Abstract Submitted
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The Effect on the Propagation of Blast Pulses of Dry and Dampened Granular Media[1] WILLIAM PROUD, HENRY BADHAM, MAX CHALMERS, THUY-TIEN NGUYEN, Institute of Shock Physics & Centre for Blast Injury Studies, Imperial College London — The propagation of stress through granular and dampened granular material has been reported in previous papers. With increasing presence of liquid in granular beds the transmission of blast and pressure pulse changes from one of percolation through the bed pores to one of wave transmission through the granules of the bed. It has been shown that limited amounts liquid can retard pressurisation within confined blast-loaded beds by approximately an order of magnitude. This study presents data on percolation through dry and dampened granular beds using a shock tube as the pressure driver. In this scenario the effect of the bed on initial pressure pulse is studied in greater detail.The effect of particle shape and size was investigated using angular grains of quartz sand as well as smooth glass microspheres. The effect of addition of liquids is presented. The pressure range studied is in the range associated with blast injury and with far field effects produced by explosive devices.

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