

Impact Shield Design & Testing

KEYWORDS

- Impact Shielding
- Hazard Containment
- Hypervelocity Impact
- Ballistics Testing
- Low Velocity Impact
- Fragment Impact
- Impact Simulations
- Shield Design
- Shield Testing
- Homeland Security

Southwest Research Institute® (SwRI®) designs and tests unique shielding concepts to protect key assets and personnel from blast and fragmentation and foreign object damage (FOD) hazards resulting from the release and initiation of energetic materials. The SwRI Engineering Dynamics Department can develop impact shields from concept design to fabrication of final products, including experimental and numerical validation testing.

Capabilities

- Testing over wide range of impact conditions
- Low to hypervelocity impacts
- Numerical analysis of impact events
- Shield development from concept to final product
- Analytical model development

Experience

- Space debris studies
- Transparent shields for centrifuge
- Land mine protection for HMMWV
- Fragment shields for containment structures
- Munitions storage concepts
- Donor/acceptor propagation testing

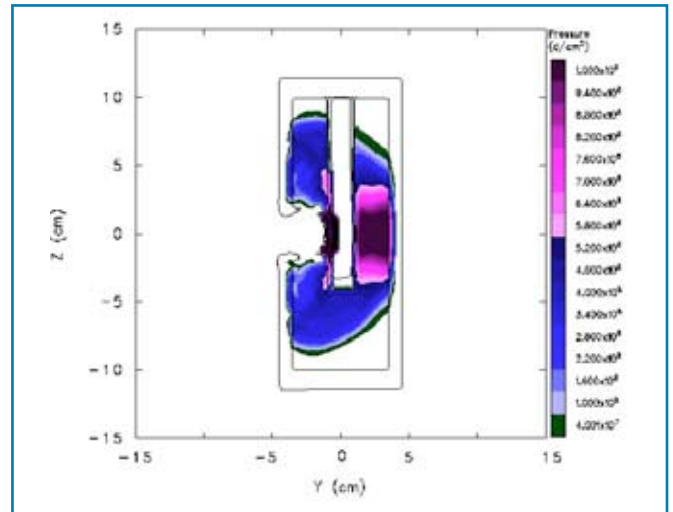
Facilities

- Large-caliber and compressed-gas guns
- Light-gas guns/powder guns
- Ballistics range
- Pendulum impact facility
- Explosively driven launchers
- Explosives and ballistics ranges



D005120

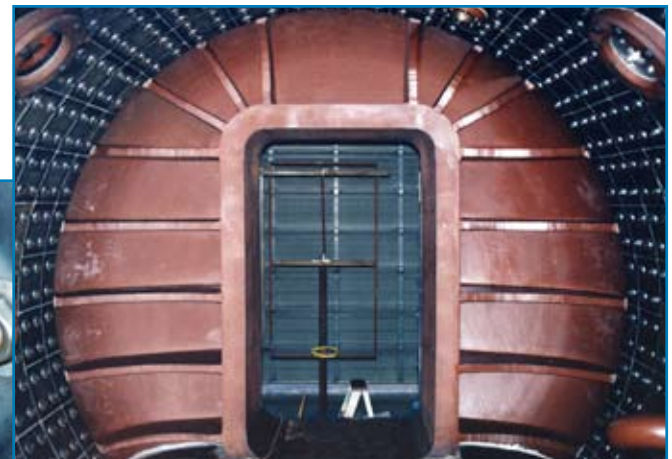
Personnel shield for centrifuge operations



D005115

Fragment impact of fluid-filled pressurized container

D005053



D005047

Fragment shield plates for Los Alamos National Laboratory blast chamber

SwRI gas guns are used to launch industrial-type fragments such as large, low-velocity accident debris to study impact damage to shields and industrial equipment.

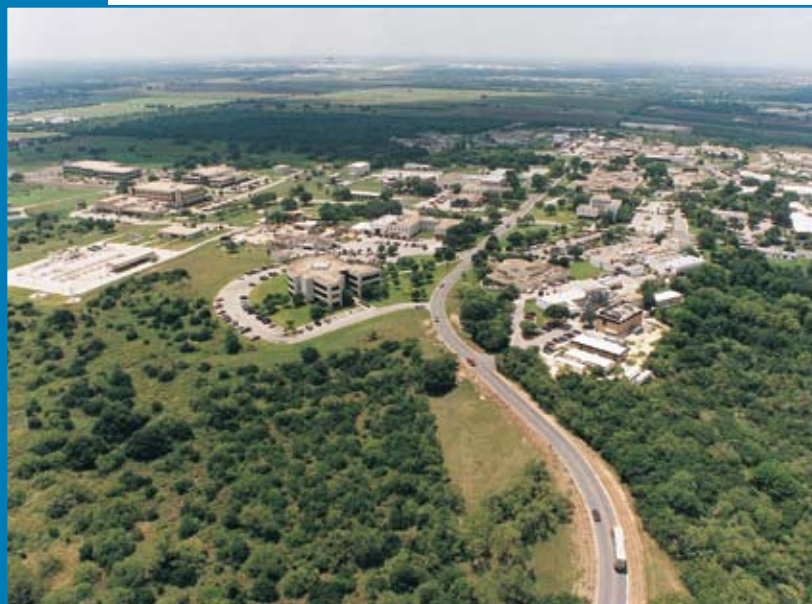


DE136289



DE136341

Variety of projectiles launched with compressed gas guns



Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,300 employees who perform contract work for industry and government clients.

We welcome your inquiries.

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