

Good Building Guide

Installing fire doors and doorsets

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This Good Building Guide is designed to illustrate the importance of correctly installing fire doorsets and shutters to ensure the safety of building occupants and the protection of property in the event of a fire. Some key issues for the guidance of specifiers, manufacturers, contractors and approval authorities are identified, together with useful references to more comprehensive guidance documents. The importance of adequate testing, product quality, installation and maintenance is highlighted, along with the critical role of third-party certification schemes.

Introduction

Fire safety for building occupants is maintained through the provision of adequate means of escape in the event of a fire and by ensuring the fabric of the building does not contribute significantly to fire growth in the early stages following ignition. The building regulations^[1, 2, 3, 4, 5, 6, 7] with respect to the fire performance of structures are founded on two basic objectives:

- To ensure that a structure remains intact for a period of time sufficient to ensure, as far as reasonably practicable, the life safety of building occupants and firefighters.
- To prevent damage to other premises in the immediate vicinity of the fire.

The spread of fire within a building can be restricted by subdividing the building into compartments separated from one another by walls and floors of fire-resisting construction. The concept of compartmentation is essential in maintaining safe access and egress for building occupants and firefighters in the event of a fire. Any penetration of compartment walls represents a potential weakness in the fire safety of a building.

Fire doors serve three main purposes:

- To maintain the integrity of means of escape in the event of a fire.
- To isolate areas within a building that represent a significant fire risk.
- To provide access through compartment walls.



Figure 1: Timber fire door with vision panels
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Fire doors are complex engineered products. It is essential that the correct components are used in design, manufacture and installation and that the door assembly system installed is representative of those tested and approved. There is a complex interaction between the door leaves, ironmongery, vision panels, intumescent seals and the surrounding construction including the door frame. It is essential that fire doors retain the integrity of compartmentation within a building for a reasonable period. The most common means of demonstrating performance in this regard is through standard fire tests.

This Good Building Guide highlights the importance of correct installation and maintenance of fire doors (Figures 1 and 2), doorsets and shutters (Figure 3) in buildings, and focuses on some key points and issues.