



Battelle High Energy Research Laboratory Area (HERLA)

ENERGETIC SYSTEM RESEARCH, DEVELOPMENT, TESTING AND EVALUATION

BATTELLE

Battelle's team of dedicated professionals, together with unique and versatile laboratory facilities, provide a complete platform for conducting all facets of ordnance and energetic material RDT&E.

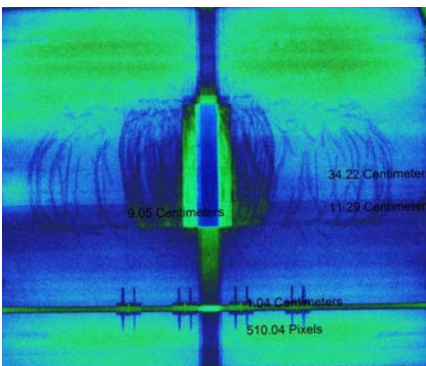
- Prototype development and demonstration
- Theoretical studies & projections of future trends
- Safety assessments & limited type classification
- Modeling & simulation
- Performance testing
- Energetic formulation

UNIQUE EXPERTISE AND CAPABILITIES

Specialized Facilities & Capabilities

- Explosive test chambers with 50, 25 and 7 lb. TNT equivalent limits
- 24 and 32 channel high-speed integrated data acquisition systems
- 150KV and 300KV flash x ray system

- High speed color digital imagers and streak framing cameras
- Small caliber test facility for ammunition or armor assessment
- Mann barrels and man-rated weapons from standard small caliber up to 40mm
- High voltage capacitor banks to support high-power electromagnetic research
- Split Hopkinson bar set up for materials stress/strain characterization
- Licensed to export/import, manufacture and use explosives
- Receive, handle and store classified materiel up to TS/SCI
- Can support high powered microwave and high energy laser T&E
- Instrumented anthropomorphic mannequins for blast and thermal effects RDT&E



Supporting Capabilities

- Modeling and simulation of explosive events and ballistic impacts
- Numerical optimization of advanced survivability materials
- Energetic formulation and synthesis
- Rapid prototyping of ordnance, munitions and energetic tools

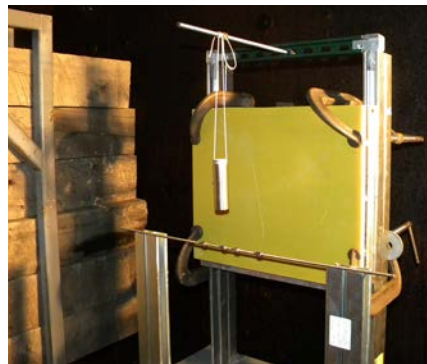
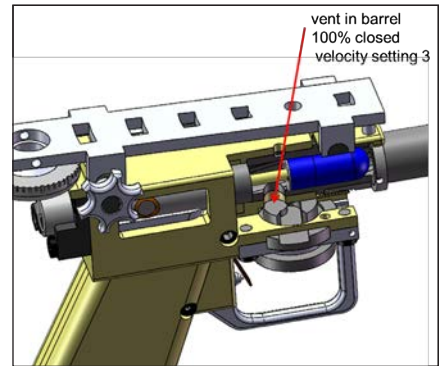
Standardized & Specialized Testing

- Bullet/fragment impact with velocity and distribution analysis
- Card, gap and plate dent
- Fast/slow cook-off & sympathetic reaction
- Shaped charge jet and EFP
- Armor evaluation (various MIL-STD, STANAG, ITOP)
- ESD, friction and impact

- Ordnance and munitions disassembly & performance evaluation
- Blast, flame and thermal effects from military and homemade threats

Current Efforts/Accomplishments in DoD/DOTC:

- DOTC/NAC membership since inception
- Technical Advisor to the DOTC/Joint Insensitive Munitions Technology Program (JIMTP)
- Partner to small businesses and nontraditional defense contractors
- Grenade and demolition system improvement initiatives
- 40mm ammunition improvement initiatives
- One-way luminescence tracer initiative
- Switchable energetic binder initiative
- Caseless Telescoping Non-Lethal System initiative



For more information about Battelle's High Energy Research Laboratory Area (HERLA) RDT&E services, contact us today.

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Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit www.battelle.org.

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It can be done