ABS Group

EXTREME LOADS AND STRUCTURAL RISK

EXPLOSION TESTING SERVICES

ABS Group's Extreme Loads and Structural Risk (ELSR) division provides specialized services to evaluate explosion and thermal hazards for the commercial, government and industrial sectors. Our engineering staff quantifies and develops measures to manage risks associated with explosives, munitions and vapor cloud explosions by providing protection criteria and design solutions to minimize serious injury, loss of life, damage to property and loss of mission.

Shock Tube Testing

Our indoor shock tube test facility in San Antonio, Texas, is capable of testing windows, walls and structural targets up to 12 feet by 16 feet to simulated blast loads from high explosive and vapor cloud sources. Easily adaptable for R&D programs, the facility provides a 20,000 square foot laboratory for conducting blast testing in a repeatable controlled environment at reduced costs when compared to high explosive field testing.

Field Tests at High Explosives Ranges

We provide high-speed instrumentation and video production, video image analysis and post-event documentation and data of test programs on remote explosive ranges both in the U.S. and internationally. We have executed live fire test programs with equivalent explosive charge weight up to 5,000 lbs of TNT.

Tools and Technology

We use the latest technology and simulation tools, including 3D laser scanning equipment, to forensically measure and document energetic test events. Our personnel are highly experienced in test planning, designing instrumentation packages and conducting tests in controlled blast environments.

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Our Solutions

Video Production and Documentation

- High-definition Video
- High-speed Video
- Video Image Analysis
- 3D Laser Scanning

Portable Data Acquisition Capabilities

- High-speed Data Acquisition of Instrumentation
- Redundant Systems
- Independent Triggers

High-speed Instrumentation

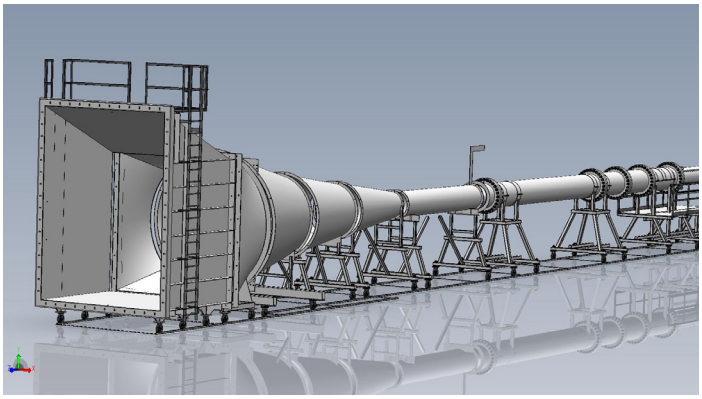
- Shock Gauges
- Accelerometers
- Laser Position Transducers
- Strain Gauges
- Load Cells
- Acoustic

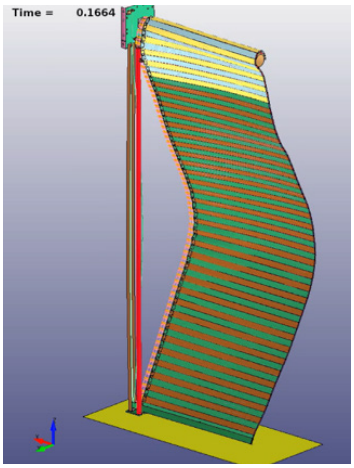
Research / Development and Analysis Validation

- Window Glazing to GSA and ASTM F1642
- Curtain Walls and Storefronts
- Blast Resistant Doors
- Precast Concrete Panels
- Wall and Retrofit Systems
- Blast Resistant Modular Buildings
- Dampers
- Breaching Tactics

Finite Element Modeling and Simulation of Tests

- Pre-test Prediction
- Post-test Validation
- LS-Dyna on Microway Computational Cluster





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