



THIS NAME STANDS FOR TEXTILE COATING INNOVATION

InnoSolTEX®

The modular coating system

All functions can be used in any combination.

Our **modular system offers the advantage** to define your individual profile of requirements:

- abrasion resistant
- flame retardant
- antimicrobial
- antistatic
- hydrophobic
- washproof

Choose the functions you need and do not hesitate to contact us for further information.

CONTACT

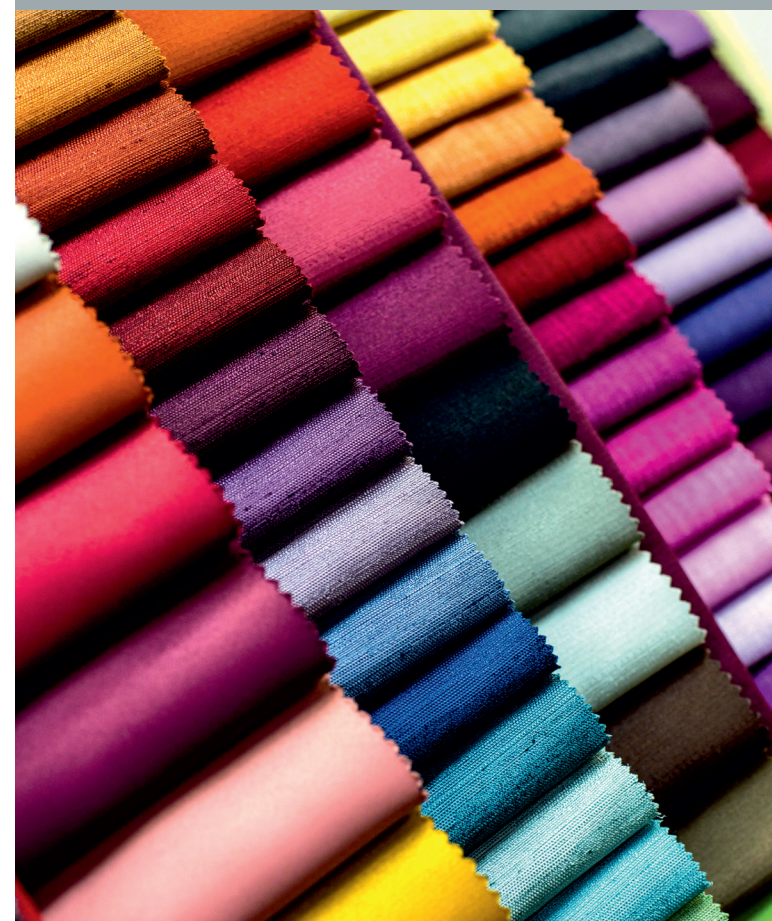
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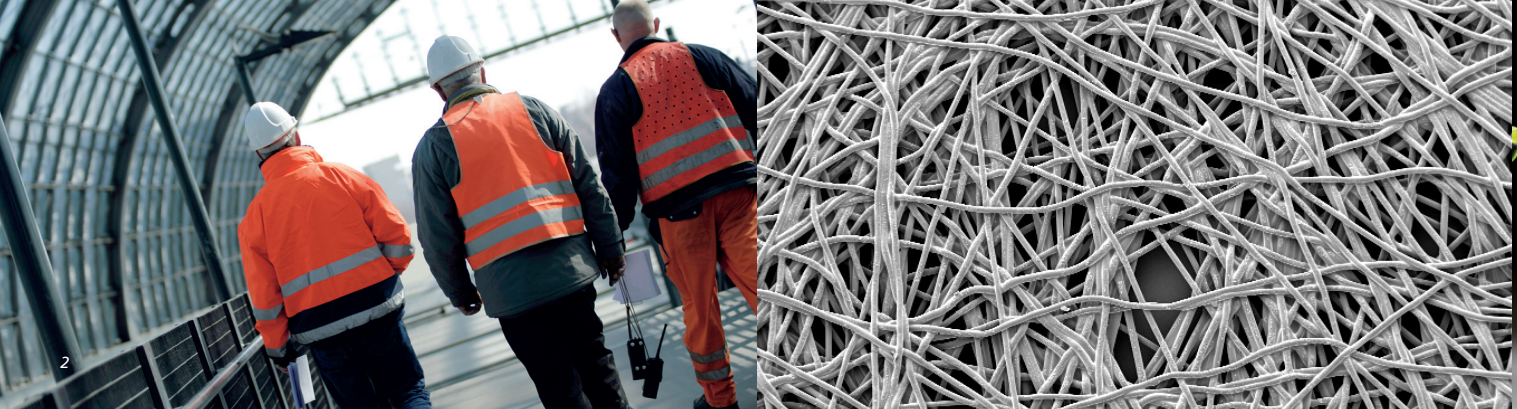
ALL IN ONE - InnoSolTEX®

6 FUNCTIONS IN ONE COATING SYSTEM



The author is responsible for the contents of this publication.

*Cover image: Rainer Sturm, pixelio.de; image 2: MEV-Verlag Germany;
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STATE OF THE ART

Today, textiles are more than clothes, bags, fleece or ropes. Textile meshes are high tech materials for technical use, are utilized for geo textile applications and have a presence all over the place as functional or protective clothing in several ranges.

As there are so many different areas of application and some of them require even an extreme degree of stability, abrasion resistance or flame retardancy, the source textiles have to undergo an appropriate refining.

Customers wish for seemingly incompatible functions and features to be realised in one single textile, and suppliers have to answer this challenge.

State of the art would apply multiple coatings on the meshes or would have to combine several layers of materials to generate the desired properties.

The complex and elaborate treatments entail increasing effort, costs and, not seldom, a limited wear comfort or restricted technical and industrial applicability.

THE CHALLENGE

The joint research project NanoSolTex, funded by BMBF (Federal Ministry of Education and Research), started with the more than ambitious target of combining the following functions in one refining coating system: **abrasion resistant, flame retardant, hydrophobic, antimicrobial, antistatic and washproof**. Additionally the sol had to be based on water.

Successful cooperation of R & D and medium-sized enterprises

Project partners of Fraunhofer ISC were the Saxonian Textile Research Institute STFI for R & D and the medium-sized enterprises Schneider Textilveredlung GmbH, Alterfil Nähfaden GmbH, ROWO Coating Gesellschaft für Beschichtung mbH and T_O_P Oberflächen GmbH. Two years of intensive fruitful cooperation have resulted in a multifunctional textile coating, which answers all targets and is now ready for industrial production. The new coating system not only allows the combination of several functions and features but also a customized profile of functions.

THE BREAK-THROUGH

ORMOCER®s for high-capacity products

ORMOCER® chemistry is one of the most outstanding competences of Fraunhofer ISC and has again been successfully used in the NanoSolTex Project. The inorganic-organic ORMOCER® compounds specifically developed for this purpose are the basis for the novel coating systems which, for the first time ever, allow to combine hitherto incompatible functions.

So, the textile industry is now provided with a finishing system which can integrate up to six functions in one single coating to meet manifold requirements.

Overview of the advantages :

- waterbased
- only one process step
- lower energy and production costs
- deployable on conventional industrial machines
- drying and crosslinking times are comparable to conventional textile additives