DEVCOM ARMAMENTS CENTER

RADIOGRAPHY LABORATORY

LABORATORY INFORMATION FACT SHEET

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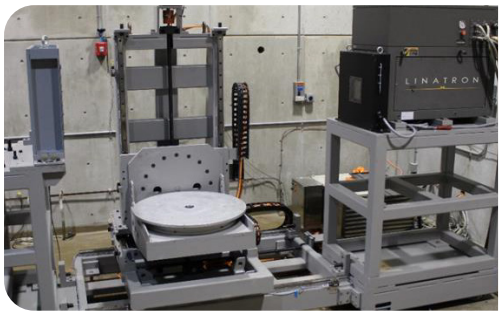
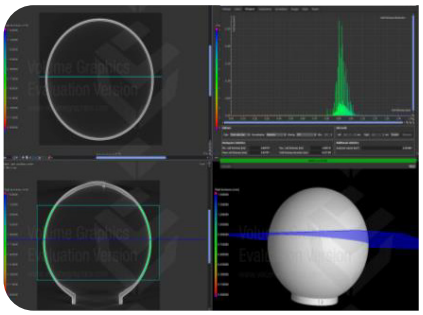
The Radiography Laboratory (RL) at Picatinny Arsenal is the DEVCOM AC's Center of Excellence for Radiographic Inspection. The Laboratory performs In-House X-Ray imaging, Engineering Support in Production for Army acquisition, and R&D efforts directed toward advancing the state of the art NDT inspection technologies.

TECHNOLOGY/FACILITY DESCRIPTION:

The RL performs inspections to detect critical defects that would negatively affect safety, fit, form, or function. Inspections also confirm proper assembly and presence of components. RL personnel provide Technical Data Package (TDP) input to design groups on new configuration and load or assembly methods, and they aid in development requirements in accordance with proper radiographic practices. The 15 employees are NAS410 NDT and Energetics certified. The building is capable of holding up to 2,400 lbs. of 1.1D material. RL is also active in R&D efforts directed toward advancing the state of Art NDT inspection technologies, including Neutron Radiography and Automatic Defect Recognition with Artificial Intelligence.



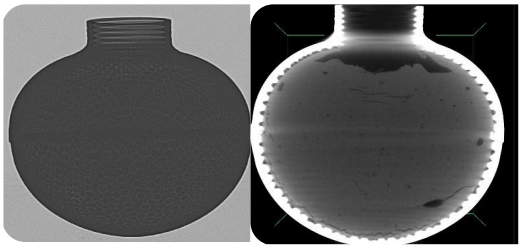


EQUIPMENT AND EXPERTISE AVAILABLE:

Within B908, the RL has several X-Ray systems capable of 2D imaging, and 3D Computed Tomography (CT), with energies ranging from 40 kilo-electron Volts (keV) to 3 Million-electron Volt (MeV), and resolution that ranges from 700 nanometer to 200 micrometer.

The RL can inspect a wide range of AA&E items and systems, from 155mm steel artillery shells down to drawn strands of propellant. RL inspects for voids, cracks, and inclusions in the explosive fill, and to analyze size and degree of porosity. Items imaged include:

- Projectiles, 5.56 to 155 mm - Grenades
- Fuzes - Mortar cartridges
- Explosive billets - Propellant samples
- Flares - Detonators
- Safe & Arm devices - Thermal Batteries
- Small arms assys, components - Electronic
- 3D-manufactured items - Museum pieces
- Armor (body and reactive) - R&D items



Single projection (left) versus slice of the CT (right) of an M67 Grenade.

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