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## JWL Equation of State of Detonation Product for CL-20 Based Pressed Composite Explosive

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**Abstract:** The JWL equation of state of detonation product for pressed composite explosive based on CL-20 was studied. The driving ability for C-1 explosive (mass ratio: CL-20/insensitive binder=94.5/5.5) was evaluated by 25mm standard cylinder test, and the relationships between expansion velocity/displacement of the cylinder wall and time were analyzed. Under the consideration of the equation close, the JWL equation parameters were obtained by the data processing method. And using these parameters, the cylinder tests for reference explosives LX-19, PBXC-19 were simulated, and the driving ability of the C-1 and LX-19, PBXC-19 were also analyzed. Results show that the relative error of velocity and displacement between the simulation and experiment are less than 2% and 1%, respectively. Compared with LX-19 and PBXC-19, gurney velocity of C-1 increases 2.02%, 2.20%, respectively.

**Key words:** CL-20 based explosive; JWL equation of state; cylinder test; simulation.

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