

Blast Resistance Engineering

In the wake of terrorist attacks such as the Oklahoma City bombing and the tragic events of the September 11, 2001 World Trade Center Towers Collapse, facility owners and developers have a heightened awareness of the critical importance of considering multiple hazards or design threats. Structural engineers help mitigate these threats with building enhancements such as blast resistance. CTLGroup's experts are at the forefront of the developing practice of secure facility design with experience gained from investigations of explosions and similar disasters.

CTLGroup's expertise began with investigations of explosions and similar disasters. CTLGroup blast engineering consulting experts have led investigations and produced Federal reports on the historic attacks noted above and numerous other such events. Our experts have written books, developed standards, and conducted research on designing structures for blast resistance.

Destruction caused by intentional acts or accidental explosions threatens people's lives, as well as critical assets such as equipment, buildings, and other facility infrastructure. Most injuries occur not from the blast itself, but from the collapse of a structure. Therefore, secure facility design and blast engineering is an essential practice, especially for facilities considered to be vulnerable to potential terrorist attacks or accidental explosions.

CTLGroup's engineers and technical staff draw from a broad range of multi-disciplinary capabilities and in-depth knowledge to provide clients with solutions that go beyond blast resistance and explosion investigation. For example, our explosion investigations incorporate our proven procedures for litigation support and blast-resistant design can incorporate our deep experience with green solutions.

Our Explosion Investigation and Blast Engineering Services Include:

- Blast-resistance design for new or existing structures
- Progressive collapse evaluation
- Explosion investigation

Representative Projects

- PCA Blast Resistant Design Guide for Reinforced Concrete Structures: guide for the blast-resistant design of mid- and low-rise reinforced concrete structures
- ASCE Blast Resistant Design Standard: chapter chair for blast resistant detailing in the first national standard of its kind
- NCMA Blast Resistant Guide: guide for the blast-resistant design of masonry structures

