



**MICHAEL J. LOWAK**  
**Principal Consultant**  
**Manager, WEB Test Facility**  
**BAKER ENGINEERING AND RISK CONSULTANTS, INC.**

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**Education:** B.S., Civil Engineering, Texas A & M University

**Areas of Practice:** Michael Lowak works in the BakerRisk San Antonio office and is a Principal Consultant. He has 20 years of experience in the design and evaluation of structures subjected to impulsive loadings. His dynamic testing efforts include research and developmental testing, as well as proof testing of structural components and systems loaded by dynamic loadings. Many of the research and developmental test programs were partnered with analytical efforts that resulted in empirically validated analytical methods for evaluating the developed blast resistant structural system, with Mr. Lowak being a significant contributor in the analytical effort, as well as the testing of the projects. These projects have included development of new blast resistant window and door designs, innovative wall systems, and masonry wall retrofit systems. Mr. Lowak also provides structural analysis consulting for blast resistant structures with specialty in blast resistant glazing systems and doors.

- Experience:**
- Major role in the design, fabrication, and installation of shock tubes and other test apparatus for the evaluation of structural components and other specimens of interest under blast and impulsive loadings. The efforts in shock tube design led to Patent No. 6,763,696 awarded on July 20, 2004 for a "Shock Tube" to Mr. Lowak and other members of BakerRisk.
  - Led efforts in the design and installation of a shock tube for the University of Ottawa for structural response research and a shock tube for traumatic brain injury research on mice for the University of Washington.
  - Performed numerous evaluations of existing buildings for applied blast loadings and has designed or participated in the design of new blast resistant buildings. These buildings have included nearly all construction types, including wood stud, steel stud, structural steel, reinforced and unreinforced masonry, and reinforced concrete buildings.
  - Developed a specialty in the design and development of blast resistant glazing systems and has prepared blast resistant support calculations for new installations of blast resistant glazing for both commercial and government facilities. He has provided support for blast resistant glazing projects for the United States General Services Administration (GSA) buildings, Department of Defense (DoD) buildings, and Department of State (DoS) buildings.
  - Manages the majority of structural related test programs at BakerRisk over the last several years. Test projects include proof of performance testing or research and developmental testing of wall systems, blast resistant retrofit systems for walls, personnel doors, retrofit systems for personnel doors, windows and window systems, with almost all tests conducted using the BakerRisk shock tube.
  - Has significant analytical and testing experience supplemented by active involvement with explosion-accident investigation teams, in which he inspected damaged structures and performed structural response calculations in support of the investigations.

**Professional Chronology:** The Schultz Group, Inc., Civil Engineer, 1992-1994; Baker Engineering and Risk Consultants, Inc., 1994-Present.

**Professional Memberships:** American Society of Civil Engineers (ASCE), American Institute of Steel Construction (AISC), Glazing Association of North America (GANA)