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Dynamic Loading of Teflon at 200°C PAUL A. URTIEW, JERRY W. FORBES, CRAIG M. TARVER, KEVIN S. VANDERSALL, FRANK GARCIA, LAWRENCE LIVERMORE NATIONAL LABORATORY COLLABORATION, NAVAL SURFACE WEAPONS CENTER, INDIAN HEAD, MD AND UNIVERSITY OF MARYLAND COLLABORATION — Dynamic loading experiments were performed on inert Teflon (Polytetrafluoroethylene) samples, initially heated to the temperature of 200°C, to test its behavior under these conditions for their use in other heated experiments. Tests were performed in the 100 mm diameter bore propellant driven gas gun with piezo-resistive manganin pressure gauges imbedded into the samples to measure loading pressures. Experimental data provided new information on the shock velocity – particle velocity relationship for the heated material and showed no effect of temperature on the non-conducting property of the material being used as an electrical insulator. This work was performed under the auspices of the U. S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.

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