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The Hugoniot of Polychlorotrifluroethylene CHRIS STENNETT, Cranfield University, SUSAN SORBER, MALCOLM BURNS, JEREMY MILLETT, AWE, Aldermaston, NEIL BOURNE, University of Manchester — The shock response of polymers has attracted considerable interest of the past few years, in particular as they are often used as the binder phase in plastic-bonded explosives (PBXs). One such material, polychlorotrifluroethylene (PCTFE) is used in just this application. It has also been used as an inert impedance match for some explosive compositions. Therefore there is a requirement that its response to shock loading be clearly understood. The work presented in this investigation examines the shock-induced equation of state in terms of stress, shock velocity and particle velocity. We also show that this material has an extremely high release speed, which must be accounted for when making comparisons with live compositions.

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