

HAZARD CLASSIFICATION & INSENSITIVE MUNITIONS

Over 20 years' experience providing HC/IM results using proven processes.

In the area of explosives safety, APT provides final and interim hazard classification (HC) support and insensitive munitions (IM) support. Explosive hazard classification support includes test planning, monitoring, and HC package preparation. All methods of classification are supported including: by test, modified test, analogy, not new item, and pre-1980. Inensitive Munitions support includes Threat Hazard Assessment (THA) preparation, preparing test plans, monitoring tests and preparing waiver requests.

APT has the experience, proven processes, results, and personnel to achieve complete success.

Noteworthy Qualifications

- Four APT employees have served as Service Hazard Classifiers for the U.S. Army or Air Force and/or on the Department of Defense (DoD) Explosive Safety Board (DDESB).
- Extensive experience planning, leading, conducting, and supporting hazard classification and insensitive munitions tests, including the largest External Fire/Bonfire test (UN Test Series 6(c)) test ever conducted in DoD history.
- APT has served as Technical Secretariat and Coordinator for the DDESB Risk-Based Explosive Safety Criteria Team (RBESCT) for 19 years.

APT has working relationships with personnel at multiple explosive test sites nationwide and experience operating within each organization's parameters.



Customers

- PAC-3
- THAAD
- GMD GBI
- PAC-3 MSE
- Javelin
- Stinger
- GMLRS
- TOW/TOW 2B
- NLOS
- MLRS
- MEADS
- HELLFIRE
- ATACMS
- Japanese PATRIOT
- MIM-104A
- Honest John (warhead)

Other Related Capabilities

- Explosives Safety Testing
- Explosives Quantitative Risk Assessments
- DOT-Approved Examining Agency
- Authorized to witness UN/ DOT tests and recommend classifications to DOT Multiple partner ranges and test sites nationwide

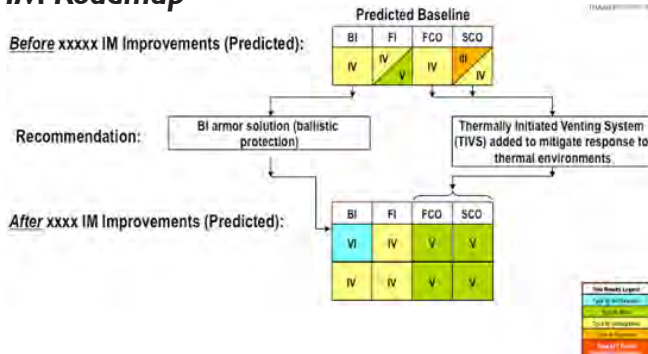
Tailoring

- Without tailoring, IM and FHC testing can require as many as 39 All Up Rounds (AURs).
- Tailoring can be accomplished with:
 - A good Threat Hazard Assessment (THA) that identifies life cycle threats; and
 - Successful completion of sub-scale testing.

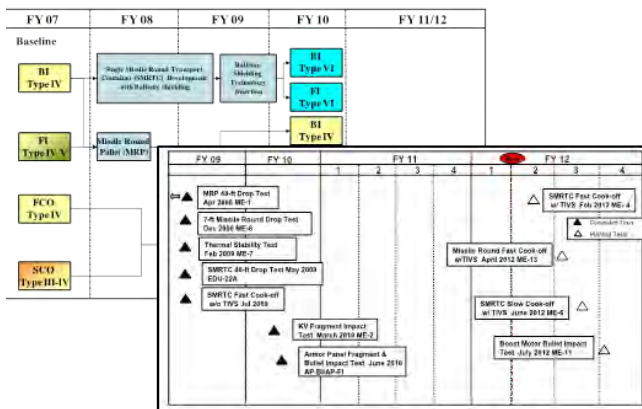
The ability to successfully tailor IM and FHC testing comes from experience, knowledge and understanding of the associated processes.

		Number of Test Articles					
		Per Requirements	Generic Tailored Plan	Tailored PAC-3 Plan	Tailored THAAD Plan	Tailored MSE Plan	Tailored GMD Plan
IM	12m (40-ft) Drop	3	*	-	*	-	-
	Fast Cook Off	2	*	*	*	*	*
	Slow Cook Off	2	1	-	1	1	-
	Bullet Impact	3	1	1	1	1 (LE)	-
	Fragment Impact	2	1	1	1	1	-
	Shaped Charge Jet	2	1	-	-	1 (LE)	-
	Sympathetic Reaction	6	*	2 (LEs)*	-	-	-
	Spall Impact	2	1	-	-	-	-
FHC	Single Package Test	2	-	-	-	-	-
	Stack Test	6	3*	*	-	-	-
	Liquid Fuel/External Fire Test	3	1*	2*	1*	2*	1*
	Unconfined Package Test	3	-	-	-	-	-
	40-ft (12m) Drop Test	3	1*	-	1*	-	-
TOTAL Number of Assets		39 AURs	10 AURs	4 AURs & 2 LEs	5 AURs	4 AURs & 2 LEs	1 AUR

IM Roadmap



POAM Development



Insensitive Munitions Support

- Identify and develop a Threat Hazard Analysis (THA)
- Develop tailored Detailed Test Plan (DTP) based on the life cycle environmental profile
- Support defining and designing IM mitigation strategies and technologies
 - Full developmental support of Thermally Initiated Venting Systems (TIVS) for mitigation of cook-off or propulsion
- Identification of the right test facility to match customer needs, range costs negotiation, obtaining range priority for tests, and obtaining range safety approvals
- Develop and support milestone schedules
 - Ensure development of test articles and testing meet customer program goals
- On site range support during testing
- Ensure tests are performed correctly and required data is obtained
- Prepare Technical Data Packages (TDPs) for the range
- Provide IM inputs for program's POAM and IM Strategic Plan
 - APT has successfully provided IM inputs to the IM Strategic Plan and POAM for dozens of programs
- Develop Quick-Look and Final Test Reports and briefing packages for IM Boards and JROC

APT Points of Contact

Jorge Flores, Brian Weyenberg
 256.327.3373
 aptinfo@apt-research.com



A-P-T RESEARCH, INC.

4950 Research Drive
 Huntsville, AL 35805
 www.apt-research.com