



2013 IAB STANDARDS DEVELOPMENT PRIORITY LIST & DESCRIPTIONS

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- Standardized equipment training program format
- Standard test method for respirator fit test equipment

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TIER 1

Standard for public safety bomb suits additional requirements

The scope of this requirement is to develop performance requirements and test methods to be added to the current version of NIJ Standard-0117, Public Safety Bomb Suit Standard, to address the following:

- Blast overpressure protection. The effects of blast overpressure on the human body need to be taken into account to address impact to the head, neck, thorax, abdomen, and ears.
- Integration of chemical/biological protection, including respirator face piece and helmet interface. Bomb technicians currently have to wear a chemical/biological protective ensemble in addition to a bomb suit to have both types of protection at once.

Development of performance requirements and test methods will require research and testing.

Standardized equipment training program format

Standardized equipment training program format is needed to provide equipment manufacturers and vendors with guidance for developing training courses, instructions, and materials for end users of the respective equipment. This standard should be based on technical equipment requiring a specialist to technician level of skill rather than common equipment (e.g., consumables, batteries, and simple hand tools).

Standard test method for respirator fit test equipment

There is a concern among responders who wear respiratory protection that current test methods for mask fit machines are not sufficient. For example, with current mask fit machines, a mask could pass the fit test when it should have failed due to such things as turning the head or an inconsistent interface between the mask and the machine.

TIER 2

Performance standard for protective helmets

Many types of head protection are used by law enforcement and corrections officers, and a comprehensive standard addressing all types of protection is needed:

- Ballistic Helmet: intended to protect against rifle and handgun rounds.
- Riot Helmet: intended to protect against hand-delivered improvised projectiles (such as bottles; bricks; flammable, biological, and/or corrosive liquids) and hand-delivered blunt trauma weapons (such as bats, sticks, and wooden or metal rods).
- Crash Helmet: intended to protect against impacts during a vehicle crash or fall from horse.

Performance standard for protective shields

Law enforcement, corrections, and fire fighters are in need of a standard for protective shields to address ballistic threats from firearm bullets and fragments/shrapnel



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Photo Courtesy of Seattle (WA) Fire Department

from explosions. Tactical officers, bomb technicians, fire fighters, patrol officers, and corrections officers purchase and carry hand-held ballistic shields to be used in the course of their duties. Many manufacturers claim that these shields are capable of protecting against specific firearm rounds and fragments, but there currently is no standard to demonstrate ballistic protection or explosives protection of shields. The standard should include testing against various shots/hits to the edges, view port material, the viewing port/shield seams, bolts that hold on the carrying handles, etc., and against multiple shots to the shield.

Performance standard for explosive containment vessels: vented and total containment

Bomb technicians (civilian and military) use explosive containment vessels to transport explosives and Improvised Explosive Devices. A standard including performance requirements and test methods is needed to evaluate the functionality of vented and total containment (i.e., gas tight) vessels (TCVs) to contain an explosive blast, chemical/biological agents inside the vessel and the venting/scrubbing properties of the TCVs and related machinery. It is not known whether publications exist regarding testing and performance of containment vessels. Unofficial testing has been conducted by the United States Marine Corps Explosive Ordnance Disposal program using vessels manufactured by NABCO Inc. and Mistral Security Inc.; however, testing has been reliant upon the manufacturer for operational use and specifications. Development of performance requirements and test methods will require research and testing.

TIER 3

Performance standard for tactical operation video cameras

A performance standard is needed to assess capabilities of video cameras used by law enforcement and military officers in tactical operations for surveillance and situational understanding. These cameras are available in several configurations: covert placement, hand-deployed, and pole-mounted.

- Covert Placement: Compact, lightweight cameras capable of being covertly placed in a high-risk situation.
- Pole-mounted: The camera assembly is attached to the end of a pole or extendable mast for viewing around corners, over/under barriers, or through small openings.

The camera assembly is ruggedized, may contain a fixed view or zoom camera, microphone, wireless transmission device, and internal power supply, and may have pan and tilt capability. The camera assembly transmits video and audio to a remotely located control and viewing device.

Standard for robot operator self-evaluation and training program

Both public safety and military bomb squad robot operators require extensive training to establish and maintain proficiency in operation and use of robots, but there currently are no standards of testing or evaluating operator capabilities and providing follow-on evaluation/training. The ASTM International Test Methods for Response Robots program has developed a suite of robot test methods describing test environments and specific procedures for assessing robot capabilities, and it is likely that an operator assessment methodology could be added to the suite of ASTM standards. This testing/training would use standardized apparatuses for scenario-based drills and exercises with known results as a method to “self-train” and evaluate robot operator proficiencies from the novice to the expert level. Specific standardized scenarios would have the necessary criteria (such as performance checklists, time constraints) to accurately provide comparisons with vendor expert operators during the test method standardization process and enable bomb squad commanders to identify deficient operators based on aggregate operator performance data across the squad or across the country. The test method apparatuses could then be used as repeatable practice tasks for training and additional evaluation. This set of test methods would focus on situational awareness, maneuvering tasks, terrain and obstacle negotiation, and manipulator strength, reach, and dexterity tasks with an emphasis on vehicle-borne improvised explosive device (VBIED) applications. The ultimate objective is to encourage squads to build and use the apparatuses at their home training locations and possibly create portable test apparatuses that can be shipped to regions for special events. Development of this standard training methodology will require commitment by a standards development organization and practitioners.