Abstract Submitted for the SHOCK07 Meeting of The American Physical Society

Brazilian disc testing of a UK PBX below the glass transition temperature. DAVID WILLIAMSON, STEWART PALMER, WILLIAM PROUD, University of Cambridge — Previous research at room temperatures and quasi-static loading rates have shown that PBX Brazilian disc specimens fail by the localisation of strain in binder rich areas, followed by debonding of the binder from the larger filler crystals. Crystal failure is rare and the process is predominantly intergranular. In contrast, we show that for a UK PBX when the temperature is reduced to below the glass transition of its binder system, failure becomes predominantly transgranular. Such data are required for the development and validation of PBX micromechanical models. This paper outlines the current state of research and details the important observations to date.

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Date submitted: 21 Feb 2007

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