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Seminář / Seminar

Seminář proběhne ve **středu 22. února 2012 od 14:00 do 15:00**
místnosti B366 v budově Fakulty stavební ČVUT v Praze
Thákurova 7, 166 29 Praha 6

The seminar will be held on **Wednesday, February 22, 2012 from 14:00 to 15:00**
in room B366 at the Faculty of Civil Engineering, CTU in Prague
Thákurova 7, 166 29 Praha 6

Experimental Investigation and Characterization of Time-Dependent and Fatigue Behavior of Engineered Cementitious Composites (ECC)

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Time-Dependent Deformations of PVA-ECC under Sustained Loads: Correlation with Plasticity and Damage:

The evolution of plasticity and fracture in cracked PVA-ECC under constant, but different stress levels are investigated to study the time-dependent deformations of the material under high-stress levels. It is found that the elastic and plastic deformations of cracked ECC are good indicators to reflect the rate of plasticity and fracturing. Based on the test results, approximate equations are developed and then used to predict time-dependent deformations under sustained loads. It is predicted that creep rupture in flexure and compression occur at stress levels above 75% and at approximately the same order of time exposure in a log scale. Under 75-90% of static capacity, the deformations at rupture are predicted to be 1.1-1.4 and 1.6-3.5 of those under static flexure and compression, respectively.

Shear Fatigue Performance and Crack Surface Observations in PVA-ECC Beams without Web Reinforcement:

This on-going research aims to investigate the shear fatigue performance of PVA-ECC. Fatigue tests were carried out on three shear ECC beams without web reinforcement. Shear fatigue was found to be more severe than bending fatigue, with fatigue life of approximately one to two orders lower. While the crack surfaces of control beam tested in static were rough and hairy, those tested in fatigue were all smooth. The damage at cracks around the web region was much more extensive than those nearby loading and support points. At the web region, fibers were completely worn off, while at other regions they bent down and deformed permanently along the crack surfaces.

Benny Suryanto is a postdoctoral fellow at the University of Tokyo, Japan. He received his PhD in Civil Engineering from the same university in 2009. His research interests include the nonlinear mechanics of reinforced and fiber-reinforced concrete.

Pro více informací prosím kontaktujte / For more information please contact:
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