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Adhesion studies between HMX and EDC37 binder system DAVID WILLIAMSON, STEWART PALMER, WILLIAM PROUD, University of Cambridge, Cavendish Laboratory, Madingley Road, Cambridge, UK. CB3 0HE — EDC37 is a PBX which is composed of 91% HMX and 9% NC/K10 by weight. Previous studies have shown that damage under quasi-static conditions occurs preferentially via the adhesive failure of the HMX/ binder interface. Single crystals of HMX have been grown for use in an idealized experiment in which HMX/ binder joints are broken in a simple tension geometry instrumented with a load-cell of millinewton sensitivity. The aim is to quantitatively assess the parameters involved in this important failure mode. Such data are required for the development and validation of accurate microstructural models of PBXs. This paper outlines the current state of research and details the important observations to date.

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