

Scottish Government Building Standards Ministerial View Reference V2020/3

Functional Standard 2.9 Escape

Standard 2.9 (Escape) states: “Every building must be designed and constructed in such a way that in the event of an outbreak of fire within the building, the occupants, once alerted to the outbreak of the fire, are provided with the opportunity to escape from the building, before being affected by fire or smoke.”

Verifier

West Lothian Council

Technical Context

The matter where there is doubt on compliance with the mandatory standard relates to clause 2.9.13, Escape Routes - protected lobbies. The purpose of a protected lobby under standard 2.9 is to protect occupants escaping from the floor of fire origin and to inhibit smoke spread to the escape stair should occupants, remote from the fire, choose to evacuate the building.

The 1st, 2nd and 3rd upper floors in the buildings have ventilated lobbies in accordance with the guidance. The ground floor within these blocks is not provided with ventilation to the protected lobbies in both stairs serving the building. The applicant is proposing to create protected enclosures to the ground floor flats and install Automatic Opening Ventilators (AOV) to the ground floors of the escape stairs in lieu of ventilation to the inner protected lobbies.

The applicant has acknowledged that the current arrangement at the ground floor of Blocks C & D do not follow the recommendations in the Technical Handbook, but has proposed an alternative fire engineered solution approach. A Fire Escape strategy (00)050 explains how, in the view of the developer, the objectives relating to escape from flats and protecting the escape stair from smoke are achieved.

Block C comprises of a 4 storey block with two independent escape stairs. One stair serves 15 flats and the other stair serves 11 flats. The height to the top storey is 8.78m.

Block D comprises of a 4 storey block with two independent escape stairs. One stair serves 15 flats and the other stair serves 11 flats. The height to the top storey is 8.78m.

The view of Scottish Ministers

On behalf of Scottish Ministers, the Building Standards Division has considered all the information submitted in this case and their view is set out below.

Occupants in the flat of fire origin will be expected to make their escape on actuation of the fire alarm within their flat. Escape windows and a BS 5839-6 Category LD1 fire detection and alarm system is provided to the ground floor flats.

The key area of doubt is whether all other occupants are afforded the opportunity to escape before being affected by fire or smoke. It is important to recognise that the building is designed on the principle of a 'stay put' strategy which means that for most accidental dwelling fires, the occupants who are not in the flat of fire origin can remain safely inside the building for the duration of the incident. Only on rare occasions would the occupants, not in the flat of fire origin, be required to evacuate the building. On arrival at the building, the fire and rescue service will take control of the incident and direct occupants to remain inside their flats with their front door closed. It would be unusual for the fire and rescue service to carry out a partial or full evacuation of the building.

Should occupants remote from the fire choose to evacuate the building before fire-fighting operations commence, they should be able to do so without being affected by fire or smoke. Clause 2.9.10 states:

"There is a risk that the fire protection measures may not be maintained by the occupants of the building and as a result, the number of dwellings should be limited to 4 dwellings per storey and no storey is at a height of more than 7.5m above the adjacent ground level. The intention is to limit the size and height of a domestic building where some reliance is placed on fire precautions within a dwelling that also protects the common escape route."

In this case, the height of the topmost storey is marginally above 7.5m and there is one escape stair serving a maximum of 15 flats. In this stair, there are only 3 flats on the ground storey adopting protected enclosures in lieu of protected lobbies. Ventilated protected lobbies are provided to all upper levels in accordance with the guidance.

To maintain tenable conditions within the escape stairs a 1m² AOV is provided at the head of the stair, a 2m² AOV is proposed at the main access door and further 0.5m² manual opening vents are provided on the half landings. The AOV's will be linked to smoke detectors in the common areas and provided with override switched for use by the fire and rescue service.

Having carefully considered all the information submitted in this case, it is the view of Scottish Ministers that the proposals do meet the requirements of Standard 2.9.