

Abstract Submitted
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Comparison of epoxy-based encapsulating materials over temperature and strain-rate¹ AMNAH KHAN, WILLIAM PROUD, Institute of Shock Physics, Blackett Laboratory, Imperial College London, London, UK, SW7 2BW — The effects of varying strain rates and temperatures on the compressive response of an epoxy resin with and without alumina filler have been investigated. The samples are studied in the range of temperatures from -20°C to $+80^{\circ}\text{C}$ over a range of strain rates (10^{-4} s^{-1} to 10^{+3} s^{-1}). Three loading devices were used to access this range: an Instron, drop weight and a Split Hopkinson Pressure Bar. Stress-strain data was obtained, along with high-speed images. The response of the materials is compared and discussed in relation to their use as encapsulants of piezoelectric systems.

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