

# Fire Testing Services

CTLGroup offers unparalleled services related to fire research and fire testing of concrete. Over the past 50 years, CTLGroup has been at the forefront of testing various types of concrete and concrete elements, in addition to getting concrete's fire resistance properly implemented into building codes.

## Fire Testing

CTLGroup's newest fire test furnace has the ability to handle explosive spalling and simulate a variety of temperature profiles. These profiles mimic fires with rapid flame spread, slower smoldering fires, and the effects of fire suppression systems.

Large concrete test panels are placed over the top of a fire emitting device where uniform flames can be projected on the slab surface for extended periods of time. Internal thermal behavior is monitored at 20 different locations in the concrete panels during testing.

After testing is completed, the slabs are evaluated for spalling damage and crack propagation. Concrete petrography is then performed to characterize the extent of deterioration, and the degree and depth of fire damage.

Clients have used our fire testing services to evaluate various concrete mixtures' resistance to explosive spalling; to test various fibers' ability to resist explosive spalling; to check the structural stability of post tensioned concrete slabs after fires; and to minimize construction costs by proving the resistance to explosive spalling.

Uniquely, CTLGroup can offer combined services with the development of concretes that are resistant to explosive spalling, microscope characterization of post fire testing deterioration, post fire structural resilience, and thermal modeling of fire progression.

