

## **SHOCK TESTING OF EQUIPMENT FOR CIVIL DEFENSE STRUCTURES AND MILITARY FORTIFICATIONS IN SWITZERLAND**

ANET,B.;HUNZIKER,P.

This paper is concerned with the techniques used to simulate the effects of an induced air blast ground shock in the environment of a nuclear explosion on all kind of shelter equipment used in Switzerland.

The AC-Laboratory Wimmis of the Armament Technology and Procurement Group of the Swiss Military Department has performed a great number of shock tests with civil defense and military equipment in the last 10 years. The facilities used and the experiences made will be described and discussed

with respect to future developments of practical shock testing. The shock machines described are all mechanical, non-hydraulic types.

Special topics:

- Practical experiences with shock measuring techniques.
- Shock sensitivities and improvements of typical shelter equipment.
- Cost versus accuracy in routine shock testing.
- Development of a new shock machine for very large equipment up to 12 kN weight including some kind of mechanical pulse generator to simulate more accurately the air blast and ground shock induced motions of the shelter.