

# FIRE AND LIFE SAFETY SERVICES

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Fire engineering is a science that combines a scientific knowledge of how fires start, spread, are contained and extinguished with a behavioral knowledge of how people react to them. The result is an engineering discipline that exists to protect people, property and the environment from fire.

Fire engineering can start with either the codes or with the design. With a codes-driven approach one should expect to compromise elements of the architectural vision in making the design code compliant.

However, with a design approach, fire engineers give themselves the far more difficult task of protecting the vision by creating strategy through fire engineering. It is a scientific approach that uses the statistics of real fires, calculation tools and studies of human behavior. This preserves the architectural design and provides value reducing over-specification caused by conservative codes and allows fire protection to be deployed where the risk is.

Developing a fire strategy is the process of examining how all of the elements that need to be considered will work together - the structure, the services, the façade and, the occupants. It is also about managing the fire and safety approval process.

## Safer buildings

With every project being a prototype, we push the boundaries and, by doing so, are able to recruit from the brightest people in

the industry. This not only equips us to handle the most complex projects but has been central to us being able to continually improve what we offer: better value and safer buildings.

## Fire engineering services

The following are services that can be provided by our fire engineering team:

- Strategic fire Engineering Evacuation (evacuation model)
- Internal & external fire spread
- Smoke management
- Fire fighting - internally & site wide
- Construction requirements
- Principles of vertical transportation

## Fire systems design

- Concept design and specification development
- System costing and budget models
- Detailed design and Integration Systems Tendering & project management
- Commissioning and functionality
- Assessments and technical support

## Fire risk assessment

- What-if analysis, fault and event tree analysis
- Fire and explosion damage
- Calculation and modeling Structural fire engineering reducing/omitting passive fire
- Protection to steel structure reducing fire rating

