

loggTEX – Development of innovative protective clothing elements for the personal protective equipment of forestry workers and hunters

Objective

In forestry and hunting in particular, workers are exposed to high risks from impact injuries. Conventional protective clothing often offers inadequate or one-sided protection. The aim of the project was therefore to develop a textile concept that adds impact protection to the existing level of protection (stab or cut protection) and thus increases the overall protection of users in the practical working environment.



Approach and results

The research project developed an innovative protective clothing concept with integrated impact, stab and cut protection. A special impact protection knitted fabric reduces impact forces by at least 20 %. The combination of the single-grade spacer fabric with a stab-resistant nonwoven fabric, also made of 100% polyester, allows the layers to be easily separated by unravelling the seams and thus contributes to recyclability while maintaining a reliable stab protection effect. In addition to the choice of material, nonwovens allow cost-effective production compared to other textile technologies. To realise cut and impact protection trousers, Dyneema® was integrated into the spacer textile so that cut protection could also be successfully implemented. In this design, however, it should be mentioned that it is not possible to separate the materials used by type. By using the high-performance fibre fabric with the selected layer structure, it was possible to develop a textile concept that combines all three types of protection in one textile, even without the use of a stab-resistant nonwoven fabric. The integration of textile joints in the spacer textile also increases wearer comfort and thus increases acceptance among users. Practical tests with experienced test subjects confirm the chosen development path. The prototypes developed show the potential to become a marketable product that combines protection and sustainability – with real added value for forestry and hunting practice as well as competitive advantages for SMEs.



Demonstration and test trousers in the form of boar protection trousers.



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The final report on this project is available on request.

Contact: Dipl.-Ing. (FH) Franz Klötzer
Dipl.-Ing. Elke Thiele

Phone: +49 371 5274-281
Phone: +49 371 5274-243

Email: franz.kloetzer@stfi.de
Email: elke.thiele@stfi.de

www.stfi.de

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