Intelligent Wallpaper against Seismic Damage

KIT Researchers Receive "JEC Innovation Award 2010" for System Reinforcing Brick Work

Large-scale test in Pavia: A greatly damaged building is reinforced with seismic wallpaper and then tested on a vibrating table. (Photo: Moritz Urban)

Dr. Elisabeth Zuber-Knost
Press Officer

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-7414
Fax: +49 721 608-3658

For further information, please contact:

Monika Landgraf
Press Office
Phone: +49 721 608 8126
Fax: +49 721 608 3658
E-mail: Monika.Landgraf@kit.edu

The Reinforced Concrete Department of the KIT Institute for Reinforced Concrete and Building Materials, a partner in the POLTECT EU project, has received an award for a system reinforcing brick buildings in earthquake areas: The "JEC Innovation Award 2010" recently given in Paris acknowledges outstanding innovation in composite materials. The KIT researchers are currently testing the reinforcement system in a building in Pavia, Italy.

The Intelligent Composite Seismic Wallpaper consists of a textile material with four different directions of fibers embedded in a mortar. It was developed specifically to reinforce brick buildings in areas prone to earthquakes. The purpose is to stabilize and return to use buildings suffering from seismic damage and problems of static stability. The textile-mortar reinforcement system can also be used, however, to protect intact buildings preventively. On top of that, it may be employed generally to cover cracks in buildings due, for instance, to settling.

The seismic wallpaper was developed within the framework of the POLYTECT (Polyfunctional Technical Textiles against Natural Hazards) EU project which aims to develop intelligent textiles to protect

building structures against natural hazards. The Italian company, D'Appolonia S.p.A., and its partners in science and industry, among them KIT, received the "JEC Innovation Award 2010" in the building construction category for their reinforcement system. The prize was awarded within the framework of the JEC Composites Show. A jury of international experts selected the best innovations in composites in the light of the following criteria: technical interest, market potential, partnership, financial impacts, originality.

The KIT researchers and their partners are currently testing the textile-mortar reinforcement system in a greatly damaged building in the Italian city of Pavia. In terms of architecture and materials, the house is typical of the buildings in the Abruzzi region, also of the town of L'Aquila which was hit by a major earthquake in April 2009. In the large-scale experiment, the building is reinforced with the seismic wallpaper and then shaken on a vibration table to simulate an earthquake. The "Planetopia" TV science magazine of SAT 1 and the "pur+" children's discovery magazine of ZDF will report about the test in Pavia.

The Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT pursues its tasks in the knowledge triangle of research, teaching, and innovation.

This press release is available on the internet at **www.kit.edu**.

The photo of printing quality may be downloaded under **www.kit.edu** or requested by e-mail **pressestelle@kit.edu** or phone +49 721 608-7414.