



**ELASTO-DAMAGE MODEL FOR HIGH STRENGTH
CONCRETE SUBJECTED TO MULTIAXIAL LOADING**

Author(s): **A.R. Khan, A.H. Al-Gadhib, M. H. Baluch.**

Volume: **V**

No: **1**

Pages: **82-114**

Date: **June 2008**

Abstract:

An effective compliance matrix \tilde{c} is proposed to model the behaviour of concrete based on phenomenological evidences and physical insight. Three parameters α , β and γ were introduced in the effective compliance matrix \tilde{c} . α and β are introduced to model the different behavior of concrete in tension and compression while the third parameter γ was introduced to account for volumetric change. The predictive capability of the proposed elasto-damage model for uniaxial and multiaxial stress path was investigated for uniaxial compression, biaxial compression, triaxial compression, uniaxial tension and tension-compression-compression. The simulative capability of the model to capture the phenomenological behavior of concrete such as strain softening, stiffness degradation, biaxial strength envelope, volumetric dilatation, different behavior in tension and compression, and gain in strength under increasing confinement is reflected. The predicted results correlate well with the available experimental data

For full paper, contact:

Prof Muhammad Masood Rafi

Editor, NED University Journal of Research

Ph: +92 (21) 9261261-8 Ext:2277; Fax: +92 (21) 9261255

Email: NED-Journal@neduet.edu.pk

Website: <http://www.neduet.edu.pk/NED-Journal>