

EXPERIMENTAL INVESTIGATION OF VEHICLE BORNE IMPROVISED DEVICES

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ABSTRACT

The number of terror attacks caused by so called Vehicle Borne Improvised Explosive Devices (VBIEDs) has been increased enormously over the last few years. Such car bombs indicate high risks for soldiers especially while being accommodated in field camps on missions abroad.

In most cases high explosives in the form of an IED are put into usual civilian vehicles. As a result the vehicle including the IED can be placed easily in that area wherever the IED is supposed to be blown up as well as being initiated anytime like the terrorists planned. Since it is done by either a civilian car or a truck it is very hard to realize what is going on and that there is a proper risk at this moment.

VBIED scenarios always produce a threat of not only blast but also primary and secondary fragments. Due to these high risks it is very important to conduct experimental tests on a scale of 1:1 in order to get a better understanding of these threats and to learn how to protect against the phenomena of blast and fragments.

Within German military the Bundeswehr Technical Centre for Protective and Special Technologies (WTD 52) has the main lead of performing such tests. The tests were subdivided into two parts and were done in close collaboration with Bundeswehr Technical Centre for Weapons and Ammunition (WTD 91).

Goal of these tests is to get knowledge of the threat as well as collecting test data which will be used to develop an engineering tool based on existing models. Furthermore an efficient improvement of protecting measures is possible after doing a detailed evaluation of these tests.