



PREMIER BALLISTIC TESTING LABORATORY

Element U.S. Space & Defense provides ballistic experimentation and non-destructive testing services in support of munitions and protection systems. Located in northeastern Maryland (near Aberdeen Proving Ground), our Belcamp laboratory combines experimental and testing facilities, the latest testing and measurement equipment, and highly experienced personnel to efficiently meet our customers' performance schedule and cost requirements.

BALLISTIC TESTING

Element U.S. Space & Defense's Belcamp facility is an NVLAP and A2LA ISO/IEC 17025:2005 accredited laboratory, approved by the National Institute of Justice to perform personal body armor testing to NIJ Standard-0101.07 and NIJ Standard-015.000 Stab Resistance of personal body armor. We are also approved by the U.S. Army Aberdeen Test Center to perform helmet and hard and soft armor testing. Our state-of-the-art facility has 8 indoor firing ranges, a forced entry/ballistic range, a mechanical testing lab, environmental conditioning lab, x-ray/computed tomography scanning lab, non-destructive testing lab, computed tomography scanning and a non-destructive testing lab.

XCT SCANNING & NDT

X-Ray Computed Tomography (XCT) scanning has proven to be a very powerful tool in the field of Non-Destructive Testing (NDT). The Belcamp facility's XCT Imaging service has the capability to obtain detailed 3D images of the internal dynamics of materials and products, thus eliminating the need for costly and time-consuming destructive inspection. The list of industries and customers who have benefited from our XCT Imaging service is rapidly growing.

ENVIRONMENTAL SIMULATION TESTING

Element U.S. Space & Defense offers in-house Environmental Simulation for the testing of armor by subjecting it to conditions similar to real world applications. The simulated conditions include extreme cold and heat, moisture and saltwater. Government standards, including the DOD (Department of Defense) and the NIJ (National Institute of Justice) Ballistics Testing standards, have been revised to include parameters for these conditions.

NOCSAE SPORTING/ATHLETIC EQUIPMENT TESTING

For the most extensive and advanced testing of personal safety equipment used by contact sport athletes, Element U.S. Space & Defense's client partners turn to our Belcamp team. Just a few of the sports we perform equipment testing for include football, baseball, softball, ice hockey, lacrosse, soccer, pickleball, polo and equestrian activities.

Element U.S. Space & Defense also performs certification testing for several sporting associations. We are the sole test lab for the USA Pickleball Association (USAPA) and perform all of its certification and R&D testing for manufacturers. In addition, Element U.S. Space & Defense is the certified test lab for the United States Specialty Sports Association (USSSA) and Senior Softball USA.

HIGHLIGHTS AND PRIMARY TEST SPECIFICATIONS

BALLISTIC TESTING

- Medium/ Large caliber indoor/ test ranges: .50 -cal, 14.5mm, 20 mm
- Indoor ranges with drive-in capability to accommodate large samples
- Transparent and heavy armor
- Sub-component testing
- Vehicle exploitation
- Full-up vehicle direct fire
- Fragmentation testing
- Component/full-up system level testing
- Ballistic Resistant Materials
 - ▢ Shields
 - ▢ Doors & Windows
 - ▢ Fixed Structures
- ▢ Transparent Armor
- Personal Protective Equipment
 - ▢ Soft Armor
 - ▢ Hard Armor
 - ▢ Helmets
 - ▢ Visors & Eyewear

MATERIAL/ MECHANICAL TESTING & ENVIRONMENTAL CONDITIONING

- Blunt Impact Helmet Testing
- Compression Testing
- Tension Testing
- Hardness Testing

FIREARM & AMMUNITION TESTING FIREARM

Ammunition

- Pressure
- Velocity
- Proof testing
- Quality control
- Less-than-lethal
- Cook-off Testing
- Projectile characterization
- Environmental conditioning
 - ▢ High Temperature
 - ▢ Low Temperature
 - ▢ Icing
 - ▢ Humidity
 - ▢ Rain
 - ▢ Immersion
 - ▢ Drop
 - ▢ Endurance
- SAAMI Testing

Firearm

- Recoil measurement
- Accuracy & dispersion
- Abusive Mishandling & Rough Handling
 - ▢ MIL-STD-810H
 - ▢ TOP-3-2-034A
 - ▢ NATO AC/225
 - ▢ SAAMI Abusive Mishandling
- Suppressor testing
- California Handgun Testing Certified (Approved Handgun Roster)
- Massachusetts Handgun Testing Certified (Approved Handgun Roster)
- Sound Pressure Level Testing and Recoil Testing

SPECIAL SERVICES

- Federal Railroad Administration Glass
- Impact testing to pressurized vessels
- Custom Threats & Launch Packages
- Optics Durability
- Stab (NIJ-0115.01)
- Triple Gun System
- EOD Bomb Suits
- Fuel Cells
- Instrumented Headforms
- Weapon Systems
- Customized Test Programs
- Forced Entry

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