P66 The Influence of Strain Rate on Performance of Concrete Subjected to Various Kinds of Loading

Foglar, M; Jiricek, P

Czech Technical University in Prague

Presented by Martin Kovar

Abstract:

Concrete is the most commonly used construction material. Nowadays, it and other cementitious composites are also used for applications in protective structures. The key to design and modelling of cementitious composites subjected to high speed dynamic loads like blast (adjacent, close, distant), impact, projectile penetration, etc. lies in understanding of its strain-rate-related performance.

The authors performed several numerical and experimental studies for the above listed kinds of loading and the paper summarizes the findings. The strain rates and corresponding dynamic increase factors (DIF) for different types of extreme loading and according to different approaches were compared and evaluated using standardized approaches (Model Code 1990 and 2010) and referenced papers (Malvar, Tedesco).

The resultant values of the dynamic increase factor vary and thusly open a wide space for further studies.

Notes: