

FIRE STRATEGY OVERVIEW

MLM Consulting Engineers Limited (MLM) has been appointed to produce the Fire Strategy for the mixed use development at 10-20 Dock Street, London, E1 8JP. The construction or modification of any building in England & Wales needs to comply with the statutory requirements of the Building Regulations. These regulations deal with the minimum standards of design and building work for the construction of domestic, commercial and industrial buildings. The Building Regulations contain a list of requirements, referred to as Schedules, which are designed to ensure the health and safety of people in and around buildings.

In the case of fire, the regulations are dealt with under the functional requirements B1 to B5 of Schedule 1 of the Building Regulations. There are a number of prescriptive documents, which can be adopted to show compliance with the Schedules. These mainly include Approved Document B, BS 9991 and other various British Standards. These guides are considered as adequate to provide general guidance for the more common buildings. An alternative approach is to adopt Fire Safety Engineering, which integrates fire engineering calculations, life safety systems, building inherent features and professional judgement, to produce a Fire Strategy that achieves appropriate levels of safety to a specific building and use.

The Fire Safety Strategy for the proposed development is based on compliance with BS 9991:2015 and BS 9999:2017 which demonstrate compliance with the Building Regulations. Furthermore, the developer and design team have decided to go over and above the minimum requirements of the Building Regulations and to provide an enhanced degree of safety

Fire Safety Strategy	Proposed requirement in the considered building	What it means to you
Evacuation strategy	'Stay put' strategy based on the apartment of fire origin only evacuating in the residential accommodation.	In case of fire, only the apartment of fire origin will evacuate. Occupants in the rest of the will 'Stay put' unless directed otherwise by the Fire Service. The fire compartmentation and sprinkler system provided within the building will provide appropriate safety to remaining occupants.
Means of Warning	Fire alarm and detection systems within the residential areas in line with the requirements of the Building Regulations.	The fire alarm and detection systems will ensure early detection and warning in case of fire. The alarm system will also ensure sleeping occupants are alerted in case of fire.
Smoke ventilation within common corridors and stairs	The residential corridors will be fire separated from the residential units. These will be ventilated by 1.5m ² natural smoke shafts, the air inlet will be sourced from the 1m ² AOV at the head of each stair.	The fire safety systems provided within the residential corridors will ensure that once evacuating occupants are in the residential corridors they are in a space of relative safety, in an environment with limited smoke and acceptable temperatures.
Emergency Lighting Systems	Emergency Lighting Systems to be provided to: <ul style="list-style-type: none"> • All common escape routes • Areas directly outside the final exits • Toilets with a floor area over 8m² • Switch gear/battery room for the emergency lighting system • Electricity/generator rooms. 	Emergency lighting and signage will ensure that occupants can identify the egress route in case of failure of the main lighting system within the building.

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Emergency Escape Signage	<p>Illuminated escape signage will be provided above all exit routes, storey and final exit doors within each of the building cores. Please note that no emergency signage is required within the apartments or to the apartment entrance doors.</p> <p>The communal area signage will be in accordance with BS ISO 3864-1:2011 and Health and Safety (Safety Signals and Signs) Regulation 1996.</p> <p>Any doors in the lines of fire resistance will be provided with appropriate fire signage; excluding doors associated with the apartments. In general doors to staircases will be provided with 'Fire door keep shut' signage. Doors to cleaner's cupboards, stores, plant rooms and service risers will be provided with 'Fire door keep locked' signage.</p>	
Automatic Water Fire Suppression System	<p>As proposed by the developer and design team, all residential units in Block A are also to be fitted with an Automatic Water Fire Suppression System (AWFSS) in accordance with BS 9251:2014 or BS EN 12845. The Automatic Water Fire Suppression System (AWFSS) to Block A's residential units is provided over and above Building Regulations' requirements. This is recognized best practice and significantly enhance the fire safety within the building.</p> <p>Block B and C have an effective height greater than 30.0m (approximately 37.0m) and therefore will have to be provided with a dry riser located in stair core B, Automatic Water Fire Suppression System (AWFSS) as well as a firefighting stair and firefighting lift.</p>	<p>Sprinkler systems are very effective in maintaining life safety in case of fire. Sprinkler systems have been demonstrated to control fires from the early stages, as well as preventing fire spread and maintaining conditions allowing occupants evacuation.</p>
External wall construction	<p>External walls will afford a Class 0 (national class) or Class C-S3, D2 or better (European Class) surface spread of flame rating to the external surfaces. Profiled or flat steel sheet at least 0.5 mm thick with an organic coating of no more than 0.2 mm thickness is also acceptable.</p> <p>BS 9991 further specifies that, in a building with a storey 18m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar)</p>	<p>The external walls will of limited combustibility and therefore achieve compliance with the Building Regulations.</p>

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	<p>etc. used in the external wall construction should be of limited combustibility.</p> <p>As proposed by the developer and design team, external claddings to all blocks are to be of limited combustibility and insulation within external walls are to be non-combustible. The provision of non-combustible insulation within external walls is over and above Building Regulations' requirements. This is recognized best practice and significantly enhance the fire safety within the building.</p>	
Fire Compartmentation	Fire compartmentation will be provided as required by the Building Regulations. Fire compartmentation will be provided at floor levels, between apartments as well as between apartments and common corridors.	Fire compartmentation within the building will ensure that any fire is contained to a certain area of the building and that appropriate conditions are maintained on the egress routes.



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