

An introduction to fire engineering >

Fire safety engineering provides a rational methodology for the design of buildings using the application of science and engineering principles to protect people, property and the environment from fire.

Fire Engineering has established itself as a central part of building design, since the adoption of performance based regulations in the UK and Ireland. Performance based regulations permit alternative design solutions to those standard recommendations within codes and guidance, such as Approved Document B.

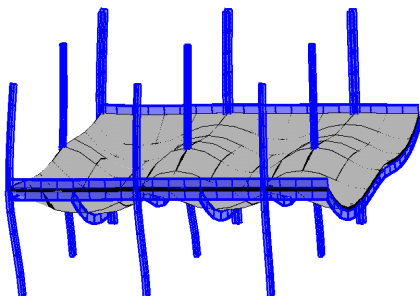
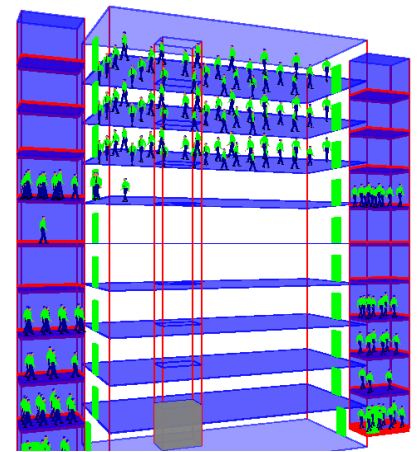
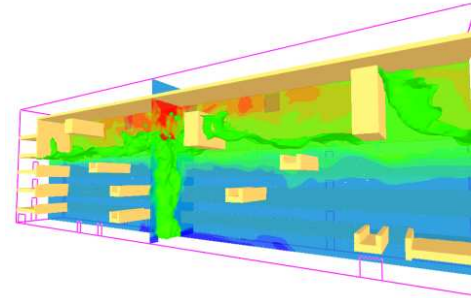
The approach addresses wider project objectives such as buildability, functionality, cost and aesthetics while meeting the safety requirements of the regulations.

Benefits >

- >Facilitates safer design solutions with specific fire safety and business protection requirements tailored to each building;
- >Yields cost effective design. Savings can be made in both construction time and capital cost; and,
- >Provides solutions which meet the functional and aesthetic requirements of design.

Use >

- >Determine the number of stair cores required and rationalise stair widths;
- >Rationalise travel distance limitations;
- >Specify appropriate fire alarm & suppression systems;
- >Determine wall and ceiling linings requirements;
- >Specify appropriate compartment sizes, fire protection to walls, floors and structural elements;
- >Determine appropriate ventilation requirements;
- >Determine appropriate fire resistance requirements to external walls and roofs; and,
- >Provide adequate fire fighting access, both in and around buildings.



Other benefits of using a **fire engineered design** include:

- >Coherent fire safety requirements;
- >Clear design-team requirements, such as M&E and structural specifications. This is communicated through the fire strategy documentation and supplementary design notes, diagrams, meetings and correspondence. This often includes a clear description of code based requirements; and,
- >Smooth and speedier design & approval.

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