
Self-cleaning effect modelling nature

Nature shows how self-cleaning can work perfectly: the lotus plant sacred to Asian people cleans itself. Drops of rain roll off from its leaves just as it is the case with water that rolls off from a hotplate while washing away dirt particles. This model of nature could be transferred to technical surfaces and meanwhile also to textiles.



The lotus plant and also some other plants and insects have the fascinating property of self-cleaning. After a rain shower their surfaces are completely clean. This property is based on a special surface structure combined with water-repellent chemical behaviour.

The active principle modelling nature could be transferred to textiles by superimposed micro- and nano-structures in combination with superhydrophobicity behaviour. Compared to ‚dirt-repelling‘ textiles, this development means a decisive progress. For the purpose of evaluation of the ‚invisible‘ profit, a test seal was developed at the same time. Defined test methods and criteria guarantee security and transparency for textiles with the quality feature of ‚self-cleaning‘.



R&D-Partner

Prof. Dr. Wilhelm Barthlott
Nees-Institut für Biodiversität der Pflanzen
Rheinische Friedrich-Wilhelms-Universität Bonn

Dr. Ralf Nörenberg
BASF Aktiengesellschaft
Ludwigshafen

Project Management & Contact

Dr.-Ing. Thomas Stegmaier
Competence Network Biomimetics
ITV Denkendorf
Körschtalstr. 26
D-73770 Denkendorf
P: +49 (0)711 93 40 219
F: +49 (0)711 93 40 297
E: thomas.stegmaier@itv-denkendorf.de

More Information on the Internet

www.itv-denkendorf.de
www.kompetenznetz-biomimetik.de
www.kompetenznetze.de
www.nees.uni-bonn.de