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TEST METHODOLOGY FOR PROTECTION OF VEHICLE OCCUPANTS AGAINST IED

Frank Dosquet, Christoph Privsek, Oliver Nies, Manfred Gerweler

Human Factors, Ergonomics

Wehrtechnische Dienststelle für Waffen und Munition – WTD 91, Meppen, Germany

(Technical Center for Weapons and Ammunition)

Improvised explosive devices (IED) are one of the predominant threats for vehicles as well as for infantry men in recent military conflicts with paramilitary and subversive groups. Especially against vehicles IED without primary fragments are most frequently used because of the simplicity of assembly and their effectiveness. Therefore many military users consider this threat in the meantime in the corresponding requirement specifications of vehicle protection systems.

The analysis of the associated loading regime on the crew is the baseline for the definition of methodologies for qualification tests as well as studying the load transfer from the threat via the vehicle structure to the soldier with the goal to derive effective protective measures.

To assess the efficiency of protective measures assessment methods and especially assessment procedures and criteria have to be defined for the actual loading regime. The predominant loading effects on the crew for this threat are primary, more often secondary fragment, blast, acceleration based and thermal transfer effects.

The applicability of different procedures and criteria for these loading effects are analysed. They are incorporated in a test methodology for qualification trials of vehicular protection systems against IED threats.