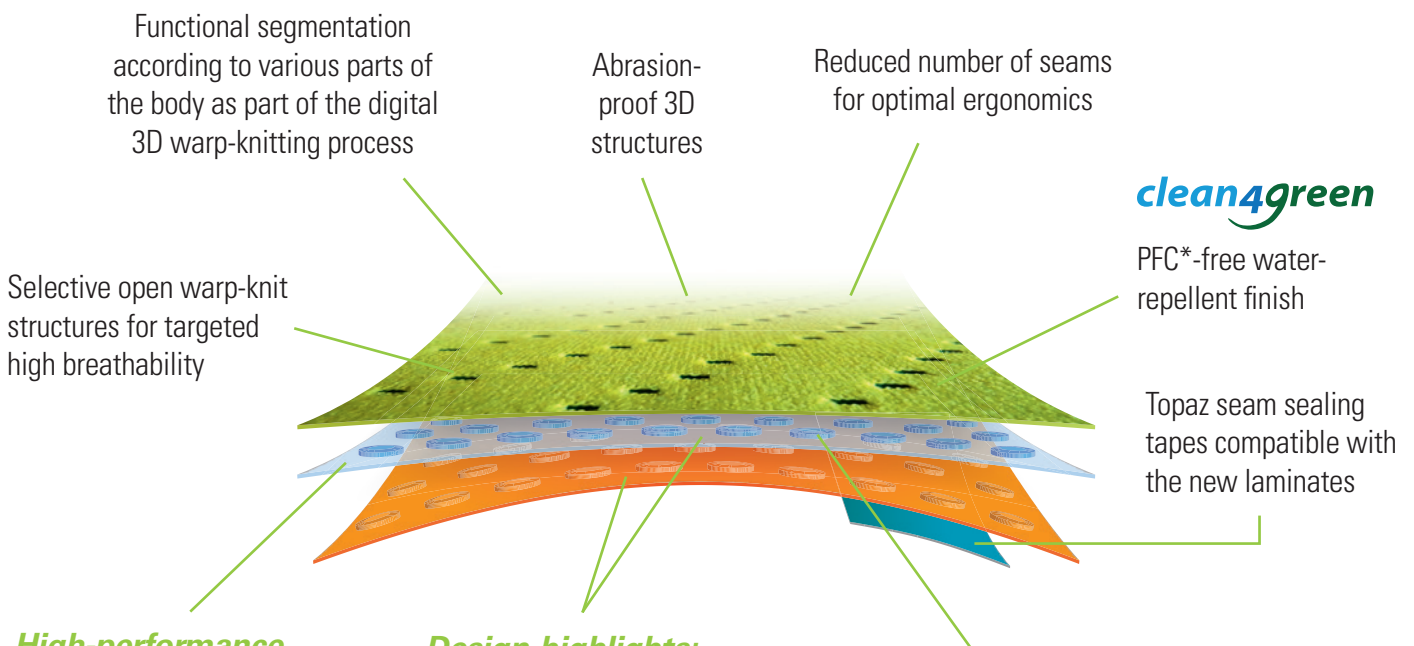


Targeted performance

The starting point for the 3D warp-knit laminates by Trans-Textil consists of the superstretch fabrics from Penn Textile Solutions' dreamshape® sport collection, in which various materials and differing structures are directly combined in the manufacturing process to produce a ready-designed and seamless warp-knitted fabric. As a result, abrasion-resistant 3D constructions and zones with a breathability-fostering mesh size can be precisely positioned where they are needed.

3D warp knits meet functional membrane systems

Trans-Textil's membrane systems are used in the multi-layer hybrid laminate for reliable wind and water-impermeability, and thanks to the combination with the warp-knit fabric's partial 3D constructions deliver breathability where it is required. This enables the specific demands of the various areas of the body to be taken into account in leisure, sport and workwear. The superstretch materials are processed using Trans-Textil's unique Point-in-Point lamination technology. This not only ensures robust and durable processing and maximum breathability but also retains the four-way stretch effect of all the laminate components for optimal ergonomics and freedom of movement.



High-performance membrane systems:

- ▶ water-and wind-tight
- ▶ highly breathable
- ▶ ultra-light
- ▶ PFC*-free

Design-highlights:

- ▶ transparent or coloured membrane systems
- ▶ coloured linings
- ▶ eco-friendly transfer printed design
- ▶ modern technical design idiom



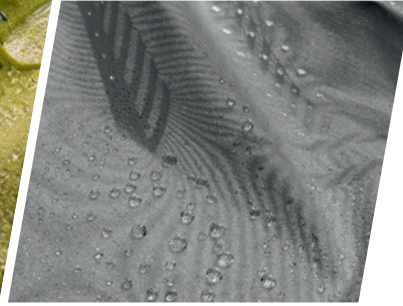
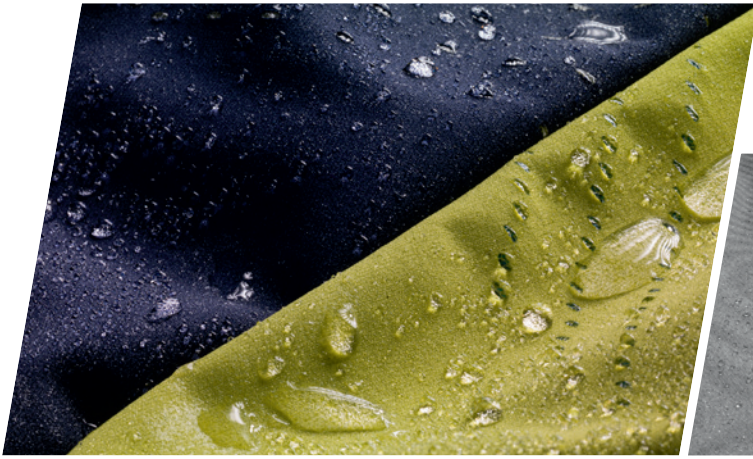
Trans-Textil lamination technology:

- ▶ precise process control
- ▶ maximum breathability
- ▶ robust and durable processing

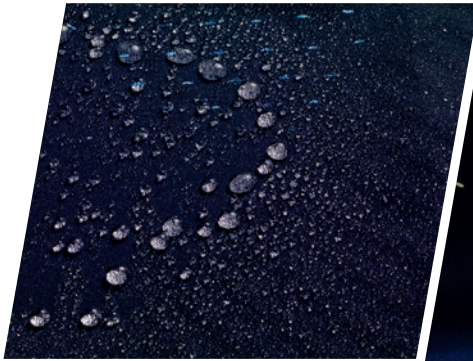


Human ecologically sound components

*free of perfluorinated and polyfluorinated compounds



*4-way stretch effect in the
3-layer laminate for maximum
freedom of movement*



MAMMUT
SWISS 1862

Mammut's SOTA HS Hooded Jacket was honoured with the snowsports Product of the Year at ISPO Munich, the largest multi-segment trade fair in the world for the sports business.

The garment incorporates a 3D warp-knit laminate by Trans-Textil and Penn Textile Solutions.



**ISPO
Award**
2019



Product of the Year

Partnership for textile innovations

By uniting their technologies for production of the 3D warp-knit laminates, Penn Textile Solutions GmbH and Trans-Textil GmbH have achieved a true textile innovation „made in Germany“, one that fulfils the most stringent requirements in terms of targeted performance, design and ecology:

- ▶ Warp-knitting and functionalisation from Germany
- ▶ Yarns from European origins
- ▶ Short distances between the production sites
- ▶ Reduced transport-induced CO₂ emissions
- ▶ PFC-free water-repellent Topaz clean4green surface finish and membrane systems
- ▶ All materials certified according to STANDARD 100 by OEKO-TEX®
- ▶ REACH-compliant production in Germany
- ▶ Voluntary additional environmentally-gearred activities by the partners



**Textile Technology
Made in Germany**



Proprietary laminate collection



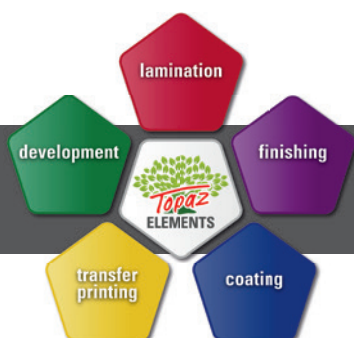
Contract laminate manufacturing



Membrane systems



Transfer printing



code of conduct
textile & fashion



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