

PRACTICAL EXPERIENCE IN THE DEVELOPMENT AND FIELD CONSTRUCTION OF RAPID ERECTABLE HARDENED STRUCTURES

R. Eytan & M. Eytan

*Eytan Building Design Ltd.,
Specialist Consultants for Security Protection and Hardening,
Tel Aviv, Israel*

The paper includes the description of the authors practical experience in the development, design and supervision of the field construction of rapid erectable hardened structures.

The hardened structures referred to have been developed using force protection requirements for various threats, including large explosive charges, car bombs, near misses of artillery shells, missiles and rockets, and have been designed to optimally mitigate the blast and fragmentation effects.

The hardened structures referred to are rapid erectable and consist of prefabricated elements which can be quickly assembled in the field. The hardened structures materials are reinforced concrete, steel plates, ballistic fabrics and composite materials.

The hardened structures described here have various sizes and configurations – from a room size structure to multi-stories large structures.

All the pre-engineered hardened structures types presented here have been tested in full scale explosive tests, withstood successfully the weapons effects and were actually constructed in the field in numerous projects.

Some of the described hardened structures have been subjected to real war and terrorist attacks and proved their efficiency, increasing substantially the protected force survivability.

The paper includes visual presentation of the various types of hardened structures, both in full scale explosive tests and in field construction.