Abstract Submitted
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The Effect of High Energy Ball Milling on the Dynamic Response of Aluminum Powders[1] MATTHEW T. BEASON, ANDREW W. JUSTICE, IBRAHIM E. GUNDUZ, STEVEN F. SON, Department of Mechanical Engineering, Purdue University — Ball milling is an effective method to enhance the reactivity of intermetallic reactives by reducing characteristic diffusions distances. During this process, ductile reactants are mixed into a lamellar material with nanoscale features, resulting in significant strain hardening. Plate impact experiments using a single stage light gas gun have been performed to evaluate the effect of high energy ball milling (HEBM) on the mechanical properties and dynamic response of cold pressed aluminum compacts. The average grain size of the milled material is evaluate and suggested as a method of correlating the measured response to the properties of milled composites.

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