

Abstract Submitted
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The Effect of Particle Size and Separation upon PBX Yield Stress

DANIEL DRODGE, WILLIAM PROUD, University of Cambridge — A Hall-Petch-like relationship between yield stress and particle size has previously been documented for some monomodal PBX compositions loaded in uniaxial compression. However, due to the fixed fill-fraction of these materials, the particle separation was proportional to particle size, thus either or both parameters could be responsible for the relationship. A set of inert monomodal composites have been produced to resolve this ambiguity and supply modellers with validation scenarios for their PBX codes. So far, uniaxial compression response has been measured at quasi-static and dynamic (10^3 s^{-1}) strain rates. This presentation summarises the findings to date and outlines the future direction of this project.

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