

Functional and thermal highly resilient tufting for use in the field of technical textiles (high-performance tufting structures))

Carpet made of glass fibers: Please do not walk on it!

The aim of the two-year project was to develop new technical textiles and open up new fields of application for tufting articles. Possible applications could include thermal insulation, shielding against noise and vibration emissions as well as filter technology.

In collaboration with the TFI Institute for Floor Systems at RWTH Aachen University, high-strength and high-temperature-resistant tufted 3D structures made of glass fiber were produced. Glass fiber carrier fabrics were developed and manufactured at the Niederrhein University of Applied Sciences and optimized for the tufting process. A significantly higher pile fixation was achieved than with a standard nonwoven from the tufted flooring sector. By using an electronically controlled jerker bar (e-jerker), tufting structures were then created on the carrier fabrics in the TFI, which were tested primarily for high-temperature resistance and sound insulation suitability. Flame-resistant coatings were also developed for applications exposed to high mechanical stress.

The final report can be obtained from both research centers.

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