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Detonation Performance Testing of LX-19[1] SAMUEL VINCENT, TARIQ ASLAM, SCOTT JACKSON, Los Alamos Natl Lab — CL-20 was developed at the Naval Surface Weapons Center at China Lake, CA in the mid 80's. Being less sensitive than PETN, but considerably more powerful than HMX, it is the highest energy and density compound known among organic chemicals. LX-19 was developed at LLNL in the early 90's. It is a high-energy plastic bonded explosive, composed of 95.8 wt% CL-20 and 4.2 wt% Estane binder, and is similar to LX-14 (composed of HMX and Estane), but with greater sensitivity characteristics with use of the more energetic CL-20 explosive. We report detonation performance results for unconfined cylindrical rate sticks of LX-19. The experimental diameter effects are shown, along with detonation front shapes, and reaction zone profiles for different test diameters. This data is critical for calibration to Detonation Shock Dynamics (DSD).

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