

Ireland

Ireland has a guidance document, Building Regulations 2006 - Technical Guidance Document B - Fire Safety, which if followed "*will, prima facie, indicate compliance with Part B of the Second Schedule of the Building Regulations. However, the adoption of an approach other than that outlined in the guidance is not precluded provided that the relevant requirements of the Regulations are complied with.*"

The full 172 page document is on the web site. There are a number of references in it to sprinklers. Those that encourage the use of sprinklers are listed below.

"1.3.5.4 Phased evacuation - The concept of phased evacuation is based on evacuating persons on a sequential basis, commencing with those on the storeys most affected by the fire in its early stages. That is the storey of fire origin and the one immediately above. By designing on the basis of phased evacuation, stairway widths less than those needed for total evacuation are possible. However, a package of compensatory features are needed.

(c) if the building has a storey with a floor with a floor over 30m above ground level, the building should be protected throughout by an automatic sprinkler system."

In practice most new high-rise buildings are protected by a sprinkler system.

Most of the other incentives to fit sprinklers in new building come when a designer wants to exceed a maximum compartment size. These are set out in Table 3.1

Table 3.1 Maximum area and cubic capacity of a building or compartment

Use	Purpose Group	Building form	Maximum floor area (1) of any one storey in the building or compartment (m ²)	Maximum cubic capacity (1) of building or compartment (m ³)
Residential (Dwellings)	1(a) 1(b) 1(c)	any	no limit	no limit
Residential (Institutional)	2(a)	single storey more than one storey	3000 1500	no limit no limit
Other Residential	2(b)	more than one storey	2000	no limit
Office	3	more than one storey	4600	28000
Shop	4(a)	single storey more than one storey	4000 2800	20000 7100
Shopping Centre	4(b)	any	see 3.5.3	see 3.5.3
Assembly and Recreation, Other Non-Residential	5, 8	more than one storey	1900	21000
Industrial	6	single storey (a) normal hazard (b) high hazard more than one storey (a) normal hazard (b) high hazard	93000 33000 7500 2800	no limit no limit no limit 17000
Storage	7(a)	single storey (a) normal hazard (b) high hazard more than one storey (a) normal hazard (b) high hazard	14000 1000 2800 500	no limit no limit 21000 4200
	7(b)	car park	no limit	no limit

Notes:

1. Other factors may also determine the provision of compartment walls and floors (see 3.2.4). For buildings of any purpose groups, other than 2(a) and 2(b), **these figures may be doubled if the building is provided throughout with an appropriate automatic sprinkler system.**

Shopping Centres and Atria

At the end of Section B3 Internal Fire Spread, are listed additional measures required for a few specific risks, including shopping centres and atria.

"Shopping Centres (Purpose Group 4(b))

3.5.3 *Whilst the provisions in this Document about shops should generally be capable of application in cases where a shop is contained in a single separate building, complications may arise where a shop forms part of a shopping centre. A shopping centre may include covered malls providing access to a number of shops and common servicing areas. In particular, the provisions about fire resistance, separating walls, surfaces and boundary distances may pose problems.*

To ensure a satisfactory standard of fire safety in shopping complexes, alternative measures and additional compensatory features to those set out in this document would be appropriate. While this section is concerned with internal fire spread by way of the structure, these measures will involve consideration of all aspects of fire safety and their inter-action is particularly critical in these buildings.

The measures that are relevant to B3 include:

- (a) **sprinkler protection** of all shop units, storage and service areas, and any parts of malls used for a purpose that might introduce a fire load into the mall."*

Buildings containing an Atrium

3.5.5

"Like a shopping centre, the design of a building containing an atrium may require alternative approaches to fire safety and the use of fire safety engineering. The measures that may be required will depend on the particular circumstances and will include consideration of all aspects of fire safety. The measures to be provided are likely to include:

- **sprinkler protection** to the building"*

The guidance also contains Table A.2 of the minimum passive fire resistance of a structure in minutes. It includes some modest relaxations in the passive fire resistance requirements if a sprinkler system is fitted.