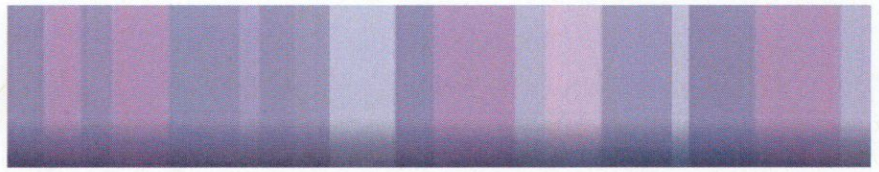




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chartered fire engineers &  
event safety consultants



**FIRE STRATEGY OVERVIEW REPORT FOR**  
**HOUSING DEVELOPMENT**  
**RATHCOOLE**  
**COUNTY DUBLIN**

**PROJECT DETAILS**

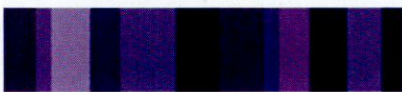
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## 0.0 INTRODUCTION

### 0.1 Scope

The Report is divided into sections dealing with the specific requirements of Technical Guidance Document B as follows:

- B1: Means of Escape in Case of Fire
- B2: Internal Spread of Fire (Linings)
- B3: Internal Spread of Fire (Structure)
- B4: External Spread of Fire
- B5: Access and Facilities for the Fire Service

### 0.2 Purpose Group

**TABLE 0.1 OF TGD B**

LOCATION	USAGE	PURPOSE GROUP CLASSIFICATION
Entire Building	Apartments	1(c): Flat or Maisonette

### 0.3 Primary Reference

Throughout the following report achievement of compliance with the functional requirements of Building Regulations B1 to B5 is demonstrated by reference to:

- Technical Guidance Document B
- BS 5588-1: 1990 Fire Precautions in the design, construction and use of buildings – Code of Practice for Residential Buildings
- BRE Report 187, 2014: External Fire Spread: Building separation and boundary distances

### 0.4 Outline Description of the Development

This report outlines the fire safety strategy for a proposed apartment building located in Rathcoole, Co. Dublin. The development will comprise of 58 apartments over 4 storeys. The following accommodation will be provided at each floor level:

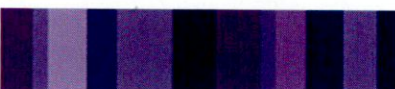
Ground Floor Level:

- 4 no. 1 bed apartments.
- 10 no. 2 bed apartments.

First Floor Level:

- 4 no. 1 bed apartments.
- 10 no. 2 bed apartments.

Second Floor Level:



- 6 no. 1 bed apartments.
- 9 no. 2 bed apartments.

Third Floor Level:

- 6 no. 1 bed apartments.
- 9 no. 2 bed apartments.

The upper floor levels of the building will be served by 2 no. protected escape stairs discharging directly to final exits.



## B1 – Means of Warning and Escape (B1)

### 1.1 Basis for Compliance

FROM SECTION 1.1 OF TGD B	
LOCATION	DESIGN BASIS
Entire Building	Section B1.4 of Technical Guidance Document B
	Section 3 of BS 5588-1: 1990

### 1.2 Internal planning of flats

#### 1.2.1 Flats situated not more than 4.5m above ground or access level

Flats situated at ground and first floor level will comply with Item 9.4 of BS 5588-1 in that no habitable room will be an inner room unless it is provided with a window suitable for escape and rescue.

#### 1.2.2 Flats situated more than 4.5m above ground or access level and entered on the same level as the flat

Flats situated at second and third floor will comply with Item 9.5 of BS 5588-1 in that:

- No habitable room will be an inner room
- All habitable rooms will be entered directly from a protected entrance hall; and
- The travel distance from the flat entrance door to the door of any habitable room will not exceed 9m.

### 1.3 Common escape routes

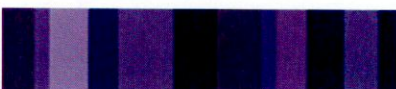
#### 1.3.1 Escape routes from dwellings with a corridor or lobby approach

The development will be provided with 2 no. common escape stairs accessed via protected corridors/lobbies. The escape routes will comply with Section 12 and Figure 12 and 13 of BS 5588-1 in that:

- Where flats have access to both escape stairs, the travel distance from the entrance door of any flat to the door of the stair will not exceed 30m; and
- Where flats have access to only one stair, the travel distance from the entrance door of any flat to the door of the lobby to the stair will not exceed 7.5m.
- Each section of protected corridor will be provided an AOV having an openable area of not less than 1.5m<sup>2</sup>
- The protected stair will be provided with an AOV at the top of the stair enclosure having an openable area of not less than 1m<sup>2</sup>.

#### 1.3.2 Width of common stairs

The common stairs will have a minimum clear width of 1.0m.



## **1.4 General Provisions for Means of Escape**

### **1.4.1 Protection of Escape Routes**

#### **1.4.1.1 Fire Resistance of Enclosures**

The common escape routes will be separated from the remainder of the building by 60 minute fire resistant construction incorporating FD30S fire doors.

The protected entrance hallways within the flats will be enclosed in 30 minute fire resistant construction incorporating FD30 fire doors.

#### **1.4.2 Final Exits**

The final exits from the stairs will be at least the same width of the stairs that they serve. All final exits will open in the direction of escape as they serve more than 60 people.

#### **1.4.3 Emergency Escape Lighting**

Emergency lighting will be provided to defined escape routes, other than within dwellings in accordance with Table 1.8 of TGD B. the emergency lighting will be designed, installed and commissioned in accordance with IS 3217: 2013 + A1: 2017.

#### **1.4.4 Exit Signs**

Exit signposting will be provided to indicate clearly and unambiguously the escape routes so that the means of escape can be safely and effectively used.

#### **1.4.5 Fire Detection and Alarm System**

The building will be provided with a common L3X fire detection and alarm system incorporating detection (smoke or heat detection as appropriate). Each flat will be provided with a heat detector and associated sounder in the entrance hallway as part of the common fire detection and alarm system.

Each flat will be provided with their own mains powered battery backed Grade D Type LD2 fire detection and alarm system.

The fire detection and alarm system will be designed, installed and commissioned in accordance with IS 3218: 2013 + A1: 2019.

## B2 - INTERNAL FIRE SPREAD (LININGS)

### 2.0 Basis for Compliance

LOCATION	DESIGN BASIS
Entire Building	Section B2 of Technical Guidance Document B

### 2.1 Classification of Linings

Internal wall and ceiling linings to areas to which this application relates shall comprise materials, which meet the appropriate classifications specified in Section 2 of TGD B, as indicated in the following table:

LOCATION	PROPOSED CLASSIFICATION
Circulation Areas	Class B - s3, d2 (European) Class 0 (National)
Rooms exceeding 30m <sup>2</sup>	Class B - s3, d2 (European) Class 0 (National)
Toilets / Shower Rooms	Class D - s3, d2 (European) Class 3 (National)
Places of Special Fire Risk	Class B - s3, d2 (European) Class 0 (National)
All other Rooms	Class C - s3, d2 (European) Class 1 (National)



## B 3 - INTERNAL FIRE SPREAD (STRUCTURE)

### 3.0 Basis for Compliance

LOCATION	DESIGN BASIS
Entire Building	Section B3 of Technical Guidance Document B

### 3.1 Loadbearing Elements of Structure

#### 3.1.2 Fire Resistance Standard

In accordance with Table A1 and A2 of TGD B the elements of structure will achieve 60 minutes fire resistance.

### 3.2 Compartmentation

The following will be constructed as compartment walls/floors:

- All floors
- Walls between flats
- Walls between flats and any other part of the building
- Walls enclosing the protected escape stair

Compartment construction will achieve 60 minutes fire resistance and will be constructed in accordance with the recommendations contained in Section 3.2 of TGD B.

### 3.3 Concealed Spaces

Cavity barriers will be provided to ensure that no cavity exceeds 20m in any direction in accordance with Table 3.3 of TGD B.

### 3.4 Protection of Openings and Fire-Stopping

All openings for services, joints/imperfections of fit in or between the designated fire barriers will be fire stopped in accordance with Section 3.4 of TGD B.

## B4 - EXTERNAL FIRE SPREAD

### 4.0 Basis for Compliance

LOCATION	DESIGN BASIS
Entire Building	Section B4 of Technical Guidance Document B

### 4.1 External Wall Construction

Any part of the external surface of an external wall will achieve a minimum of Class C -s3-d2 (European) or Class 1 (National) in accordance with Note (1) of Table 4.1 of TGD B.

### 4.2 Space Separation

The method proposed for calculating the acceptable unprotected area on the northeast façade is the enclosing rectangle method taken from the Building Establishment Report (BR 187) "External fire spread: building separation and boundary distance.

#### North Elevation

The distance from the elevation to the site boundary is approximately 6m.

The worst-case scenario enclosing rectangle for this elevation is 3m high x 9m wide.

Using Table A the enclosing rectangle can have 100% unprotected area.

#### East Elevation

The distance from the elevation to the site boundary is approximately 3m.

The worst-case scenario enclosing rectangle for this elevation is 3m high x 9m wide.

Using Table A the enclosing rectangle can have 90% unprotected area.

#### South Elevation

The distance from the elevation to the site boundary is approximately 3m.

The worst-case scenario enclosing rectangle for this elevation is 3m high x 9m wide.

Using Table A the enclosing rectangle can have 90% unprotected area.

#### West Elevation

The distance from the elevation to the site boundary is approximately 15m.

The worst-case scenario enclosing rectangle for this elevation is 3m high x 9m wide.

Using Table A the enclosing rectangle can have 100% unprotected area.

### 4.3 Roof Coverings

The roof covering will achieve Broof (t4) (European class) or Class A (National).



## B5 - ACCESS AND FACILITIES FOR THE FIRE SERVICES

### 5.0 Basis for Compliance

LOCATION	DESIGN BASIS
Entire Building	Section B5 of Technical Guidance Document B

### 5.1 Provision of Hydrants

As the building has a floor level with an area of more than 1000m<sup>2</sup>, 2 no. fire hydrants will be provided to serve the site. The hydrants will comply with 5.1.7 of TGD B in that:

- The distance between the hydrant and the building will be not less than 6m or more than 46m;
- The distance from a hydrant to a vehicle access roadway or hard-standing area for fire appliances will not be more than 30m;
- The hydrants will be distributed around the perimeter of the building, having regard to the provision of access for fire fighting appliance; and
- The hydrants will be located on the same site as the building or will be provided by a sanitary authority on a public roadway adjacent to the site.

### 5.2 Vehicle Access

Vehicle access shall be provided in accordance with Table 5.1 of TGD B, as per table below.

VOLUME OF BUILDING (M <sup>3</sup> )	HEIGHT OF BUILDING (M)	TYPE OF APPLIANCE REQUIRING ACCESS	MINIMUM VEHICLE ACCESS PROVISIONS (M)	PROPOSED VEHICLE ACCESS PROVISIONS (M)
7,000-28,000	<10m	Pump	15% of the perimeter = 32m	>32m

### 5.3 Design of Access Routes and Hard Routes and Hard-Standings

Vehicle access to the building shall be in accordance with the requirements of Table 5.2 of TGD B, as indicated in the table below.

FROM SECTION 5.2 AND TABLE 5.2 OF TGD B					
MIN. WIDTH BETWEEN KERBS (M)	MIN. WIDTH OF GATES (M)	MIN. TURNING CIRCLE BETWEEN KERBS (M)	MIN. TURNING CIRCLE BETWEEN WALLS (M)	MINIMUM CLEAR HEIGHT (M)	MINIMUM CARRYING CAPACITY (TONNES)
3.7	3.1	16.8	19.2	3.7	12.5

## 5.4 Ventilation of Heat and Smoke

### 5.4.1 Escape Stairways

The protected escape stairways will be provided with an automatically opening vent located at the top of the stair enclosure. The vent will have an openable area of not less than  $1.0\text{m}^2$  and will open upon activation of smoke detectors in the stair enclosure and will be manually openable for fire brigade use.

### 5.4.2 Protected Lobbies/Corridors

The protected lobbies/corridors serving the protected escape stairs will each be provided with an automatically opening vent located as high as practicable in the lobby. The vents will each have an openable area of not less than  $1.5\text{m}^2$  and will open upon activation of smoke detectors within the lobby in which the vent is located.

