FIRNTEC
BUILDING COMPLIANCE

Unit 4a, Darklake View
Estover
Plymouth
PL6 7TL

Document Version 4
Survey Date 26/08/2024
Suggested Review Date 26/08/2025

PAS 9980 STEP 2-5 (FRAEW)

THOMPSON GARDENS

Thompson Gardens
Hales Lane
Smethwick
B67 6RX

This report must be retained on the premises for inspection by statutory authorities.
Management is responsible for actions required in this report and should brief all staff on the report's findings.

Enforcement Officers are requested to note that this document is designed to informed the Lessee Tenant Manager of the existing Fire Safety Arrangements and any Significant Findings. Issues relating to the control and management of fire safety management for fire safety measures can be found in in-house documents such as:

Fire Policy and Testing and Maintenance records

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Summary

PAS 9980 Step 2-5 (FRAEW)

Assessment and Certificate Reference
RB-FBNYF1

Assessed On, By
26/08/2024, Douglas Murray (Building Safety Consultant)
(BSc Building Surveying, ABBE DipFRA, AIFireE, AssocRICS, MFPA)

Produced For the Responsible Person
Sandwell Metropolitan Borough Council

Specification Conforms To
Our own internal quality system.

Assessment Scope
Assessment applies only to the building specified.

Recommended Review Date
26/08/2025

Assessed Property

Property Name
Thompson Gardens

Property Reference
RB-QNETKV

Address
Thompson Gardens
Hales Lane
Smethwick
B67 6RX

Assessing Organisation
Firntec Ltd
4a Darklake View, Estover, Plymouth, Devon, PL6 7TL
0345 646 1566 — www.firntec.com

Assessor Remarks

Thompson Gardens is a single 15 storey tower block within The Uplands area of Smethwick. The block was completed circa 1959 by the builders Whittall and it is considered to be approximately 40 metres tall.

The block comprises of 89 individual dwellings and each flat has its own enclosed bay window which was formed from PPC aluminium curtain walling that enclosed the original open balcony. There is external parking and a large fenced garden area. There are two lifts within a central core which serve alternate floor levels and two escape stairs which have been designed in scissor style.

The structure is of reinforced concrete frame with reinforced concrete staircores, lift core, floor slabs and foundations. The external walls are formed from a hand laid brick outer leaf and an internal leaf of concrete blockwork.

Improvement works as part of the "Decent Homes" initiative were carried out in 2006 planning reference DC/06/46139; these works relate to external cladding, forming a pitched roof and other works, replacement aluminium PPC windows, front entrance lobby extension and environmental works such as U value improvements and insulation of the external walls. BM3 Architecture Ltd produced a number of drawings which show engineering brickwork at ground floor, a mixture of terracotta tiling/render cladding systems to all other floor levels externally, PPC windows and PPC main entrance framework and glazing.

The building has retained many of the original features and as such is good example of a sympathetically modernised 65 years old building.

This report has been prepared for Sandwell Metropolitan Borough Council by Firntec Ltd Building Compliance. This survey has included consideration of the following pieces of legislation and other guidance relevant at the time of reporting:
The RRO (FSO) 2005
The Fire Safety Act 2021
The Building Safey Act 2022

The author of this report is Douglas Murray who is a Building Surveyor with 25 years of fire related and construction experience in both new build and refurbishment projects on behalf of Firntec Ltd. Douglas is a member of the Royal Institute of Chartered Surveyors the Institute of Fire Engineers, the Fire Protection Association and a Certified ABBE Fire Risk Assessor. Douglas has specialised within Fire Safety and cladding investigations for eight years and has held senior technical posts through the last 10 years with London and nationally based Registered Social Landlords. Douglas has taken the lead for various clients preparing Building Safety Case reports, Quality checking and completing Type 1-4 Fire Risk Assessments, preparing Fire Strategy documents, producing (PAS9980: 2022) Fire Risk Assessments of External Walls (FRAEW) and leading on Intrusive investigative surveys. Part of the work Douglas carries out, supports and evidences claims brought forward under the Defective Premises Act in the context of expert witness work.

Abbreviation/ Term Definition

- **ACM** Aluminium Composite Material
- **ADB** Approved Document B
- **AOV** Automatic Opening Vent
- **BSA** Building Safety Act 2022
- **Cavity Barrier** Product used to close or separate a concealed space to restrict fire and smoke
- **Close State Cavity Barrier** Cavity Barrier designed to be fitted under compression/friction between inner and outer surfaces of a cavity to seal it
- **Open State Cavity Barrier** Cavity Barrier that is open to allow ventilation/drainage of cavity in open state but closes when a developing fire occurs (e.g., intumescent strip)
- **Combustible** Not classified as A1 OR A2 in accordance with BS EN 13501-1: 2018, and not meeting definitions of non-combustible or limited combustibility
- **Compartmentation** Subdivision of building by fire resisting walls and/or floors for limiting fire spread
- **EPS** Expanded Polystyrene
- **EWS1** External Wall System Fire Valuation Form
- **FB** Fire Barrier - Separating element with fire integrity for a specific time
- **Fire Stop** Barrier seal to close an imperfect fit in design between elements of components to stop the spread of fire
- **FRAEW** Fire Risk Appraisal of External Walls
- **FRA** Fire Risk Assessment
- **FRS** Fire and Rescue Services
- **FSA** Fire Safety Act 2021
- **HPL** High Pressure Laminate
- **HRR** Heat Release Rate
- **MDF** Medium Density Fibre Board (a type of manufactured timber)
- **PIR** Polyisocyanurate Rigid Foam
- **PUR** Polyurethane Foam
- **RP** Responsible Person
- **RRFSO** Regulatory Reform (Fire Safety) Order 2005
- **SFS** Steel Framing System
- **SIB** Secure Information Box

Statement of Competency

Statement of Competency to Carry out a Fire Risk Appraisal of External Wall Construction

Within PAS 9980:2022 it requires that a person conducting the FRAEW are competent to do so in accordance with Annex H and to demonstrate the expected skill sets of competent external wall assessors.

This is our Statement of Competence to carry out a Fire Risk Appraisal of External Wall construction.

We confirm that they have:

a) Read and understood the commentary and provisions relating to the competence of external wall assessors set out in Section 8 and Annex H of PAS 9980:2022;

b) Adequate and relevant competence to undertake the FRAEW;

c) Sufficient knowledge, skills and experience in relation to fire safety of external walls to be able to complete an assessment at the level required;

d) The relevant skill, knowledge, and experience to manage and interpret the results of intrusive inspections; and

e) The competence to appraise and assess the nature of external wall construction in terms of fire performance and provide an opinion on the risk.

f) No conflicts of interest of any kind, other than any which are disclosed in the report.

g) The conclusions of the report are the author's independent assessment of the risks and remedial actions and have not been influenced in any way by the opinions or actions of others except where stated.

Terms of Reference

Particulars

This FRAEW report follows the guidance in accordance and reference to PAS9980:2022 Fire Risk Appraisal of External Walls construction and cladding of existing blocks of flats – Code of Practice.

Limitations

The FRAEW addresses life safety only in relation to the appraisal of the external walls of the building; and in considering risk, this is only in relation to the threat to the occupants in the building and not in terms of property damage or other potential objectives, such as safety of firefighters.

The FRAEW is not aimed at confirming compliance with building regulations, either at the time of construction, or currently.

The FRAEW cannot provide certainty and being risk-based report, it is, therefore, to a degree, reliant on professional judgement in its assessment and in the conclusions drawn within the report.

The FRAEW report is to be reviewed:

a) if significant changes/repairs have been made to the external wall; and/or

b) in the event of a fire incident, if the fire involved the external wall construction; and/or

c) if there are any circumstances, depending upon the nature of the construction, the extent of available knowledge in relation to the particular materials, components and systems used on the building or the degree of uncertainty over the findings, which suggest review is appropriate. In these cases, the report will include a clear explanation as to why periodic review is necessary and include a suggested review date."

If more definitive information becomes available subsequent to the FRAEW on how particular external wall materials, components and systems behave in fire, or there are changes in the fire performance data relied upon in an FRAEW, such information will be expected to take precedence.

Assumptions

It is understood that the absence of evidence, is not evidence of the absence; therefore, within the FRAEW report suitable caveats or assumptions may be applied in arriving at a risk rating, for example, in relation to:

a) the extent of sampling carried out.

b) the accuracy of information upon which it has been necessary to rely, especially where it has not been possible to verify the information though site survey and inspection.

c) the extent of the content and detail within the report; and

d) the limitations at the time of the FRAEW of available knowledge on the fire performance of the materials, products and systems forming the external walls of the building.

Any caveats or assumptions made within the report are based on the most onerous and worst-case scenarios.

Statement of Intent

The investigation and writing of this FRAEW report has been commissioned at the clients request in line with PAS9980: 2022, which covers residential buildings of all heights with 2 or more dwellings, including hotels, with the aim to make sure that residents of multi-occupancy buildings are safe.

The Fire Safety Act 2021 also puts a legal responsibility on the responsible person where a building contains two or more sets of domestic premises to identify the building's structure and external walls and any common parts including doors or windows in those walls, and anything attached to the exterior of those walls (including balconies).

Executive Summary

External Wall Systems and Attachments on the Building

14 areas were inspected to gain data about the building's wall constructions. See the Inspections section of this report for full inspection details.

The table below outlines the ratings of the various wall systems and constructions to the property. Each element is explained in more detail further within this report.

10 Items	Effect	Risk
Wall Construction Wall type 1 - render over mineral wool (Q4II1I)	Positive	Low
Wall Construction Wall type 2 - terracotta tiling suspended by aluminium carrier rail over mineral wool (T5WJMS)	Positive	Low
Wall Construction Wall type 3 - curtain wall with PUR insulation withiin aluminium framework (EC25WI)	Negative	Medium
Wall Construction Wall type 4 - brickwork with full fill cavity of mineral wool (VDG5LS)	Positive	Low
Attachment Cantilever Balcony (AKGYEF)	Positive	Low
Penetration Aluminium (VG5UL1)		
External Window Top, Mid, Side Hung Casements (REV6Y9)	Positive	Low
External Window Top, Mid, Side Hung Casements (ZHLHWW)		
External Window Top, Mid, Side Hung Casements (E2K15H)		
External Door Single Leaf Entrance Doors (UKVXIQ)	Positive	Low

In accordance with the PAS 9980 Guidance, any items of construction which are considered as “Medium Risk” should be subject to periodic review, to ensure that conditions do not change, such that the risk may be upgraded to high, prompting the requirement for remediation.

Risk Factor Analysis

The risk factor analysis is a three-stage process; rating the wall construction fire performance **(1)**, façade configuration **(2)**, and fire strategy/fire hazards **(3)** on a sliding risk scale. The risk scale is expressed as "high", "medium" and "low" in a continuum, left to right, from "high" risk to "low" risk. At the furthest left end of the "high" risk band, the risk is deemed to be the highest, reducing as the risk is positioned to the right of this.

Starting with high as a base line, **Stage 1** rates the fire performance risk factors of the wall construction.

Once fire performance factors have been taken into account, **Stage 2** overlays the risk factors of the façade configuration to determine the effect this has on where the risk now lies on the scale.

The final **Stage 3** overlays the risk factors arising from consideration of the fire strategy and fire hazards (including limitations of fire and rescue service intervention).

Risk Factor Analysis 1

This analysis looks at façade configuration **39CKA6** which includes wall construction **Q4II1I**.

1) Impact of Risk from Fire Performance: Wall type 1 is non combustible and therefore would not support surface flame spread

2) Impact of Risk from Façade Configuration: Wall type 1 is non combustible and therefore would not support surface flame spread

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 1 is non combustible and therefore would not support surface flame spread

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.

Risk Factor Analysis 2

This analysis looks at façade configuration **XU8GB1** which includes wall construction **T5WJMS**.

1) Impact of Risk from Fire Performance: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

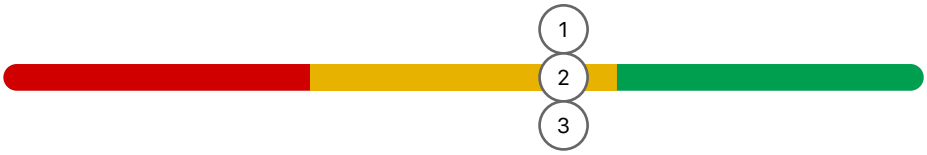
2) Impact of Risk from Façade Configuration: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before

occupants can safely use them to escape.



Medium

Risk Factor Analysis 3

This analysis looks at façade configuration **ETSP3W** which includes wall construction **EC25WI**.

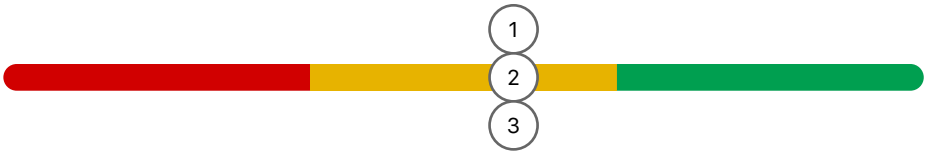
1) Impact of Risk from Fire Performance: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

2) Impact of Risk from Façade Configuration: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.



Medium

Risk Factor Analysis 4

This analysis looks at façade configuration **22BK1E** which includes wall construction **VDG5LS**.

1) Impact of Risk from Fire Performance: Wall type 4 is non combustible and therefore would not support surface flame spread

2) Impact of Risk from Façade Configuration: Wall type 4 is non combustible and therefore would not support surface flame spread

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 4 is non combustible and therefore would not support surface flame spread

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.

Low

Overall Building Risk Rating

Low

Our professional opinion is that overall this Building represents a Positive PAS9980:2022 Outcome.

Recommended Remediations

No recommended remediations identified.

Recommended Interim Measures

No recommended interim measures identified.

Fire Strategy

Fire Strategy & Hazard Risk Factors

F.1 Occupancy

General needs housing

Neutral

F.2 Evacuation

The current evacuation strategy is stay put as denoted by the fire action notices displayed in the common areas.

Photo Ref. 1, 2

Positive

F.3 Escape Route Design

Scissor staircase, with lobby approach

Photo Ref. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Positive

F.4 Compartmentation

Adequate compartmentation in line with the expectations for a block of flats

Neutral

F.5 Smoke Control

Arrangements in which openable windows, AOVs or inlets and outlets of mechanical systems are of a satisfactory proximity aways from combustible cladding; or that fire and smoke spread from the external envelope would be unlikely to compromise the effectiveness of the smoke control system or allow a route for fire spread back into the building

Photo Ref. 14, 15

Positive

F.6 Fire Alarm & Detection

Fire detection in flats is installed to a minimum LD3 standard, with the majority of flats at LD2 standard.
LD3 – Smoke detection in hallway only.
LD2 – Smoke detection in hall and living room, with a heat detector in the kitchen.
Smoke alarms are hardwired or battery-operated and subject to cyclical testing.No fire alarm system is installed in common areas.
Automatic Opening Vent (AOV) smoke detection is present:
Smoke detectors in lobbies, stairwell landings, and chute room doors on floors B (1st) to M (11th).

Photo Ref. 16, 17, 18

Positive

F.7 Fire Suppression

Sprinkler/deluge system is installed in the bin store.
The control panel for the deluge system is in the WC off the ground floor lift lobby.
The system is serviced twice per year (April and October).

Positive

F.8 - Firefighting Facilities

Adequate access for firefighting vehicles
NOTE This is where access is possible in line with benchmark guidance on access for firefighting vehicles, taking into account the size of the building (floor area), height of the building and whether fire mains are present in the building.

Photo Ref. 19, 20, 21, 22, 23

Positive

F.9 Rising Mains

The fire hydrant is located to the right-hand side of the main entrance.

Photo Ref. 24

Positive

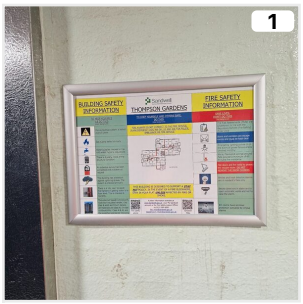
F.10 Lifts Used By Firefighters

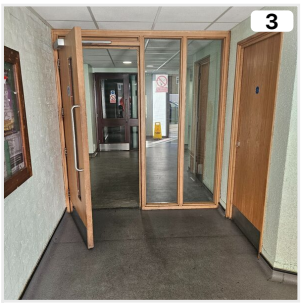
There are two lifts which are provided with F&RS access controls externally

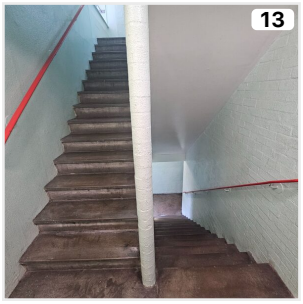
Photo Ref. 25, 26, 27

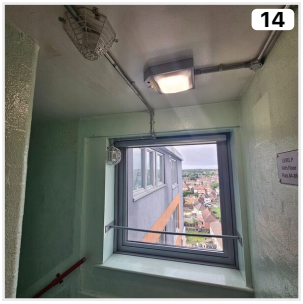
Positive

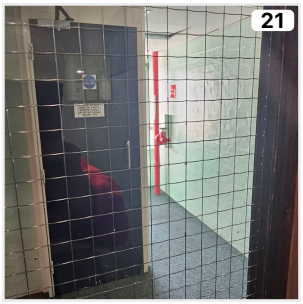
Photos










21


22


23


24


25


26
FIRE NOTICE
Do not use lifts
Use stairs


27

Fire Service Intervention

Event	Seconds	Minutes & Seconds
Initiation to fire detection	5 Seconds	5 Seconds
Actuation Of Fire Detector To Transmission Of Alarm	5 Seconds	5 Seconds
Processing By Central Monitoring Station	30 Seconds	30 Seconds
Receipt of call by fire service mobilising control	30 Seconds	30 Seconds
Transmission To Fire Station And Response	60 Seconds	1 Minute
Travelling Time Of Fire Service	240 Seconds	4 Minutes
Arrival Protocol And Entry Preparation Time	240 Seconds	4 Minutes
Firefighting Travel In Firefighting Lift	120 Seconds	2 Minutes
Firefighter travel to operational bridgehead	240 Seconds	4 Minutes
Firefighter Travel Walking Up Two Flights Of Stairs To Fire Floor (75 Seconds)	75 Seconds	1 Minute 15 Seconds
Total Time	**1,045 Seconds**	**17 Minutes 25 Seconds**

Nearest Fire Station

Is Smethwick Fire Station which is 0.6 miles away of 2 minutes in peak hours traffic

Wall Constructions

Wall Construction	Build-up
Wall type 1 - render over mineral wool (Q4II1I)	• Surface Finish (Cement based render) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
Wall type 2 - terracotta tiling suspended by aluminium carrier rail over mineral wool (T5WJMS)	• Surface Finish (Terracotta tile) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
Wall type 3 - curtain wall with PUR insulation withiin aluminium framework (EC25WI)	• Surface Finish (Polyester powder coated aluminium panels) • Cavity • Insulation (Phenolic Foam Insulation) • Inner Leaf (Plasterboard)
Wall type 4 - brickwork with full fill cavity of mineral wool (VDG5LS)	• Surface Finish (Brickwork) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)

Wall Construction: Wall type 1 - render over mineral wool

Construction Reference
Q4II1I

This wall construction was identified by wall inspections LECZWE, H7E92A, 3W62LU, and IG1DML. The build-up, cavity barrier, and floor slab information is taken directly from inspection LECZWE. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall type 1 - render over mineral wool (Q4II1I)	Positive	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	6mm	Cement based render	A1 - Non-Combustible
Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.			
Insulation	100mm	Mineral Wool Insulation	A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork	A1 - Non-Combustible

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) of ≤3 MJ/kg — Positive

K.2 External Surfaces

Class A1/A2 — Positive

K.3 Facings/Cladding Panels

Mechanically fixed — Neutral

K.4 Panel Construction

Not Applicable

K.5 Cavities

No cavity present

K.6 Insulation

Mineral/glass insulation — Positive

K.7 Substrate

Masonry, >75 mm thick — Positive

K.8 Sheathing Boards

Not Applicable

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Not Applicable

K.11 Infill / Spandrel Panels

Not Applicable

PAS Standard Benchmark

L1 Benchmark

The Construction benchmark is outlined in section L1 of the PAS 9980 Guidance Document -

Masonry (brickwork, blockwork, reinforced concrete)

Loadbearing masonry, provided it is in good condition, can generally be regarded as providing a substrate which is both non-combustible and fire-resisting to a standard of at least 30 min (60 min if 100 mm thick or more). Non-loadbearing masonry might, or might not, have the same properties.

L3 Benchmark

Insulation materials previously classified as non-combustible/ limited combustibility (now Class A1 or Class A2)
- Stone wool
- Ceramic fibre
- Glass fibre
- Foamed glass
- Exfoliated vermiculite

Class A1 or Class A2 (non-combustible and limited combustibility) insulators pose negligible risk in external wall construction. Where such insulators fully fill wall construction then this might indicate that they are being relied upon as contributing to a period of fire resistance. However, if fire resistance is required or being relied upon as part of the assessment, it is important that these insulators fully fill the space they are in or are sufficiently rigid or otherwise mechanically retained/supported to provide a continuous barrier through the space (e.g. batts will retain their shape
whereas quilt can slump in a cavity).

L6 Benchmark

FIXING METHODS -

Mechanical fixings are invariably the most reliable means of fixing together the various components of external wall construction.

Metals, depending upon their softening/melting temperature, might remain in situ or might soften, melt, or even rapidly oxidize, exposing the underlying construction to fire.

Adhesives can be simply relied upon where it is clear that they are cementitious in nature and provide a good bond onto their substrate. Where an adhesive is not clearly cementitious, it might need to be identified so that its fire performance can be ascertained, particularly where failure of the adhesive could have direct implications for fire performance (e.g. supporting insulation, rainscreen or cavity/fire barriers).

L7 Benchmark

MASONRY (OUTER SINGLE SKIN ONLY)

When assessing a building which appears to have masonry or concrete external wall construction, the following issues need to be taken into account.
a) Is the masonry/concrete loadbearing or simply providing a façade?
b) Is the masonry/concrete traditional (i.e. full bricks laid in courses using sand/cement mortar or concrete exceeding 75 mm thick); or
1) brick slip (tiles) fixed to a substrate; or
2) factory produced (typically panellized) brickwork?
If either item 1) or item 2) above, then treat as other form of cladding depending upon underlying construction (most likely rainscreen).
c) What is the underlying construction? For example:
1) second leaf of masonry/concrete forming a cavity;
2) timber frame;
3) steel structure and frame;
4) concrete structure and SFS;
5) concrete structure and concrete panels; or
6) insulated build-up (this is typically used where historic façades are retained over more modern construction, and can come in a variety of forms).

BR135 Benchmark

We have compared this external wall type to the cladding systems found on the BR135 database and we did find a cladding system with the configuration and components that would constitute an exact match to what our inspections found installed on the Property.

Wall Construction: Wall type 2 - terracotta tiling suspended by aluminium carrier rail over mineral wool

Construction Reference
T5WJMS

This wall construction was identified by wall inspections AW87N5, BEKV6L, NYUV4X, and 57ALYG. The build-up, cavity barrier, and floor slab information is taken directly from inspection AW87N5. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall type 2 - terracotta tiling suspended by aluminium carrier rail over mineral wool (T5WJMS)	Positive	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	12mm	Terracotta tile	A1 - Non-Combustible
Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.			
Insulation	100mm	Mineral Wool Insulation	A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork	A1 - Non-Combustible
Original brickwork			

Cavity Barriers

None

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) of ≤3 MJ/kg	Positive

K.2 External Surfaces

Class A1/A2	Positive

K.3 Facings/Cladding Panels

Mechanically fixed	Neutral

K.4 Panel Construction

Limited size of gaps between panels (Typically <10 mm)	Neutral

K.5 Cavities

Facings into the cavity at least Class A2	Neutral

K.6 Insulation

Mineral/glass insulation	Neutral

K.7 Substrate

Masonry, >75 mm thick

Positive

K.8 Sheathing Boards

Not Applicable

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Not Applicable

K.11 Infill / Spandrel Panels

Not Applicable

PAS Standard Benchmark

L3 Benchmark

Insulation materials previously classified as non-combustible/ limited combustibility (now Class A1 or Class A2)
- Stone wool
- Ceramic fibre
- Glass fibre
- Foamed glass
- Exfoliated vermiculite

Class A1 or Class A2 (non-combustible and limited combustibility) insulators pose negligible risk in external wall construction. Where such insulators fully fill wall construction then this might indicate that they are being relied upon as contributing to a period of fire resistance. However, if fire resistance is required or being relied upon as part of the assessment, it is important that these insulators fully fill the space they are in or are sufficiently rigid or otherwise mechanically retained/supported to provide a continuous barrier through the space (e.g. batts will retain their shape
whereas quilt can slump in a cavity).

L4 Benchmark

Ventilated versus unventilated cavities -

Cavities form a necessary part of many modern forms of wall construction, generally as they contribute to energy performance and to keeping moisture out of buildings.

Cavities can be entirely unventilated, drained but otherwise unventilated, slightly ventilated, or well ventilated. Cavities are often described by non-fire professionals by their position in relation to a building's insulation. "Warm" cavities are generally inboard of insulation whereas "cold" cavities are generally outboard of insulation. Cold cavities are more likely to be ventilated to some extent so as to mitigate against condensation, whereas warm cavities are more likely to be unventilated; however, the level of ventilation cannot be assumed.

The extent to which a cavity is ventilated, in combination with the fuel load presented by any materials in or facing into the cavity, dictates the extent to which a fire can become well developed in a cavity and contribute to fire spread. Cavity fires are generally most severe when the cavity involved is ventilated at its top and its base, as this provides an opportunity for air entrainment at low level, smoke escape at high level, and efficient combustion within the cavity.

L6 Benchmark

FIXING METHODS -

Mechanical fixings are invariably the most reliable means of fixing together the various components of external wall construction.

Metals, depending upon their softening/melting temperature, might remain in situ or might soften, melt, or even rapidly oxidize, exposing the underlying construction to fire.

Adhesives can be simply relied upon where it is clear that they are cementitious in nature and provide a good bond onto their substrate. Where an adhesive is not clearly cementitious, it might need to be identified so that its fire performance can be ascertained, particularly where failure of the adhesive could have direct implications for fire performance (e.g. supporting insulation, rainscreen or cavity/fire barriers).

L8 Benchmark

Rainscreen systems come in various forms, generally defined by the cold cavity arrangement they incorporate (see Table L.4):
• ventilated and drained; or
• pressure equalized.

Rainscreen systems are invariably supported on some form of framing or bracketing system. In the majority of cases, framing and bracketry transmit the load of the rainscreen to the back wall, and in turn to the building structure at each floor level.

However, consideration needs to be given to the possibility that the rainscreen load is transmitted down to the base of the system and only provides lateral restraint at floor levels. In this instance, the extent to which the frame might be exposed to fire needs to be taken into account, particularly if a material is used which offers no fire
resistance, such as aluminium.

Framing and bracketry are likely to interact with cavity barriers; where these cross over the cavity barriers then the detailing of the cavity barrier needs to be appropriate (including additional fire stopping as necessary) to achieve fire separation of cavities.

Table L.3 gives information on the various insulation materials that might be incorporated into a rainscreen system. It is unlikely that thermoplastic insulation will be acceptable in a rainscreen system, particularly if it is exposed in a cavity.

L9 Benchmark

NON-COMBUSTIBLE and LIMITED COMBUSTIBILITY MATERIALS -

These materials can be subdivided into two categories; those which retain their shape when exposed to fire and those which do not.
• Natural stone, terracotta and non-combustible boards all generally remain in situ for a significant period of time when exposed to a fire plume emitting from a building (though they might eventually shatter), thus affording some protection to the underlying construction.
• Metals, depending upon their softening/melting temperature, might remain in situ or might soften, melt, or even rapidly oxidize, exposing the underlying construction to fire.

BR135 Benchmark

We have compared this external wall type to the cladding systems found on the BR135 database and we did find a cladding system with the configuration and components that would constitute an exact match to what our inspections found installed on the Property.

Wall Construction: Wall type 3 - curtain wall with PUR insulation withiin aluminium framework

Construction Reference
EC25WI

This wall construction was identified by wall inspections W122J5, D43899, and GKLEUE. The build-up, cavity barrier, and floor slab information is taken directly from inspection W122J5. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall type 3 - curtain wall with PUR insulation withiin aluminium framework (EC25WI)	Negative	Medium

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	2mm	Polyester powder coated aluminium panels	A1 - Non-Combustible
Aluminium PPC curtain walling with breathable membrane over internal studwork.			
Cavity	30mm		
Insulation	50mm	Phenolic Foam Insulation	B - Combustible
rigid insulation has been installed between studs of the support structure used for the external cladding panels			
Inner Leaf (Plasterboard)	15mm		A1 - Non-Combustible
Plasterboard internal lining			

Cavity Barriers

None

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) >3 MJ/kg and ≤35 MJ/kg	Neutral

K.2 External Surfaces

Class A1/A2	Neutral

K.3 Facings/Cladding Panels

Mechanically fixed	Positive

K.4 Panel Construction

No gaps between panels	Positive

K.5 Cavities

Facings into the cavity combustible, but at least Class B	Neutral

K.6 Insulation

Thermoset polymeric foams that form a stable char on fire exposure, e.g. phenolic foams	Negative

K.7 Substrate

SFS with sheathing of Class B or better and combustible insulation

Neutral

K.8 Sheathing Boards

Not Applicable

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Not Applicable

K.11 Infill / Spandrel Panels

Not Applicable

PAS Standard Benchmark

L1 Benchmark

The Construction benchmark is outlined in section L1 of the PAS 9980 Guidance Document -

Steel framing system (SFS)

Cold-drawn light gauge SFS steel studs are generally used to form non-loadbearing external walls that infill between floor slabs. Provided they are imperforate and continuous, SFS studs can serve as adequate cavity barriers to subdivide cavity wall construction. Where SFS studs are needed to perform as cavity barriers, it needs to be
confirmed by inspection whether they are imperforate, appropriately fitted, and at least 0.5 mm thick.

L3 Benchmark

Rigid (thermoset) foam insulations
• Polyurethane (PUR)
• Polyisocyanurate (PIR)
• Phenolic

Thermoset foam insulations are combustible, but can offer a wide range of fire performance, depending upon the specific product in question.
Both PUR and PIR can be formulated in a wide variety of ways, so where possible the assessor needs to identify the product in question. PUR and PIR foams are based upon
similar underlying chemistry, but PIR foam generally performs better than PUR due to it having greater thermal stability (more likely to char and less likely to break down into flammable substances).
Phenolic foams are generally similar to PIR foams in terms of their fire performance, though their underlying chemistry is different.
Where a rigid foam has been engineered for improved fire performance, a foil facing is commonly employed to improve performance further by protecting the foam from direct flame attack. Where a foil faced foam is used, it is typically necessary to use foil tape to seal any joints so that the underlying foam is not left exposed. The extent to which tape failure can be accepted needs to be considered in the context of the overall wall construction.
While cavity barriers need to be fixed to substrates offering the same period of fire resistance as the cavity barrier, rigid foams might, in practice, remain in place for long enough to afford a satisfactory delay to fire spread, provided the cavity barrier is not reliant upon the foam itself for support.

L5 Benchmark

SPANDREL / IN-FILL PANELS

The terms “spandrel panel” and “infill panel” are used interchangeably throughout the industry to refer to panels which are normally fitted in lieu of glazing in either window fenestration systems or curtain wall units. The edges of these panels usually expose the insulating core and are normally only protected by the frame into which they are installed. They are sometimes protected with aluminium foil tape but this cannot be assumed.
Spandrel and infill panels are typically some form of composite, such as:
• metal skins with an insulating core;
• metal skins with an insulating and timber (typically plywood) core;
• metal external face with insulating core and timber (typically plywood) internal face;
• HPL skins with an insulating core; and
• solid HPL.
Their performance needs to be assessed in light of the materials involved in their construction (as described in this annex) and the manner in which they interact with compartmentation.
• Panels which are installed in such a way as to cross compartment lines (e.g. to conceal the edges of floor slabs) need to be considered in light of the potential route they provide for fire to spread from one compartment to another.
• Panels which are installed entirely within the confines of a compartment (as it meets the external wall) are unlikely to have a significant impact on fire spread, unless their performance is such that they are likely to contribute to substantial flame extension.

L6 Benchmark

BREATHER / VAPOUR / EPDM / DPC -

Some membranes are available which achieve Class A2 (limited combustibility). Membranes used on existing buildings are more commonly comprised of combustible thermoplastic material. However, they do not tend to constitute a significant fuel source in their own right (as their mass per unit area is very small) but might be capable of propagating flame spread throughout when exposed within a cavity by igniting other combustible materials in close proximity. The risk of fire spread involving combustible membranes is typically mitigated by them being tightly fitted between other materials, either entirely sandwiched between other layers of wall construction, or tightly fitted between cavity barriers and their substrates. Where this has not been achieved, the potential for ignition of other materials needs to be taken into account.

L9 Benchmark

CASSETTE PANELS -

Cassettes are generally used for both their aesthetic performance (reducing angles at which it is possible to see into cavity) and weather performance (minimizing water ingress to cavity), particularly where the material being used is relatively thin (e.g. metal sheets and composites).

Where a composite is used to form cassettes, the surface of the composite is likely to be broken on the insides of folds, so as to facilitate the formation of a clean fold. This exposes the underlying components of the composite so that it can be directly attacked by fire. If the underlying materials are readily combustible or have a low melting point, it can also lead to delamination of any portions of the cassette which are separated from fixing points by these folds, exposing more of the underlying material.

Some cassettes can also be formed by fixing elements together, rather than simply folding a sheet into the desired shape. Where this occurs the manner of fixing needs to be assessed to determine whether it is likely to fail prematurely in the event of fire.

The returns on cassettes need to be checked to determine whether there is sufficient cavity barrier detailing (or fire stopping) to mitigate the risk of fire circumventing the cavity barrier. The channel between cassettes can be open, but any spaces in the cavity need to be addressed, whether by fully filling or with an appropriate intumescent
solution.

Where cassettes have a particularly complex shape, particularly where that shape does not run parallel to the line to which cavity barriers are fixed, external wall assessors need to check that the cavity barrier fits or is able to close properly onto the inside face of the cassette along its entire length.

Where test evidence is available for a cassette, assessors need to check that it is relevant to the cassette, and not just to the material in flat panel form.

L10 Benchmark

CURTAIN WALLING SYSTEMS -

There are two principal forms of curtain wall system.
• Stand-off systems are built beyond the edges of floor slabs and run continuously across the height and width of a building. Unless a strategy has been devised to negate this need, fire stopping needs to be provided between slab edges and the inside face of the curtain wall system.
• Infill systems (now more commonly referred to as window assemblies) are built inboard of slab and/or wall edges, although they might pass across particular floor and/or wall lines to achieve a particular architectural objective. Where the system is broken up by lines of fire compartmentation, this limits the extent/speed at which fire can spread across the system.

The structures of these systems can differ substantially; whereas infill systems are invariably supported at regular intervals by the building's primary structure, low-rise stand-off systems can transmit their load down to ground level, with only lateral support back to the primary structure.

Regardless of whether a curtain wall system is built as a stick system (assembled on site) or a unitized system (prefabricated panels), it is the materials used to form the framework that influence the fire performance.
• Steel framed systems can provide good edge protection to the panels in the curtain wall (provided the geometry actually covers and protects edges) as well as good resistance to collapse in the event of fire.
• uPVC framed systems are combustible; they might offer some edge protection and resistance to collapse if steelwork is embedded within them, but this would need to be confirmed.
• Aluminium framed systems are non-combustible but melt when exposed to fire, offering little edge protection and potentially risking collapse (which can be extensive if the aluminium transmits the load of the curtain wall down to ground level).
The other components of curtain wall systems are covered in Table L.5.

BR135 Benchmark

We have compared this external wall type to the cladding systems found on the BR135 database and we did not find a cladding system with the configuration and components that would constitute an exact match to what our inspections found on the Property.

Wall Construction: Wall type 4 - brickwork with full fill cavity of mineral wool

Construction Reference
VDG5LS

This wall construction was identified by wall inspections TCX5BS, CW6LEL, and LMQAAG. The build-up, cavity barrier, and floor slab information is taken directly from inspection TCX5BS. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall type 4 - brickwork with full fill cavity of mineral wool (VDG5LS)	Positive	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	102mm	Brickwork	A1 - Non-Combustible
Engineering or class A brickwork with full fill mineral wool insulation			
Insulation	60mm	Mineral Wool Insulation	A1 - Non-Combustible
The insulation fills the cavity			
Inner Leaf Support (Backing Wall)	102mm	Original brickwork	A1 - Non-Combustible
Original brickwork			

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) of ≤3 MJ/kg — Positive

K.2 External Surfaces

Class A1/A2 — Positive

K.3 Facings/Cladding Panels

High HRR — Neutral

K.4 Panel Construction

Not Applicable

K.5 Cavities

cavity fully filled with mineral wool insulation — Positive

K.6 Insulation

Mineral/glass insulation — Positive

K.7 Substrate

Masonry, >75 mm thick — Positive

K.8 Sheathing Boards

Not Applicable

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Not Applicable

K.11 Infill / Spandrel Panels

Not Applicable

PAS Standard Benchmark

L1 Benchmark

The Construction benchmark is outlined in section L1 of the PAS 9980 Guidance Document -

Masonry (brickwork, blockwork, reinforced concrete)

Loadbearing masonry, provided it is in good condition, can generally be regarded as providing a substrate which is both non-combustible and fire-resisting to a standard of at least 30 min (60 min if 100 mm thick or more). Non-loadbearing masonry might, or might not, have the same properties.

L3 Benchmark

Insulation materials previously classified as non-combustible/ limited combustibility (now Class A1 or Class A2)
- Stone wool
- Ceramic fibre
- Glass fibre
- Foamed glass
- Exfoliated vermiculite

Class A1 or Class A2 (non-combustible and limited combustibility) insulators pose negligible risk in external wall construction. Where such insulators fully fill wall construction then this might indicate that they are being relied upon as contributing to a period of fire resistance. However, if fire resistance is required or being relied upon as part of the assessment, it is important that these insulators fully fill the space they are in or are sufficiently rigid or otherwise mechanically retained/supported to provide a continuous barrier through the space (e.g. batts will retain their shape
whereas quilt can slump in a cavity).

L7 Benchmark

DOUBLE SKIN MASONRY

As set out previously in this PAS, a building whose external walls are composed exclusively of this form of construction is not ordinarily expected to require an FRAEW. However, it is recognized that this form of wall construction might be mixed with other forms of wall construction.
This form of construction constitutes the lowest risk form of construction that might be used for external walls, for the following reasons.
• Each leaf of the wall, provided it is formed of masonry/concrete at least 75 mm thick and is generally well constructed, is likely to provide at least 30 min fire resistance.
• The masonry/concrete is likely to be of limited combustibility or better.

Given the above, this form of construction is invariably accepted as:
• not requiring cavity barriers generally, except that cavity closers are needed so that there is no free flow of air through the cavity; and
• being able to accommodate combustible materials within the cavity irrespective of building height.

This is illustrated in Diagram 8.2 in ADB Volume 1:2019 [8]. The equivalent diagram in Volume 2:2019 [9] is Diagram 9.2.

L9 Benchmark

NON-COMBUSTIBLE and LIMITED COMBUSTIBILITY MATERIALS -

These materials can be subdivided into two categories; those which retain their shape when exposed to fire and those which do not.
• Natural stone, terracotta and non-combustible boards all generally remain in situ for a significant period of time when exposed to a fire plume emitting from a building (though they might eventually shatter), thus affording some protection to the underlying construction.
• Metals, depending upon their softening/melting temperature, might remain in situ or might soften, melt, or even rapidly oxidize, exposing the underlying construction to fire.

BR135 Benchmark

We have compared this external wall type to the cladding systems found on the BR135 database and we did find a cladding system with the configuration and components that would constitute an exact match to what our inspections found installed on the Property.

Façade Configuration: 39CKA6

Items in Façade

7 Items	Effect	Risk
Wall Construction Wall type 1 - render over mineral wool (Q4II1I)	Positive	Low
Attachment Cantilever Balcony (AKGYEF)	Positive	Low
External Door Single Leaf Entrance Doors (UKVXIQ)	Positive	Low
External Window Top, Mid, Side Hung Casements (REV6Y9)	Positive	Low
External Window Top, Mid, Side Hung Casements (ZHLHWW)		
External Window Top, Mid, Side Hung Casements (E2K15H)		
Penetration Aluminium (VG5UL1)		

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m — Neutral

N.2 Height of Base of Cladding (Above Ground)

>5 m
NOTE At this height, the likelihood of a fire originating externally (e.g. involving a parked vehicle or waste skip and started either accidently or deliberately) igniting the cladding is highly unlikely. — Neutral

N.3 Extent of Cladding

Entire façade covered

Neutral

N.4 Cavities & Openings

No cavity

Positive

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

N.8 Proximity to Windows and Other Openings to the Accommodation

Remote from windows and openings, such that fire and smoke spread into the building, causing secondary fires, is not possible

Neutral

N.9 Presence of vents or other openings for services in the Façade

Not Applicable

N10. Proximity of Combustible Elements of a Façade to Escape Route Windows & Other Openings

Wall type 1 is non combustible and therefore would not support surface flame spread

Positive

N.11 Attachments

Not Applicable

N.12 Proximity of Combustible Elements of a Façade to a Neighbouring Building

Wall type 1 is non combustible and therefore would not support surface flame spread

Risk Factor Analysis

1) Impact of Risk from Fire Performance: Wall type 1 is non combustible and therefore would not support surface flame spread

2) Impact of Risk from Façade Configuration: Wall type 1 is non combustible and therefore would not support surface flame spread

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 1 is non combustible and therefore would not support surface flame spread

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.

Façade Configuration: XU8GB1

Items in Façade

7 Items	Effect	Risk
Wall Construction Wall type 2 - terracotta tiling suspended by aluminium carrier rail over mineral wool (T5WJMS)	Positive	Low
Attachment Cantilever Balcony (AKGYEF)	Positive	Low
External Door Single Leaf Entrance Doors (UKVXIQ)	Positive	Low
External Window Top, Mid, Side Hung Casements (REV6Y9)	Positive	Low
External Window Top, Mid, Side Hung Casements (ZHLHWW)		
External Window Top, Mid, Side Hung Casements (E2K15H)		
Penetration Aluminium (VG5UL1)		

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m — Neutral

N.2 Height of Base of Cladding (Above Ground)

>5 m
NOTE At this height, the likelihood of a fire originating externally (e.g. involving a parked vehicle or waste skip and started either accidently or deliberately) igniting the cladding is highly unlikely. — Neutral

N.3 Extent of Cladding

Entire façade covered

Neutral

N.4 Cavities & Openings

Windows and other openings in line with vertical cavity

Neutral

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

N.8 Proximity to Windows and Other Openings to the Accommodation

Horizontally adjacent to windows and openings, but not vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct flame impingement, is possible, but only under adverse wind conditions

Neutral

N.9 Presence of vents or other openings for services in the Façade

Not Applicable

N.11 Attachments

Not Applicable

N.12 Proximity of Combustible Elements of a Façade to a Neighbouring Building

Wall type 2 is non combustible and therefore would not support surface flame spread

Risk Factor Analysis

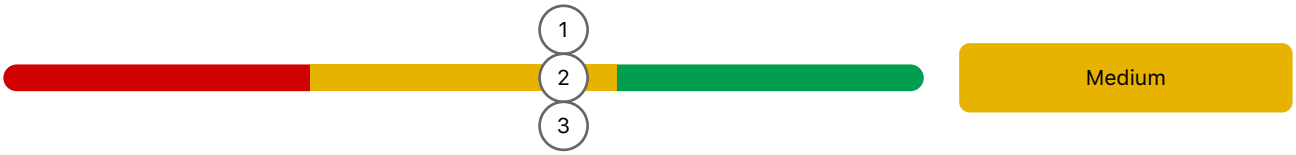
1) Impact of Risk from Fire Performance: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

2) Impact of Risk from Façade Configuration: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane is possible

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.



Façade Configuration: ETSP3W

Items in Façade

7 Items	Effect	Risk
Wall Construction Wall type 3 - curtain wall with PUR insulation withiin aluminium framework (EC25WI)	Negative	Medium
Attachment Cantilever Balcony (AKGYEF)	Positive	Low
External Door Single Leaf Entrance Doors (UKVXIQ)	Positive	Low
External Window Top, Mid, Side Hung Casements (REV6Y9)	Positive	Low
External Window Top, Mid, Side Hung Casements (ZHLHWW)		
External Window Top, Mid, Side Hung Casements (E2K15H)		
Penetration Aluminium (VG5UL1)		

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m	Neutral

N.2 Height of Base of Cladding (Above Ground)

<2 m NOTE At this height, the likelihood of a fire originating externally (e.g. involving a parked vehicle or waste skip started either accidently or deliberately) igniting the cladding is highly likely.	Neutral

N.3 Extent of Cladding

Limited in extent such as to delay fire spread over the external walls

Neutral

N.4 Cavities & Openings

Cavity not continuous, due to façade being only partially clad or broken by building features:
• projecting floor slabs that divide part of the wall and isolate sections of cavity from each other; and
• walls that project out or are set back, such as to limit the vertical extent of cavities)

Neutral

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

N.8 Proximity to Windows and Other Openings to the Accommodation

Horizontally adjacent to windows and openings, but not vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct flame impingement, is possible,
but only under adverse wind conditions

Negative

N.9 Presence of vents or other openings for services in the Façade

Not Applicable

N10. Proximity of Combustible Elements of a Façade to Escape Route Windows & Other Openings

Remote from windows and openings, such that fire and smoke spread into the escape routes to give rise to untenable conditions is not possible

Positive

N.11 Attachments

Not Applicable

N.12 Proximity of Combustible Elements of a Façade to a Neighbouring Building

Windows or other openings in adjacent or abutting neighbouring buildings are sufficiently distanced that direct flame impingement from a fire in the neighbouring building is unforeseeable

Neutral

Risk Factor Analysis

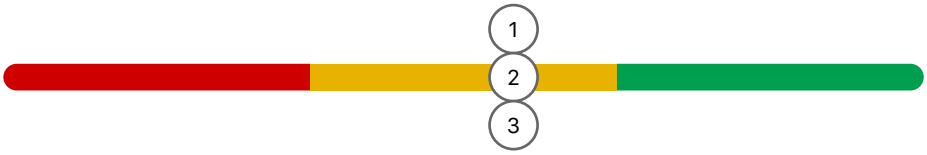
1) Impact of Risk from Fire Performance: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

2) Impact of Risk from Façade Configuration: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 2 is mainly formed from non combustible products localised flame spread of the breathable membrane and insulation is possible

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.



Medium

Façade Configuration: 22BK1E

Items in Façade

7 Items	Effect	Risk
Wall Construction Wall type 4 - brickwork with full fill cavity of mineral wool (VDG5LS)	Positive	Low
Attachment Cantilever Balcony (AKGYEF)	Positive	Low
External Door Single Leaf Entrance Doors (UKVXIQ)	Positive	Low
External Window Top, Mid, Side Hung Casements (REV6Y9)	Positive	Low
External Window Top, Mid, Side Hung Casements (ZHLHWW)		
External Window Top, Mid, Side Hung Casements (E2K15H)		
Penetration Aluminium (VG5UL1)		

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

<11 m	Positive

N.2 Height of Base of Cladding (Above Ground)

<2 m NOTE as the wall system is brick and mineral wool, the likelihood of a fire originating externally (e.g. involving a parked vehicle or waste skip started either accidently or deliberately) igniting the cladding is highly unlikely.	Positive

N.3 Extent of Cladding

No scope for a cladding fire to breach compartment wall and floor boundaries

Positive

N.4 Cavities & Openings

No cavity

Positive

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

N.8 Proximity to Windows and Other Openings to the Accommodation

Remote from windows and openings, such that fire and smoke spread into the building, causing secondary fires, is not possible

Positive

N.9 Presence of vents or other openings for services in the Façade

Where vents pass through a cavity, either:
• the cavity does not include combustible materials; or
• the cavity is faced on either side by brick or concrete at least 75 mm thick and any combustible insulation in the cavity is not thermoplastic

Positive

N10. Proximity of Combustible Elements of a Façade to Escape Route Windows & Other Openings

Wall type 4 is non combustible and therefore would not support surface flame spread

Positive

N.11 Attachments

Not Applicable

N.12 Proximity of Combustible Elements of a Façade to a Neighbouring Building

Wall type 4 is non combustible and therefore would not support surface flame spread

Neutral

Risk Factor Analysis

1) Impact of Risk from Fire Performance: Wall type 4 is non combustible and therefore would not support surface flame spread

2) Impact of Risk from Façade Configuration: Wall type 4 is non combustible and therefore would not support surface flame spread

3) Impact of Risk from Fire Strategy / Fire Hazards: Wall type 4 is non combustible and therefore would not support surface flame spread

Conclusion: In the event of a fire, fire spread is likely to be at a lower rate within expectations for a building of this height, but nevertheless, tolerable rate, given the circumstances at the building in question; and/or

a) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping.
b) fire is unlikely to spread in such a way that the communal means of escape will be compromised before occupants can safely use them to escape.

Low

APPENDIX

Asset Information

Client Name

Sandwell Metropolitan Borough Council

Client Address

Sandwell Council House
Freeth Street PO Box 2374
Oldbury
B69 3DE

Responsible Person

Sandwell Metropolitan Borough Council

Safety Assistance

Not Required

Contact Details

As provided by client

Fire Alarm System

Fire detection in flats is installed to a minimum LD3 standard, with the majority of flats at LD2 standard.
LD3 – Smoke detection in hallway only.
LD2 – Smoke detection in hall and living room, with a heat detector in the kitchen.
smoke alarms are hardwired or battery-operated and subject to cyclical testing.No fire alarm system is installed in common areas.
Automatic Opening Vent (AOV) smoke detection is present:
Smoke detectors in lobbies, stairwell landings, and chute room doors on floors B (1st) to M (11th).
AOVs are installed in stairwells on floors B (1st), G (6th), L (10th), M (11th).
Issue noted: The AOV detector head on Floor K (9th floor) outside Flat 59 is missing its protective cage.

Emergency Lighting

Installed in communal parts

Emergency Lighting

Emergency lighting appears to conform to the requirements of BS5266-1 design standard. The system appears to provide adequate coverage and be in good working order (indicator lights active on luminaires). Luminaries are correctly sited and appear to provide adequate lighting.

Portable Fire Fighting Equipment

Portable Fire Fighting Equipment installed within staff only / Restricted areas of the building

Portable Fire Fighting Equipment

Extinguisher equipment is installed within staff only / Restricted access areas of the building.

Smoke Control

Natural smoke control, Mechanical smoke control

Smoke Control

The stairs and/or lobbies are provided with adequate permanent or manually operated ventilation openings for the control of smoke. Manual openable windows within the stairwell and the stairs and lobbies are provided with an automatic smoke ventilation system

Suppression Systems

Partial sprinkler system installed (Detailed in Description)

Suppression System

Sprinkler/deluge system is installed in the bin store.
The control panel for the deluge system is in the WC off the ground floor lift lobby.

Fire Fighting Facilities

Dry Riser

Fire Fighting Facilities

Dry riser outlets were located on each floor within the firefighting lobby area, ensuring accessible water supply for firefighting operations. This placement allows for efficient connection of firefighting hoses, providing vital water access to emergency services during fire incidents across all floor levels.

Access for fire-fighting vehicles

Adequate access for firefighting vehicles
NOTE This is where access is possible in line with benchmark guidance on access for firefighting vehicles from Approved Document B, taking into account the size of the building (floor area), height of the building and whether fire mains are present in the building.

Fire Hydrant Location/ Water Supply

The fire hydrant is located to the right-hand side of the main entrance.

Housekeeping

Good standard. Means of escape clear. Refuse stored appropriately

Secure Information Boxes

Secure information box (SIB) installed

Secure Information Boxes

A proprietary steel SIB is fitted within the main entrance lobby

Signage

Appropriate signage installed throughout premises

Signage

A satisfactory standard was found for Directional. Wayfinding. Fire Action Notices. No Smoking. Do Not Use Lift in Case of Fire. Final Exit. Fire Door.

Property Type

Apartment Block, Residential, Residential Purpose-built

Building Era / Age

Known Build Date

Known Build Date

1959

Building Height

Is approximately 40 metres from lowest point at ground to the upper most enclosed finished floor slab

Approx Floor Area Per Floor

The approximate footprint of Thompson Gardens is 500m2

Number of Storeys (Ground and above)

There are 15 floors including the ground floor

Number of Basement Levels

None

Number of Flats

89

Flat Types

Single Storey

Structural Wall Material

Traditional build with concrete floor slab

Structural Floor Material

Reinforced Concrete

Structural Stairs Material

Concrete

Construction (Details)

Traditional concrete frame and brick construction which has had refurbishment works including UPVC windows, insulation and render facade over the existing facade.

Exterior Cladding

FRAEW Completed on Exterior Cladding

Exterior Cladding (Details)

Wall type 1 - Exterior cladding is a mixture of mineral wool backing slab with 6-8mm render finish.
Wall Type 2 - Exterior cladding is terracotta tiling supported by an aluminum carrier rail system, within the terracotta system there is a mineral wool insulation of approximately 100mm thick.

Electronic Entrance System

Yes

Carpark

External/Outdoor Carpark

Employees

None

Residents

Yes

Approx number of Residents

178

Residents (Extended)

We have assumed there will be two occupants per dwelling and it was not determined whether any persons within the building have mobility, language or sensory needs, however it is reasonable to assume a percentage of occupants will require assistance in an evacuation event.

People With Reduced Mobility

Other

People with Reduced Mobility (Extended)

General Needs - No information however, General Needs premises so occupants are typical of the general population

Lone Workers

None

Young Persons Employed in the Premises

None

Escapes & Exits

There are two fire exits from the premises of suitable width and within acceptable travel distances.
Emergency exits open outwards in escape direction.

Number Of Internal Escape Stairs

There is a scissor staircase (or scissor stairway) installed: two interlocking staircases are positioned within a single stairwell enclosure, providing two separate escape routes in the same vertical shaft. These staircases are arranged in a crisscross pattern and typically serve alternating floors, with each flight of stairs providing access to only one route at a time.

Number Of Final Exits

The building is provided with two individual escape exits

External Means Of Escape

None Present

Types Of Lifts Installed

Passenger + Fireman's Control

Evacuation Chairs Installed

No

Refuge Points Present

No

Stairwells Protected / Lobbied

Yes

Flat Doors Open Onto Stairs

No

Current Evacuation Strategy

Stay Put

Current Stay Put Strategy Description

The current evacuation strategy is Stay Put as denoted by the fire action notices displayed in the common area.

Current Evacuation Strategy for the property considered appropriate?

Yes

Description

The premises is purpose-built with an adequate standard of compartmentation. The current Stay Put evacuation strategy is considered appropriate.

What is the recommended evacuation strategy for the property?

Stay Put

Aerial Perspective: Thompson Gardens flats

Showing Aerial
view of Thompson Gardens and the
surrounding area

Elevations

Photo	Name	No. of Storeys
	North Elevation	15 Storeys
	South Elevation	15 Storeys
	East Elevation	15 Storeys
	West Elevation	15 Storeys

Inspections

Elevation Location	Inspection	Elements
	Inspection: LECZWE Accessible wall	• Surface Finish (Cement based render) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: H7E92A	• Surface Finish (Cement based render and mineral wool insulation.)
	Inspection: AW87N5 Accessible wall	• Surface Finish (Terracotta tile) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: BEKV6L	• Surface Finish (Terracotta tile.)
	Inspection: W122J5 Accessible wall	• Surface Finish (Polyester powder coated aluminium panels) • Cavity • Insulation (Phenolic Foam Insulation) • Inner Leaf (Plasterboard)
	Inspection: TCX5BS Accessible wall	• Surface Finish (Brickwork) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: 3W62LU Accessible wall	• Surface Finish (Cement based render) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: IG1DML Accessible wall	• Surface Finish (Cement based render) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: NYUV4X Accessible wall	• Surface Finish (Terracotta tile) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: 57ALYG Accessible wall	• Surface Finish (Terracotta tile) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)

Elevation Location	Inspection	Elements
	Inspection: D43899 Accessible wall	• Surface Finish (Polyester powder coated aluminium panels) • Cavity • Insulation (Phenolic Foam Insulation) • Inner Leaf (Plasterboard)
	Inspection: CW6LEL Accessible wall	• Surface Finish (Brickwork) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: LMQAAG Accessible wall	• Surface Finish (Brickwork) • Insulation (Mineral Wool Insulation) • Inner Leaf Support (Backing Wall) (Original brickwork)
	Inspection: GKLEUE Accessible wall	• Surface Finish (Polyester powder coated aluminium panels) • Cavity • Insulation (Phenolic Foam Insulation) • Inner Leaf (Plasterboard)

Inspection: LECZWE

Location
Accessible wall

Name/Summary

Wall Type 1 - EWI render system with mineral wool insulation

Description

Insulation with a render finish has been added to the original construction

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	6mm	Cement based render		A1 - Non-Combustible
Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos

Inspection: H7E92A

Name/Summary

Wall Type 1 - EWI render system with mineral wool insulation

Description

Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.

Build-Up

1 Element	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	6mm	Cement based render and mineral wool insulation.		A1 - Non-Combustible

Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.

Inspection Photos

Inspection: AW87N5

Location
Accessible wall

Name/Summary

Wall Type 2 - Terracotta tiling with mineral wool insulation

Description

Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	12mm	Terracotta tile		A1 - Non-Combustible
Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos

Inspection: BEKV6L

Name/Summary

Wall Type 2 - Terracotta tiling with mineral wool insulation

Description

Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.

Build-Up

1 Element	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	12mm	Terracotta tile.		A1 - Non-Combustible

Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.

Inspection Photos

Inspection: W122J5

Location
Accessible wall

Name/Summary

Wall Type 3 - Curtain walling

Description

Aluminium PPC curtain walling with breathable membrane over internal studwork.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	2mm	Polyester powder coated aluminium panels		A1 - Non-Combustible
Aluminium PPC curtain walling with breathable membrane over internal studwork.				
Cavity	30mm			
Insulation	50mm	Phenolic Foam Insulation		B - Combustible
rigid insulation has been installed between studs of the support structure used for the external cladding panels				
Inner Leaf (Plasterboard)	15mm			A1 - Non-Combustible
Plasterboard internal lining				

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos

47

48

49

50

51

52

53

Inspection: TCX5BS

Location
Accessible wall

Name/Summary

Wall Type 4 - brickwork

Description

No external cavity. The internal void is filled with insulation

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	102mm	Brickwork		A1 - Non-Combustible
Engineering or class A brickwork with full fill mineral wool insulation				
Insulation	60mm	Mineral Wool Insulation		A1 - Non-Combustible
The insulation fills the cavity				
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

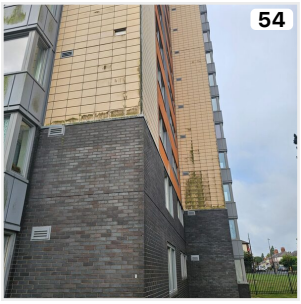
Cavity Barriers

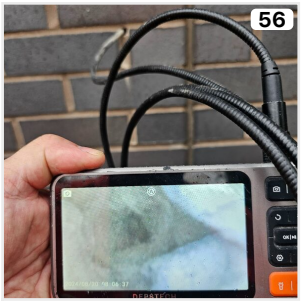
There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos





Inspection: 3W62LU

Location
Accessible wall

Name/Summary

Wall Type 1 - EWI render system with mineral wool insulation

Description

Insulation with a render finish has been added to the original construction

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	6mm	Cement based render		A1 - Non-Combustible
Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: IG1DML

Location
Accessible wall

Name/Summary

Wall Type 1 - EWI render system with mineral wool insulation

Description

Insulation with a render finish has been added to the original construction

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	6mm	Cement based render		A1 - Non-Combustible
Cement based render of 4-8mm with 100mm mineral wool insulated slab mechanically fixed to the original building.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: NYUV4X

Location
Accessible wall

Name/Summary

Wall Type 2 - Terracotta tiling with mineral wool insulation

Description

Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	12mm	Terracotta tile		A1 - Non-Combustible
Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: 57ALYG

Location
Accessible wall

Name/Summary

Wall Type 2 - Terracotta tiling with mineral wool insulation

Description

Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	12mm	Terracotta tile		A1 - Non-Combustible
Terracotta tile supported by aluminium framework with breathable membrane and mineral wool insulation between tile and brickwork of the original walls.				
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: D43899

Location
Accessible wall

Name/Summary

Wall Type 3 - Curtain walling

Description

Aluminium PPC curtain walling with breathable membrane over internal studwork.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	2mm	Polyester powder coated aluminium panels		A1 - Non-Combustible
Aluminium PPC curtain walling with breathable membrane over internal studwork.				
Cavity	30mm			
Insulation	50mm	Phenolic Foam Insulation		B - Combustible
rigid insulation has been installed between studs of the support structure used for the external cladding panels				
Inner Leaf (Plasterboard)	15mm			A1 - Non-Combustible
Plasterboard internal lining				

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: CW6LEL

Location
Accessible wall

Name/Summary

Wall Type 4 - brickwork

Description

No external cavity. The internal void is filled with insulation

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	102mm	Brickwork		A1 - Non-Combustible
Engineering or class A brickwork with full fill mineral wool insulation				
Insulation	60mm	Mineral Wool Insulation		A1 - Non-Combustible
The insulation fills the cavity				
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: LMQAAG

Location
Accessible wall

Name/Summary

Wall Type 4 - brickwork

Description

No external cavity. The internal void is filled with insulation

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	102mm	Brickwork		A1 - Non-Combustible
Engineering or class A brickwork with full fill mineral wool insulation				
Insulation	60mm	Mineral Wool Insulation		A1 - Non-Combustible
The insulation fills the cavity				
Inner Leaf Support (Backing Wall)	102mm	Original brickwork		A1 - Non-Combustible
Original brickwork				

Cavity Barriers

There is no external wall cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: GKLEUE

Location
Accessible wall

Name/Summary

Wall Type 3 - Curtain walling

Description

Aluminium PPC curtain walling with breathable membrane over internal studwork.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	2mm	Polyester powder coated aluminium panels		A1 - Non-Combustible
Aluminium PPC curtain walling with breathable membrane over internal studwork.				
Cavity	30mm			
Insulation	50mm	Phenolic Foam Insulation		B - Combustible
rigid insulation has been installed between studs of the support structure used for the external cladding panels				
Inner Leaf (Plasterboard)	15mm			A1 - Non-Combustible
Plasterboard internal lining				

Floor Slab

Backing Wall Sits On The Floor Slab

Attachments & Balconies

Photo	Attachment
	**Cantilever Balcony (AKGYEF)** Configuration: Stacked

Attachment: Cantilever Balcony

Attachment Reference
AKGYEF

Details

Configuration

Stacked

Framework/Structure

Concrete floor slab with curtain wall glazing and PPC aluminium framework which encloses the original open balcony arrangement.

Details

Concrete floor slab with curtain wall glazing and PPC aluminium framework which encloses the original open balcony arrangement.

L6 Benchmark

Balconies -

Balconies are defined in BS 8579. However, for the purpose of this PAS and the manner in which balconies impact external fire behaviour, balconies fall into one of three categories:
a) Those which fall entirely within the curtilage of the building structure (i.e. they are built on the slab and appear inset into the building when observed from outside). They might be enclosed to an extent and might effectively be made fully enclosed (sometimes referred to as a "winter garden"). The extent of enclosure needs to be considered in light of whether, from a fire perspective, the space can be treated as part of the outside or whether it is in effect a compartment (i.e. subject to compartment fire behaviour);
b) Those which project beyond the main building structure but do so on an extension of the floor slab. They provide an advantage in that their construction matches that of the compartment floor within the building, and can deflect fire/smoke plumes away from the building; and
c) Those which project beyond the main building structure and are fixed to the outside face of the building. They can only be of lightweight construction; their construction needs to be assessed based upon the combustibility and fire resistance of any materials used.

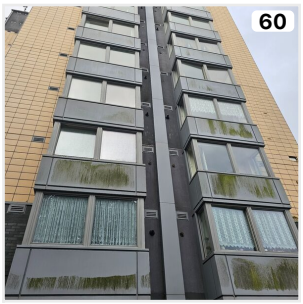
Regardless of balcony type, the materials used to line the balconies (including soffits) need to be assessed in light of their likely contribution to external fire spread.

Storage of materials and other uses by residents also need to be taken into account.

Any bulk storage can pose a significant hazard, as can the use of combustion appliances such as barbecues and heaters.

Aside from the above, means of escape external walkways (a form of balcony) are not within the scope of this PAS, as any risk associated with these would need to be considered as part of the overarching FRA.

Photos



Penetrations

Photo	Penetration
No Image	**Aluminium (VG5UL1)** Inspection Type: Visual

Penetration: Aluminium

Penetration Reference
VG5UL1

Details

Photo

1 Image

Inspection Type

Visual

Duct Pipework Material

Aluminium

External Windows

Photo	External Window
	**Top, Mid, Side Hung Casements (REV6Y9)**
	**Top, Mid, Side Hung Casements (ZHLHWW)**
	**Top, Mid, Side Hung Casements (E2K15H)**

External Window: Top, Mid, Side Hung Casements

External Window Reference
REV6Y9

Details

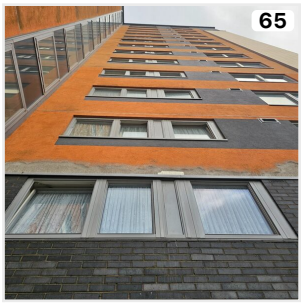
Surface Material

Aluminium

Details

Aluminium PPC windows would not add to or support the growth of a fire.

Photos



External Window: Top, Mid, Side Hung Casements

External Window Reference
ZHLHWW

Details

Surface Material

Aluminium

Frame Material

Timber

Photos

63

External Window: Top, Mid, Side Hung Casements

External Window Reference
E2K15H

Details

Surface Material

Aluminium

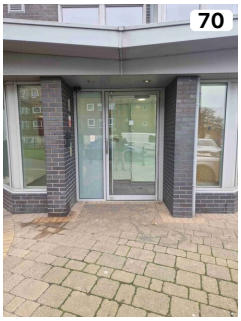
Frame Material

Timber

Photos

64

External Doors

Photo	External Door
	**Single Leaf Entrance Doors (UKVXIQ)**

External Door: Single Leaf Entrance Doors

External Door Reference
UKVXIQ

Details

Surface Material

Polyester powder coated Aluminium

Frame Material

Polyester powder coated Aluminium

Infill / Panel Material

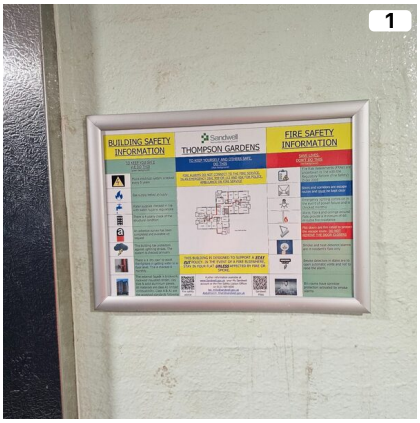
Polyester powder coated Aluminium

Details

Aluminium doors would not add to or support the growth of a fire

Photos

Photos



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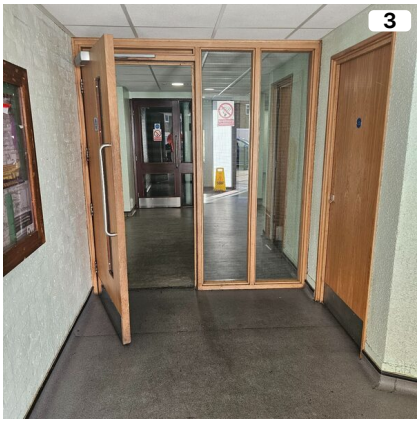
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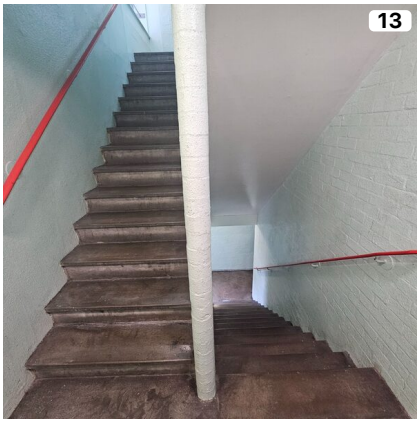
Photos Continued...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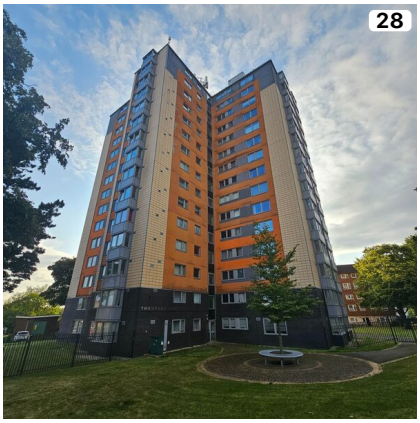
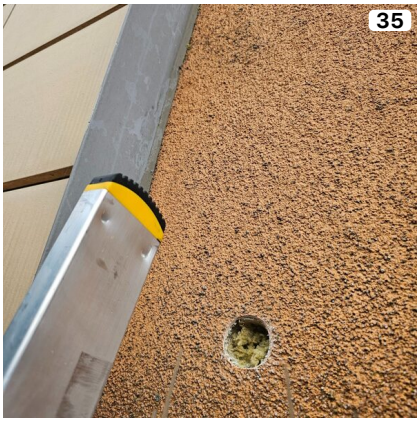
Photos Continued...

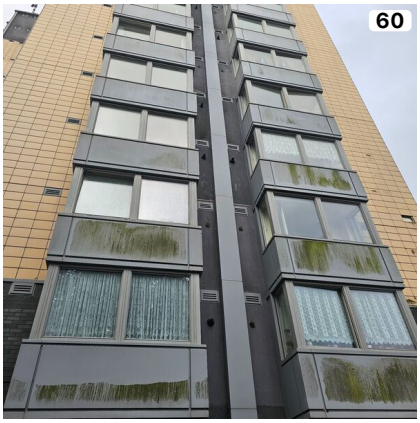


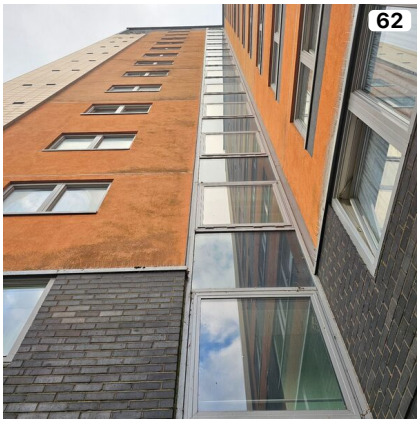


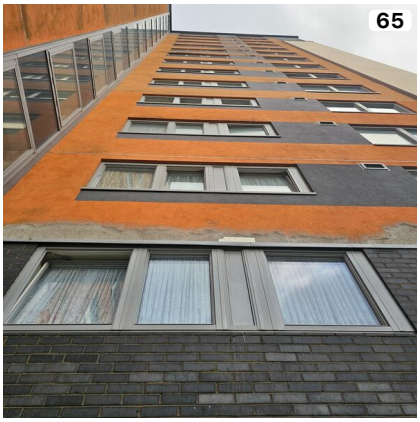
Photos Continued...

Photos Continued...

Photos Continued...







Photos Continued...

FIRNTEC

BUILDING COMPLIANCE

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