

Blast Pressure Evaluation for an Explosive Manufacturing Box And Quantitative Comparison of Empirical and Hydrocode Results

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Abstract

The Authors present a comparison of an analytic method for pressure evaluation with a 2-D hydrocode simulation with HULL applied to a 3-wall cubicle with roof. The empirical calculation method follows the evaluation method described in:

"Structures to Resist the Effects of Accidental Explosions"
TM5-1300/NAVFAC P-397/AFM 88-22 (1971).

Differences in the results, as well as modelling assumptions are discussed. Especially, the interpretation of pressure curves over time, compared with mean reflected pressure and impulse – as calculated by empirical formulae and look-up tables – are discussed.