

# Fire Principles Statement

## Salamander Quay

*Park Ln, Harefield, Uxbridge UB9 6NZ*

*April 2025*

### Context

The proposed works comprise renovation and change of use of the existing office complex to 34 residential apartments, while still retaining some office space on all floors.

The proposed development is for the conversion of three storey property, the top storey finished floor level measures at 7.7m above the external ground level.

The Fire Principles for the developments are designed to meet or exceed all requirements for a building with a top storey floor level up to 11m and a 'Stay put' evacuation protocol is proposed to be operated, subject to final confirmation by Fire Officer Assessment at Building Regulations Approval stage of the works.

### Superstructure

Existing steel frame construction will be painted with intumescent paint or fully encased in two layers of 15mm Fireline Plasterboard to achieve a minimum 60 minute Fire Protection based on a maximum steel Section factor (m-1) of 260.

### External Walls

There is no new external walls proposed existing walls comprise of cavity masonry.

### External Fenestration

Most External windows will remain but with some additional openings made where required. Balcony doors will also be created to give most flats their own private amenity space.

The existing balconies will be revamped to glass balustrades and non-combustible decking system

### Party Floors

Existing concrete floors to be retained

Collecta Screedboard 30 Acoustic flooring treatment at floor levels is to be applied on top of the concrete structure.

### Party Ceilings

The ceiling layer will provide a Primary Fire compartment ceiling immediately below the structure (two layers of 15mm Fireline plasterboard on resilient bars with staggered joints fully sealed with acoustic intumescent sealant. This Primary ceiling is designed not to be penetrated. Where the void depth exceeds 800mm LD1 void detection alarms are to be provided in accordance with BS5839-1 to ensure that residents are alerted in the unlikely event of fire entering the void.

### Party walls

Party walls are to provide 60 minutes of fire compartmentation. They are to be cavity construction of approximately 275mm o/all, typically 2No 70mm metal studs spaced 70mm apart with 9mm sheathing board to cavity faces of both studs giving min 50mm clear cavity. Each stud is to contain 60mm thick glass mineral wool minimum density of 40kg/m<sup>3</sup>. Overall construction faced with 2No layers of 15mm Soundbloc plasterboard with staggered joints and 2.5mm plaster skim. Plasterboard is to be taped and caulked at all perimeters and penetrations.

The party walls are to run from the structural deck to the structural soffit with no breaks or penetrations to the plasterboard. Cavity barriers are again to be placed vertically at the junction of all party walls.

### Internal-rated Stud partitions

Stud partitions are to provide a minimum 30 minutes of fire compartmentation comprising of 70mm metal C studs at max 600 centres with top and bottom channels and intermediate rails. Stud to contain 75mm thick mineral wool insulation quilt sound insulation (min 10-45kg/m<sup>3</sup>) fully filled between studs). 12.5mm plasterboard fixed to both faces & skimmed with 2.5mm plaster.

### Internal doors

Doors within communal corridors shall be fitted with 30-minute fire-rated doors with associated accredited frames, self-closers, and intumescent smoke seals with Approved Document Part M compliant clear glazed 30-minute fire-rated vision panels.

Principle flat entrances shall be fitted with 30-minute fire-rated doors and associated accredited frames with self-closer and intumescent smoke seals.

Doors to habitable rooms shall be fitted with a 30-minute fire-rated door with an accredited fire door lining set. Doors to cupboards shall be fitted with a 20min rated fire door.

### Fire compartmentation/ internal linings

60 minutes of fire compartmentation will be provided between each flat and communal corridor or other communal spaces. Additionally, 60 minutes of fire compartmentation is to be provided around smoke shafts and lift shaft areas. A 30-minute protected lobby will also be provided within the principal entrance to all flats.

Additionally, all internal linings shall limit the surface spread of flame when tested under the European classifications in accordance with BS EN 13501: Part 1.

### Travel Distances

Travel distances have been kept below 9 meters within each flat. Communal corridors' travel distances fall well within the 7.5m max travel for identified in Part B Table 3.1. for escape in one direction in the common areas of blocks of flats.

### Fire detection Systems

An LD1 category fire detection system to BS 5839-6 is to be installed throughout the new residential areas.

Audible warning will be provided to the development using sounders in accordance with BS 5839-6 for the residential areas and BS 5839-1 for non-residential areas. Within communal corridors, smoke detectors with AOV activation sensor systems shall be fitted.

All hallways within flats shall be fitted with a smoke detector with a sounder base and battery backup. Within kitchens zones, fire alarm heat detectors shall be fitted with sounder bases and battery backup. Alarms within individual flats will not be automatically interlinked with all other residential unit alarms to maintain the 'Stay put' evacuation strategy.

### Sprinkler systems

There is no requirement for sprinklers in this conversion

### Smoke ventilation

Smoke shall be ventilated from stair cores via a 1m<sup>2</sup> Free area AOV (automatic opening vent) placed at the head of staircases which would be triggered in the event of a fire by a smoke detector with AOV activation sensor.

All common area travel distances are under the distances requiring ventilation. There for no smoke vents required

To the top storey one communal corridor shall be fitted with mechanical AOV Rooflights as noted on drawings to vent the communal corridor (minimum 1.5m<sup>2</sup> Free Area per corridor) whilst also providing natural light.

### Dry risers

3No dry risers are to be installed in accordance with Bs 9990 to serve the top floor. Each dry riser is to have an inlet on the ground floor positioned within 18m of fire appliance access. The inlets, outlets, and their housings are to comply with the BS5041 standard and the BS 336 standard regarding fire hose couplings and ancillary equipment.

Dry riser outlets are to be provided within protected stairwells at the third and fourth-floor levels and are to be set to ensure that all parts of all residential units fall within 45m of fire hose access.

Final dry riser provision to be designed and installed by a specialist to all current legislation.

### Fire Safety Box and wayfinding

Fire safety information box to be added externally to the principal entrance. Wayfinding to be included within common areas to identify floors and flats to assist the fire service.

The box will meet all of the following conditions:

- a. Sized to accommodate all necessary information.
- b. Easily located and identified by firefighters.
- c. Secured to resist unauthorised access but readily accessible by firefighters.
- d. Protected from the weather.

Wayfinding signage for the fire service to assist the fire service in identifying each floor. Floor identification signs and flat indicator signs will be provided.

The floor identification signs will meet all of the following conditions.

- a. The signs will be located on every landing of a protected stairway and every protected corridor/lobby (or open access balcony) into which a firefighting lift opens.
- b. The text will be in a sans serif typeface with a letter height of at least 50mm. The height of the numeral that designates the floor number should be at least 75mm.
- c. The signs will be visible from the top step of a firefighting stair and, where possible, from inside a firefighting lift when the lift car doors open.
- d. The signs will be mounted between 1.7m and 2m above floor level and, as far as practicable, all the signs should be mounted at the same height.
- e. The text will be on a contrasting background, easily legible and readable in low-level lighting conditions or when illuminated with a torch.

The wording used on each floor identification sign will take the form Floor X, with X designating the number of the storey, as intended for reference by residents. The floor number designations will meet all of the following conditions.

- a. The floor closest to the mean ground level will be designated as either Floor 0 or Ground Floor.
- b. Each floor above the ground floor will be numbered sequentially beginning with Floor 1.

All floor identification signs will be supplemented by flat indicator signs, which provide information relating to the flats accessed on each storey. The flat indicator signs will meet all of the following conditions.

- a. The signs should be sited immediately below the floor identification signs, such that the top edge of the sign is no more than 50mm below the bottom edge of the floor identification sign.
- b. The wording should take the form Flats X–Y, with the lowest flat number first.
- c. The text should be in a sans serif typeface with a letter height of at least half that of the floor indicator sign.
- d. The wording should be supplemented by arrows when flats are in more than one direction. e. The text and arrows should be on a contrasting background, easily legible, and readable in low-level lighting conditions or when illuminated with a torch.

### Emergency communications

Staircores are to be provided with emergency communications systems where deemed appropriate. Selection and installations of these will be in line with Fire Officer Assessments and their subsequent requirements conducted at Building Regulations Approval stage of the works to ensure that they meet all necessary criteria, and their function is suitably recorded.