



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Personal Protective Equipment Assessment of Marine Corps Body Armor Systems

At the request of Program Manager Infantry Combat Equipment (PM ICE), the U.S. Army Research Laboratory completed an analysis of the protection provided by four body armor system configurations to evaluate the performance of the U.S. Marine Corps (USMC) body-armor systems against threats, which cause both fragmentation and blast injuries. Modeling and simulation, as well as live-fire experiments, were used for this analysis. The primary goal was to better understand the trade-space between reducing armor encumbrance and providing protection.

The area of coverage and injury analysis results across the four body armor systems provided PM ICE with a baseline characterization against explosive threats. The impact of the baseline characterization provides a basis for measuring changes in protection for proposed future generation protective systems for these types of threats. This work may result in follow-on efforts to characterize future generation protective systems for the USMC. The potential impact on the Service member is to ensure the best possible protective equipment is fielded to meet mission requirements.

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