

BLAST SUPPRESSION WITH WATER: RESULTS OF SMALL-SCALE TEST PROGRAM

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A series of small-scale (1/20-scale) experiments were conducted to evaluate the effect of the ratio of water-to-explosive (by mass) on the reduction of internal and free-field pressures. Charge mass for these experiments ranged from 0.45 kg to 1.36 kg (C-4) giving a ratio of water/explosive ranging from 0.7 to 3.3. The experiments were conducted in a 1/20-scale model magazine (shot-gun configuration) constructed using reinforced steel pipe sections. The tests were instrumented to measure the chamber, tunnel, and free-field overpressures produced by the detonations. This paper presents and analyses of the experimental data with comparisons to related experimental work (United States and other KLOTZ Club member nations).