

Abstract Submitted
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The Behaviour of a Glass-Fibre Epoxy Composite During Plate Impact M. EATWELL, J.C.F. MILLETT, Cranfield University, N.K. BOURNE, University of Manchester, Y.J.E. MEZIERE, Cranfield University — The response to shock loading of a glass-fibre epoxy composite has been investigated. Measurements have been made of shock stress, particle velocity, shock velocity, release velocity and spallation behaviour. The shock velocity has a linear relationship with particle velocity, whilst shock stress lies a little above the corresponding hydrodynamic pressure. Results show that the likelihood of spallation increases with pulse duration, suggesting that damage in the material accumulates behind the shock front. This would seem confirmed by release wave speed measurements, that show the zero particle velocity intercept is lower than either C_0 (from the shock velocity-particle velocity relationship) and the longitudinal sound speed.

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