

BLAST VALVE TESTING UNNECESSARY EXPENSE OR VITAL PROCEDURES IN STRUCTURE HARDENING

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In the art of fortification, blast valves have major applications. Openings in a defense structure are potential weak point. To obtain a balanced hardening of a structure it is essential that the openings provide protection at the same level as the rest of the installation.

Whether there is a threat of nuclear (long duration) blast or a blast from conventional weapons - which might be of short or long duration depending e.g. on geometry - there exists a great number of valves for different applications and protection levels.

To secure the quality of a hardened structure, only tested objects should be used. It is also vital that these tests are as realistic and impartial as possible.

The Research Department of FortF applies special test procedures for valves using a high explosive driven shock tube. Varying the charge yield and distance between charge and object facilitates modeling of the impinging shock wave within certain limits. For some testing applications the tube is open in the rear end resulting in a suction phase succeeding the overpressure as in a real case.

The paper describes valve testing with emphasize on testing procedures and blast simulation technique rather than on some particular valves.