

Section 5: Compartmentation

Introduction

5.1 The spread of fire within a building can be restricted by sub-dividing it into compartments separated from one another by walls and/or floors of fire-resisting construction. The object is twofold:

- to prevent rapid fire spread which could trap occupants of the building; and
- to reduce the chance of fires becoming large, on the basis that large fires are more dangerous, not only to occupants and fire and rescue service personnel, but also to people in the vicinity of the building. Compartmentation is complementary to provisions made in Section 2 for the protection of escape routes, and to provisions made in Sections 8 to 10 against the spread of fire between buildings.

Provision of compartmentation

5.2 Compartment walls and compartment floors should be provided in the circumstances described below, with the proviso that the lowest floor in a building does not need to be constructed as a compartment floor. Provisions for the protection of openings in compartment walls and compartment floors are given in paragraph 5.13 and Section 7.

5.3 Every wall separating semi-detached houses, or houses in terraces, should be constructed as a compartment wall and the houses should be considered as separate buildings.

5.4 If a domestic garage is attached to (or forms an integral part of) a dwellinghouse, the garage should be separated from the rest of the dwellinghouse, as shown in Diagram 10.

5.5 Where a door is provided between a dwellinghouse and the garage, the floor of the garage should be laid to fall to allow fuel spills to flow away from the door to the outside. Alternatively, the door opening should be positioned at least 100mm above garage floor level.

Construction of compartment walls and compartment floors

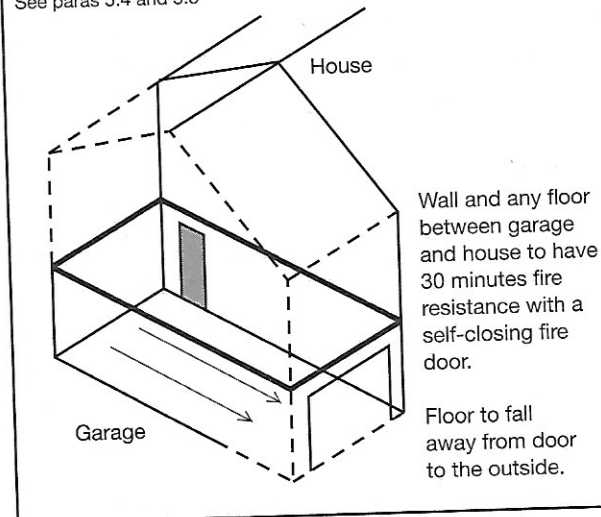
General

5.6 Every compartment wall and compartment floor should:

- form a complete barrier to fire between the compartments they separate; and
- have the appropriate fire resistance as indicated in Appendix A, Tables A1 and A2.

Diagram 10 Separation between garage and dwellinghouse

See paras 5.4 and 5.5



Note: Timber beams, joists, purlins and rafters may be built into or carried through a masonry or concrete compartment wall if the openings for them are kept as small as practicable and then fire-stopped. If trussed rafters bridge the wall, they should be designed so that failure of any part of the truss due to a fire in one compartment will not cause failure of any part of the truss in another compartment.

Compartment walls between buildings

5.7 Compartment walls that are common to two or more buildings should run the full height of the building in a continuous vertical plane. Thus adjoining buildings should only be separated by walls, not floors.

5.8 Compartment walls in a top storey beneath a roof should be continued through the roof space (see definition of compartment in Appendix E).

Junction of compartment wall or compartment floor with other walls

5.9 Where a compartment wall or compartment floor meets another compartment wall, or an external wall, the junction should maintain the fire resistance of the compartmentation. Fire-stopping should meet the provisions of paragraphs 7.12 to 7.14.

5.10 At the junction of a compartment floor with an external wall that has no fire resistance (such as a curtain wall) the external wall should be restrained at floor level to reduce the movement of the wall away from the floor when exposed to fire.