

MAXIMUM BLAST PRESSURE ON BURIED STRUCTURES DUE TO GROUND SHOCK

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ABSTRACT

The maximum blast pressure experienced by buried structures due to ground shock is higher than the free-field pressure. The maximum blast pressures experienced by buried structures in small-scale explosion tests indicate that the maximum blast pressure is amplified by one to two times the free-field pressure. Using a maximum of two times the free-field pressure as recommended in TM5-855-1 may be overly conservative for design purposes. Using both field test results and numerical modelling, the factors governing the amplification of the blast pressure on buried structures are quantified in this paper. Taking into account the effects of these factors, a more reasonable value of maximum blast pressure is recommended.