

Best of Certificate: Materialica Design+Technology Award 2011 Category C02-Efficiency

+ BIOMIMETICALLY OPTIMIZED SHOCK-ABSORBING TRANSPORTATION PALLET

Many plants and animals have developed excellent damping systems. The possibilities of a biomimetic transfer of various plant and animal models and the use of biologically degradable materials for a transportation pallet were analysed.

Delicate goods like computer servers are transported on shock-absorbing pallets. Standard pallet systems are made of a combination of materials like wood, metal and plastics. The study analyses if and how natural fiber composites can be used. Additionally, it was tested, which biological models are suitable for the development of a novel shock-absorbing pallet.

The biomimetic pallet has to be cheaper than existing systems. At the same time, it is to be produced and recycled more sustainable than so far, due to the use of renewable materials like hemp, flax or linen. Considerable amounts of material and energy can thus be saved as well as a reduction of the amount of waste and can be achieved. Therefore, it is a considerable contribution to a more sustainable development and a reduction of the environmental impact.

R & D Partners

Prof. Dr. Thomas Speck

Plant Biomechanics Group Freiburg,
Botanischer Garten der Albert-Ludwigs-
Universität Freiburg

Dr.-Ing. Markus Milwich

ITV Denkendorf

Dipl.-Ing. Marc Hartel

Rittal GmbH & Co. KG, Herborn

Dipl.-Des. Henrike Monnerat

ltd, Hochschule Offenbach am Main

Project coordination & Kontakt

Prof. Dr. Thomas Speck

Kompetenznetz Biomimetik
Plant Biomechanics Group Freiburg
Schänzlestr. 1
D-79104 Freiburg

T: +49 (0)761 203 2875

F: +49 (0)761 203 2880

E: thomas.speck@biologie.uni-freiburg.de

Mehr Informationen im Internet

www.kompetenznetz-biomimetik.de

www.kompetenznetze.de

www.biokon.net

www.faszination-zukunft.com

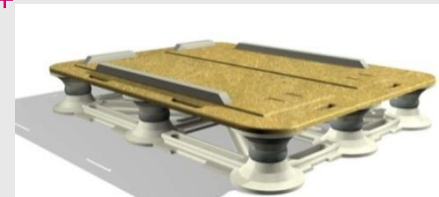
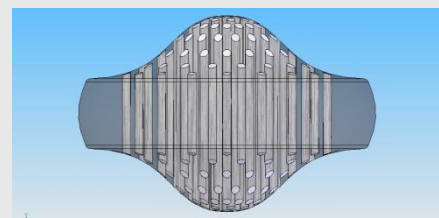
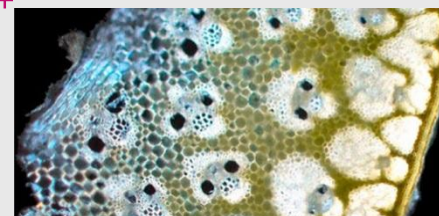


Image Copyrights: © Plant Biomechanics Group Freiburg