



AMRDEC Homeland Security

Security Through Technology

U.S. Army Aviation & Missile Research, Development, and Engineering Center (AMRDEC)

BLAST EFFECTS & EXPLOSIVES COUNTERMEASURES



Explosives Evaluation

END-TO-END CAPABILITIES, including chemical analysis and formulation, fabrication, systems integration and rapid prototyping, and blast effects characterization

WORLD-CLASS FACILITIES for explosives, fuzing, and energetics research and threat assessment



Gel Formulation

GEL & LIQUID EXPLOSIVES

- **The** DoD Technology Center for Gel Propellants
- R&D of Gel Propellants since 1960s
- Formulated & Tested Gel & Thermobaric Explosives Since '94

POTENTIAL GEL/LIQUID PROJECTS

- Formulation Testing of Novel Gel/Liquid Explosives
- Supply Gel/Liquid Explosives for Training Purposes
- Detection Technology



Two-Room Structure

Explosives Evaluation Facilities

- Processing facility for manufacture and loading of explosives (70-lb batch quantities).
- Evaluation range for free-field and enclosure testing of explosives and mitigation devices.
- Two-room non-responding structure based on the MOUT ORD for explosives testing and blast characterization (15-lb limit).
- State-of-the-art analytical labs for hazardous materials analysis.
- Chemical synthesis laboratory.
- Explosive liquid composition processing and performance evaluation.



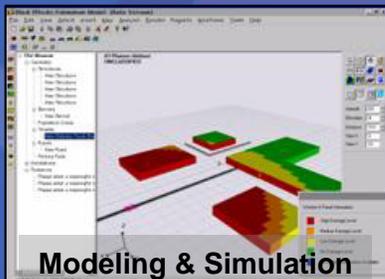
Chemical Analyses

Explosive Devices Analyses

- Expertise in warhead and bomb construction and performance.
- IED characterizations and vulnerabilities.
- Fuzing, modeling, output, containment.

Emerging Tech. Assessment Capability (ETAC)

- Network of university and small business products that fit the Homeland Security user need.
- Effects testing on blast and flame mitigation products.



Modeling & Simulation

Bomb Blast Models

- Detection, prevention, protection, and mitigation.
- Laptop blast models that allow emergency responders on the scene to determine proper standoff distances from explosives.

