IN-STRUCTURE BLAST PROPAGATION IN PROTECTION SHELTERS CURRENTLY IN USE IN BOSNIA BY DUTCH IFOR TROOPS

VAN DONGEN,P.; ABSIL,L.H.J.; WEERHEIJM,J.

The survival of troops during UN missions is paramount. Therefore, the Corps of Engineers of the Royal Netherlands Army (RNLA) is tasked to provide the military personnel with adequate protection shelters for use in crisis situations (threats like enemy-artillery-fire or an accidental explosion of stored ammunition). The layout of these shelters is mostly based on a British design. They consist of an ISO-container surrounded by Hesco bastion defense walls and a protective roof construction. Although test data are available describing structural response of these types of structures to 81 mm and 155 mm shell attacks, the resulting explosion effects inside the ISO-container and the consequences for the personnel is hardly quantified.

Therefore, TNO-PML started in 1996 a research program to validate the protection level of shelters currently in use by the RNLA. Two shelters were instrumented to measure the air blast propagation inside the container and the air blast propagation in the air gap between the container and Hesco defense walls. With these data, personnel injuries are assessed and the structural deformation of the container is explained.