

EXPLOSIONS IN EARTH-COVERED STORAGE MAGAZINES

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ESKIMO IV was one of a series of explosion tests of full-scale earth-covered ammunition storage magazines. Three different combinations of reinforced concrete headwalls and steel door designs were subjected to face-on blast loading from a 16,800 kg TNT hemisphere. The loading simulated that from an explosion of a full-size earth-covered magazine containing 159,000 kg of tritonal in bombs. Finite-element computer code calculations of response to the measured loading of the principal test structure, a newly designed headwall and door combination, compared well with response measurements made at several locations. this design proved to be well balanced and entirely adequate to prevent explosion communication.