



A VAST ARSENAL OF TEST TECHNOLOGY

Element U.S. Space & Defense provides ballistic experimentation and non-destructive testing services in support of munitions and protection systems at our state-of-the-art facility in Belcamp, MD. We combine our expertise with the latest testing and measuring equipment to efficiently meet our customers' performance schedule and cost requirements.

The facility is NVLAP and A2LA ISO/IEC 17025:2017 accredited, and are approved by the National Institute of Justice to perform personal body armor testing to NIJ Standard-0101.07 and NIJ Standard-0115.00 Stab Resistance of personal body armor. We are also approved by the U.S. Army Aberdeen Test Center to perform helmet and hard/soft armor testing. Our facilities features 8 indoor firing ranges, a forced entry/ballistic range, a mechanical testing lab. A fully equipped on-site machine shop is available to assist with the customization or fabrication of test fixtures and to support range operations.

Firearm and Ammunition Testing

Element U.S. Space & Defense is approved by the NIJ and for Firearm testing and by the California & MA DOJ for Firearm and FSD testing. All testing is in accordance with numerous performance standards including the newest NIJ standards, TOP-3-2-045, and SAAMI specifications. An in-house case calibration system provides quick turnaround for ammunition testing.



Ammunition test services include:

- Pressure
- Velocity
- Proof testing
- Quality control
- Less-than-lethal
- Cook-off testing
- Projectile characterization
- Environmental conditioning
- Corrosive primer & sensitivity

Ammunition test services include:

- Recoil measurement
- Accuracy & dispersion
- Shock transmittance
- Suppressor testing
- Barrel erosion and endurance

Projectiles

Element U.S. Space & Defense has the ability to fire a wide range of projectiles. Rounds are hand-loaded to ensure precision and accuracy.

Projectiles used include:

- | | | |
|--|-----------|---|
| • Ball and armor piercing projectiles | • .22-cal | • Right Circular Cylinders |
| • Ball and armor piercing incendiary projectiles | • .30-cal | • 2-gr through 64-gr |
| • Fragment Simulator Projectiles | • .50-cal | • Light gas gun operations for fragmentation low velocity tests (<1,300 ft/sec) |
| | • 20-mm | |
| | • 14.5mm | |

LARGE CALIBER AND BLAST TESTING

We operate medium and large caliber indoor test ranges to support .50-cal, 14.5-mm, 20-mm, and testing, and have a dedicated indoor test range with drive-in capability 20mm for accommodating large samples.

Each range has an independent HVAC system with an advanced HEPA filtration system that exceeds EPA and OSHA standards for air quality. Ranges are also equipped with video cameras that transmit range activities to viewing screens in the firing room.

Capabilities include:

- IED & EFP testing
- Reactive armor
- Srena testing
- Bare charge and fragment testing
- Air and ground vehicle
- Transparent and heavy armor
- Component, sub-system, full-up
- VPAM, AEP-55, STANAG
- Structural blast
- Blast containment
- Blast pressure (PPE, doors, windows)
- Personal Protective Equipment
- Helmets, face-shields, vests
- RPG (static and dynamic)

PHYSICAL SECURITY AND FORCED ENTRY

Element U.S. Space & Defense is certified by the U.S. Department of State to perform FEBR testing in accordance with SD-STD-01.01, Rev. G Testing also IAW ASTM F1233-08, ASTM F1915, HPW-TP-0500.03, ASTM F588, ASTM F3038, and others.

Our testing is performed by experienced engineers on large modular frames customizable for any size product with modular fixtures for fast and efficient mounting of test articles.

Testing in accordance with various test methods and standards including:

- Department of State (DOS) SD-STD-01.01G (DOS-approved to perform this testing; covers Rev. G and Rev. H)
- ASTM (F1233, F1915, F3038, etc.)
- HPW-TP-0500.03
- Customized testing plans available upon request

Large modular fixture can accommodate full-scale building envelope and structural products including:

- Windows and window coverings
- Doors (regular hinged and rolling doors)
- Ballistic and physical attack testing conducted in the same facility to enhance testing accuracy and realism
- Safe-rooms & protective enclosures
- On-site machine shop for efficient design and fabrication to accommodate all product types

About Element U.S. Space & Defense

From centrifuge testing for the latest Mars rover, vibration testing for the Space Launch System (SLS), or environmental simulations for next-generation missiles, Element U.S. Space & Defense is the pioneering partner for highly custom, end-to-end, testing design and implementation.

By advancing its state-of-the-art testing technologies, subject matter expertise, and service to critical missions, Element U.S. Space & Defense has become the go-to partner for ground-breaking industries.

ELEMENT U.S. SPACE & DEFENSE

BELCAMP, MD

4603B COMPASS POINT ROAD
BELCAMP MD 21017

+1 410 297 8154

SALES@ELEMENTDEFENSE.COM

