

Response Spectrum Solutions for Blast Loading

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ABSTRACT

Existing knowledge on the modelling of blast pressure have been further developed in this paper for engineering applications. Parametric studies involving time-history analyses of simple cantilevered wall models have been undertaken based on pre-defined pressure functions to study basic trends. The "corner period" of the velocity response spectrum was found to be the key controlling parameter in response behaviour modelling of the walls. An important contribution from this study is the identification of the direct relationship between the corner period and the "clearing time" for the blast. A simple and yet realistic capacity spectrum model has been developed for the design and assessment of cantilevered walls for its performance under blast loads. The practicality of the proposed model has been demonstrated herein by a worked example.

KEYWORDS

Blast pressure, explosion, response spectrum, cantilevered walls
