



FIRNTEC
BUILDING COMPLIANCE

Unit 4a, Darklake View,
Estover
Plymouth
PL6 7TL

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Suggested Review Date 14/01/2030

FIRE RISK APPRAISAL EXTERNAL WALLS

MACAULAY HOUSE

Macaulay House
Glover Street
West Brom
B70 6DY



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Summary

Fire Risk Appraisal External Walls

Assessment and Certificate Reference

RB-4MRUX5

Assessed On, By

14/01/2025, Dean Partridge MIFireE

Recommended Review Date

14/01/2030

Produced For the Responsible Person

Sandwell Metropolitan Council

Specification Conforms To

Our own internal quality system.

Assessment Scope

Assessment applies only to the building specified.

Assessed Property

Property Name

Macaulay House

Property Reference

RB-RZQ42D

Address

Macaulay House

Glover Street

West Brom

B70 6DY

Assessing Organisation

Firntec Ltd

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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 through 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).

Supporting Documents

The following documentation was requested for review prior to our visit. Any provided documentation has been reviewed and considered as part of our findings. The range, quality and reliability of the information contained in the provided documents have been examined and deemed satisfactory for completing this FRAEW report:

Document	Received
FRA (09/01/2024) A. Smith Fire Risk Assessor, Sandwell Management Fire Risk assessment	Received
External Wall Survey (06/01/2025) Firntec External Wall Survey - Intrusive step 1	Received

Executive Summary

External Wall Systems and Attachments on the Building

12 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.

7 Items	Effect	Risk
Wall Construction Brick Finish (AHNWMN)	Neutral	Low
Wall Construction Render ETICs (YCXZAR)	Neutral	Low
Wall Construction Ceramic Tile system (YJFJ73)	Neutral	Low
Wall Construction Aluminium Cladding System (2AC2EG)	Neutral	Low
Wall Construction Glazed Curtain wall system (B5VHAZ)	Neutral	Low
External Window Other (M4DSDQ)	Neutral	Low
External Door Single Leaf Entrance Doors (NU4FKI)	Neutral	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 **HTUSDM** which includes wall construction **AHNWMN**.

Conclusion: Masonry brickwork in external walls offers strong fire resistance due to its non-combustible properties and high thermal mass. Bricks are inherently resistant to fire and do not ignite, burn, or contribute fuel to a fire, making them excellent for containing flames and preventing fire spread.

During a fire, brickwork reacts by absorbing and gradually dissipating heat, though intense, prolonged heat may cause cracking or spalling (surface breakage) due to thermal expansion. Despite these effects, the overall structure of brick masonry generally remains intact, ensuring the wall continues to act as a robust barrier against fire, heat, and smoke, which enhances its reliability in fire protection.

Beyond the external surface is an open cavity circa 140mm in depth to the outer face of the insulating layer. The insulation was identified as 80mm mineral wool insulating slab board. The Mineral wool is viewed as A1 fire classification presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The wall type is a non-combustible system to first floor level, which would not contribute to significant fire spread through vertical and horizontal compartments.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location on the façade no cavity barriers were identified horizontally or vertically.

It was noted that the masonry external surface material formed a return within the cavity where window apertures were located which would assist in preventing any fire spread breaching apertures into the cavity as well as preventing the free flow of air to assist in pyrolysis.

We have considered this external wall type against benchmark L7.

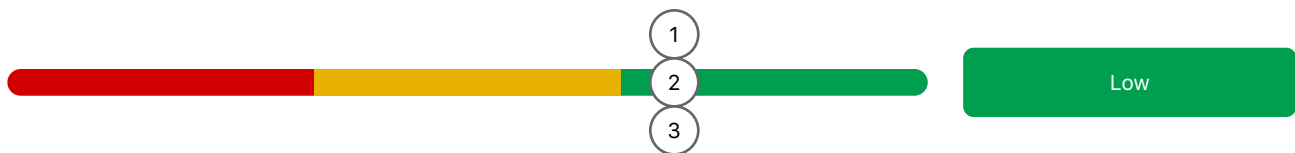
This external wall type extends across the ground floor to first floor level areas of the buildings envelope and given the sample locations.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for

remediation.



Risk Factor Analysis 2

This analysis looks at façade configuration **6GPGWM** which includes wall construction **YCXZAR**.

Conclusion: A Wetherby Render ETICs system has been applied to north and south elevations. The applied render is 4mm thick with A2 fire classification. Cavity is full filled with the insulation was identified as 80mm mineral wool insulating slab board. The Mineral wool is viewed as A1 fire classification presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

System is affixed to the A1 non-combustible substrate. Possibly using a sheathing board which has been included within this wall type.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

It was noted that the masonry external surface material formed a return within the cavity where window apertures were located which would assist in preventing any fire spread breaching apertures into the cavity as well as preventing the free flow of air to assist in pyrolysis.

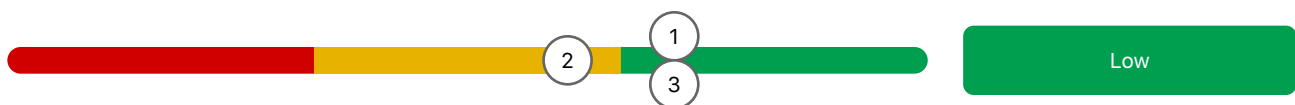
We have considered this external wall type against benchmark L10.

This external wall type extends vertically from the ground floor to first floor at two elevations on the buildings envelope and given the sample locations, the wall type is flanked either side by other non combustible wall types. 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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Risk Factor Analysis 3

This analysis looks at façade configuration **VEPIPX** which includes wall construction **YJFJ73**.

Conclusion: The external surface material is formed with a 16mm ceramic lockclad tile. The tile is viewed as presenting a non-combustible product, This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The ceramic tile construction is formed using a natural and organic material that has been shaped and kiln baked, this process is in excess of 1000°C. As such this façade material is considered not to contribute or aid in the development of fire spread across the envelop of the building.

The tiles are fixed to a metal framing system and beyond the surface is a filled 120mm cavity. Insulation is provided by 100mm rockwool slab ahead of the support backing wall which is affixed to the substrate.

The Mineral wool insulating layer is viewed as presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

We have considered this external wall type against benchmark L9.

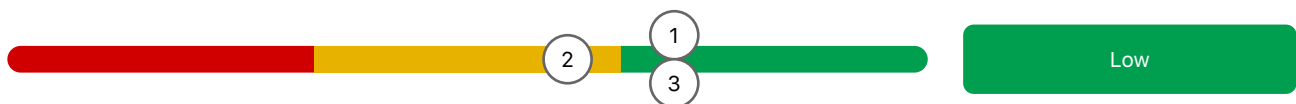
This external wall type is present on all elevations in sections with non-combustible spandrel sections present below windows on the east elevation.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Risk Factor Analysis 4

This analysis looks at façade configuration **1TU22Y** which includes wall construction **2AC2EG**.

Conclusion: The external surface material is formed with a 3-4mm solid aluminium panel, Aluminium is a soft metal that has a low melting point. As such this material is able to perform in temperatures between 400°C and 600°C, after which the metal will start to melt. Although it will not combust it will form molten droplets which may fall and ignite combustible materials below to cause secondary fires.

The panel is held in position using aluminium helping hand brackets.

Beyond the surface is a filled 60mm cavity ahead of the support backing wall of 10mm masonry which is affixed to the substrate.

The insulating layer was formed of 60mm of mineral wool at the central light coloured sections (80mm at grey aluminium flank ends), the survey details this as Rockwool slab, The Mineral wool is viewed as presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The system fully encloses the original balconies at the corners of the building.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

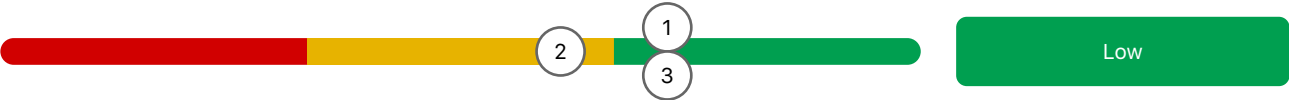
We have considered this external wall type against benchmark L9.

This external wall type extends vertically from the ground floor at building corners and at central spandrel locations to rear elevations on the buildings envelope.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Risk Factor Analysis 5

This analysis looks at façade configuration **C6YMSR** which includes wall construction **B5VHAZ**.

Conclusion: The curtain walling is constructed using an aluminium framework, aluminium is a soft metal that has a low melting point. As such this material is able to perform in temperatures between 400°C and 600°C, after which the metal will start to melt. Although it will not combust it will form molten droplets which may fall and ignite combustible materials below to cause secondary fires.

Within the aluminium framework is an infill of glazing. The glazing has been identified as thermal glazing for its strength and ability to comply with Approved Document K. As such the glass is able with stand temperature differentials up to 200°C (plus ambient).

This means that there is a lower risk to thermal fracturing and will aid in preventing fire penetration through the external wall internally; and as such would allow the occupants to turn their back on fire to escape from the effects of the fires effluents.

Furthermore, these systems are mechanically secured into the floor slab and will afford a period of mechanical support.

The position of these systems within the buildings envelope are in areas of communal means of escape and should legally be kept sterile at all times as to present a lower risk to ignition.

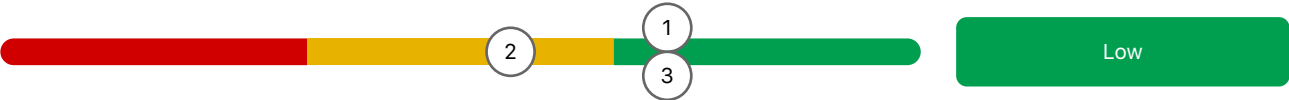
We have considered this external wall type against benchmark L10.

This wall type is flanked by the Non-combustible render ETICs system.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Overall Building Risk Rating



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

Stay put

A 'stay put' policy is adopted for the flats. That is, in the event of a fire in a flat, the occupants of that dwelling will evacuate, having been alerted by their own domestic fire detection and alarm system, and request fire service attendance. All other occupants will remain in their flat unless they are threatened by fire and smoke or are advised to evacuate by the fire service. The 'stay put' evacuation policy relies heavily on adequate compartmentation being provided; fire should not spread from one dwelling to another, including by means of the external fabric of the building

Neutral

F.3 Escape Route Design

Single staircase, with lobby approach

Neutral

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 away 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

Neutral

F.6 Fire Alarm & Detection

Domestic smoke and heat alarms within flats, Category LD2 or LD3

Neutral

F.7 Fire Suppression

A suppression system is installed in high risk areas such as the refuse/bin store.

Neutral

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.

Neutral

F.9 Rising Mains

Suitable rising main present

Neutral

F.10 Lifts Used By Firefighters

Absence of firefighting lift in buildings above 18 m

Negative

Fire Service Intervention

Event	Seconds	Minutes & Seconds
Initiation to fire detection	120 Seconds	2 Minutes
Actuation Of Fire Detector To Transmission Of Alarm	10 Seconds	10 Seconds
Processing By Central Monitoring Station	60 Seconds	1 Minute
Receipt of call by fire service mobilising control	10 Seconds	10 Seconds
Transmission To Fire Station And Response	60 Seconds	1 Minute
Travelling Time Of Fire Service	480 Seconds	8 Minutes
Arrival Protocol And Entry Preparation Time	180 Seconds	3 Minutes
Firefighting Travel In Firefighting Lift	0 Seconds	—
Firefighter travel to operational bridgehead	270 Seconds	4 Minutes 30 Seconds
Firefighter Travel Walking Up Two Flights Of Stairs To Fire Floor (75 Seconds)	75 Seconds	1 Minute 15 Seconds
Total Time	1,265 Seconds	21 Minutes 5 Seconds

Nearest Fire Station

West Bromwich Fire Station which is 2 miles away

Wall Constructions

Wall Construction	Build-up
Brick Finish (AHNWMN)	• Surface Finish (Brickwork) • Cavity • Insulation (Mineral Wool Insulation) • Inner Leaf (Blockwork)
Render ETICs (YCXZAR)	• Surface Finish (Sto render) • Insulation (Mineral Wool Insulation) • Inner Leaf (Reinforced concrete)
Ceramic Tile system (YJFJ73)	• Surface Finish (Terracotta tile) • Cavity • Insulation (Mineral Wool Insulation) • Inner Leaf (Blockwork)
Aluminium Cladding System (2AC2EG)	• Surface Finish (Aluminium panel) • Insulation (Mineral Wool Insulation) • Inner Leaf (Reinforced concrete)
Glazed Curtain wall system (B5VHAZ)	No elements identified

Wall Construction: Brick Finish

Construction Reference
AHNWMN

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

Construction	Effect	Risk
Brick Finish (AHNWMN)	Neutral	Low

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	100mm	Brickwork	A1 - Non-Combustible
Cavity	135mm		
Insulation	75mm	Mineral Wool Insulation Material Brand: Rockwool slab	A1 - Non-Combustible
Inner Leaf	100mm	Blockwork	A1 - Non-Combustible

Cavity Barriers

None

Floor Slab

Floor Slab Abuts The Backing Wall

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

Positive

K.3 Facings/Cladding Panels

Low HRR

Positive

K.4 Panel Construction

Not Applicable

K.5 Cavities

Cavities closed by construction/fill material located in line with all of the following:

- compartment floors;
- compartment walls;
- around openings, e.g. windows, doors; and
- ventilation ducts, grilles and other openings for services

Neutral

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

K.12 Internal Finishes

Plasterboard

Note: The plasterboard can not be confirmed to be installed as per the manufacturers instructions or ensure its method of fixing

Neutral

PAS Standard Benchmark

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.

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: Render ETICs

Construction Reference
YCXZAR

This wall construction was identified by wall inspections QW1JA2, YRKR2E, FRJ7M9, and HIEDS5. The build-up, cavity barrier, and floor slab information is taken directly from inspection QW1JA2. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Render ETICs (YCXZAR)	Neutral	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	4mm	Sto render	A1 - Non-Combustible
Insulation	90mm	Mineral Wool Insulation	A1 - Non-Combustible
Render onto rockwool slab			
Inner Leaf		Reinforced concrete	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material
Horizontal Cavity Barrier	Solid State Mineral Wool

Floor Slab

Reinforced concrete

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

Positive

K.3 Facings/Cladding Panels

Low HRR

Positive

K.4 Panel Construction

Not Applicable

K.5 Cavities

Cavities closed by construction/fill material located in line with all of the following:

- compartment floors;
- compartment walls;
- around openings, e.g. windows, doors; and
- ventilation ducts, grilles and other openings for services

Neutral

K.6 Insulation

Mineral/glass insulation

Positive

K.7 Substrate

Masonry, >75 mm thick

Positive

K.8 Sheathing Boards

Class D

Negative

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Thin organic render or inorganic render on Class A1/A2 insulation

Positive

K.11 Infill / Spandrel Panels

Not Applicable

K.12 Internal Finishes

Plasterboard

Note: The plasterboard can not be confirmed to be installed as per the manufacturers instructions or ensure its method of fixing

Neutral

PAS Standard Benchmark

L10 Benchmark

ETICS -

These systems are sometimes referred to as rendered systems, as they feature an externally applied render coat as their weatherproof surface.

The level of risk that might potentially be posed by these systems is generally dictated by the type of insulation they incorporate.

- Mineral wool-based systems are likely to be low-risk.
- Rigid thermoset foam-based systems can be low-risk if fire barriers and cavity barriers (if a cavity exists behind the insulation) are properly provided. If there are gaps or other deficiencies then the level of risk might increase to medium or, in extreme cases, high.
- Thermoplastic foam-based systems might be low-risk if fire barriers and cavity barriers (if a cavity exists behind the insulation) are properly provided and where there is a significant thickness of cement-based render applied to the insulation. If there are gaps or other deficiencies, a non-cement-based (i.e. polymeric organic) render has been used or an insufficient thickness of cement-based render has been applied, then the level of risk is high.

In particular regard to thermoplastic systems, there are historic systems which are known to have had approximately 20 mm thick slivers of EPS insulation passing across the front of fire barriers, providing a route for fire to rapidly circumvent the barriers. It needs to be confirmed by inspection whether or not this situation exists; if it does exist, such a system is high risk irrespective of the type of render provided.

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: Ceramic Tile system

Construction Reference
YJFJ73

This wall construction was identified by wall inspections UXYJJZ, I6795V, and 2RHJT8. The build-up, cavity barrier, and floor slab information is taken directly from inspection UXYJJZ. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Ceramic Tile system (YJFJ73)	Neutral	Low

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	16mm	Terracotta tile	A1 - Non-Combustible
Cavity	210mm		
Insulation	100mm	Mineral Wool Insulation	A1 - Non-Combustible
Mesh foil on one side			
Inner Leaf		Blockwork Material Brand: Block work	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces

Floor Slab

Reinforced concrete

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

Positive

K.3 Facings/Cladding Panels

Low HRR

Positive

Mechanically fixed

Positive

K.4 Panel Construction

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

Neutral

K.5 Cavities

Cavities closed by construction/fill material located in line with all of the following:

- compartment floors;
- compartment walls;
- around openings, e.g. windows, doors; and
- ventilation ducts, grilles and other openings for services

Neutral

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

Ceramic faced, with Class A1/A2 core

Positive

K.12 Internal Finishes

Plasterboard

Note: The plasterboard can not be confirmed to be installed as per the manufacturers instructions or ensure its method of fixing

Neutral

PAS Standard Benchmark

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: Aluminium Cladding System

Construction Reference
2AC2EG

This wall construction was identified by wall inspection 2WJ26W. The build-up, cavity barrier, and floor slab information is taken directly from inspection 2WJ26W. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Aluminium Cladding System (2AC2EG)	Neutral	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Surface Finish	3mm	Aluminium panel	A1 - Non-Combustible
Insulation	40mm	Mineral Wool Insulation	A1 - Non-Combustible
Inner Leaf	10mm	Reinforced concrete	A1 - Non-Combustible

Concrete wall with steel beam.

Cavity Barriers

1 Cavity Barrier	Material
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces

Floor Slab

Reinforced concrete

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

Positive

K.3 Facings/Cladding Panels

Low HRR

Positive

Mechanically fixed

Positive

K.4 Panel Construction

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

Neutral

K.5 Cavities

Cavities closed by construction/fill material located in line with all of the following:

- compartment floors;
- compartment walls;
- around openings, e.g. windows, doors; and
- ventilation ducts, grilles and other openings for services

Neutral

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

K.12 Internal Finishes

Plasterboard

Note: The plasterboard can not be confirmed to be installed as per the manufacturers instructions or ensure its method of fixing

Neutral

PAS Standard Benchmark

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: Glazed Curtain wall system

Construction Reference
B5VHAZ

This wall construction was identified by wall inspection F7B8US. The build-up, cavity barrier, and floor slab information is taken directly from inspection F7B8US. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Glazed Curtain wall system (B5VHAZ)	Neutral	Low

Cavity Barriers

None

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) >3 MJ/kg and ≤35 MJ/kg	Neutral
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K.2 External Surfaces

Class A1/A2	Positive
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K.3 Facings/Cladding Panels

Mechanically fixed	Positive
Low HRR	Positive

K.4 Panel Construction

No gaps between panels

Positive

K.5 Cavities

Not Applicable

K.6 Insulation

Not Applicable

K.7 Substrate

Not Applicable

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

K.12 Internal Finishes

Not Applicable

PAS Standard Benchmark

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 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: HTUSDM

Items in Façade

1 Item

Wall Construction
Brick Finish (AHNWMN)

Effect

Neutral

Risk

Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m

Negative

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 accidentally or deliberately) igniting the cladding is highly likely.

Negative

N.3 Extent of Cladding

Limited in extent and not vertically aligned, such as to delay significantly fire spread to windows and other openings on upper levels

Positive

N.4 Cavities & Openings

Cavity limited in extent and running horizontally only

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

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

No combustible elements

Neutral

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

Conclusion: Masonry brickwork in external walls offers strong fire resistance due to its non-combustible properties and high thermal mass. Bricks are inherently resistant to fire and do not ignite, burn, or contribute fuel to a fire, making them excellent for containing flames and preventing fire spread.

During a fire, brickwork reacts by absorbing and gradually dissipating heat, though intense, prolonged heat may cause cracking or spalling (surface breakage) due to thermal expansion. Despite these effects, the overall structure of brick masonry generally remains intact, ensuring the wall continues to act as a robust barrier against fire, heat, and smoke, which enhances its reliability in fire protection.

Beyond the external surface is an open cavity circa 140mm in depth to the outer face of the insulating layer. The insulation was identified as 80mm mineral wool insulating slab board. The Mineral wool is viewed as A1 fire classification presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The wall type is a non-combustible system to first floor level, which would not contribute to significant fire spread through vertical and horizontal compartments.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location on the façade no cavity barriers were identified horizontally or vertically.

It was noted that the masonry external surface material formed a return within the cavity where window apertures were located which would assist in preventing any fire spread breaching apertures into the cavity as well as preventing the free flow of air to assist in pyrolysis.

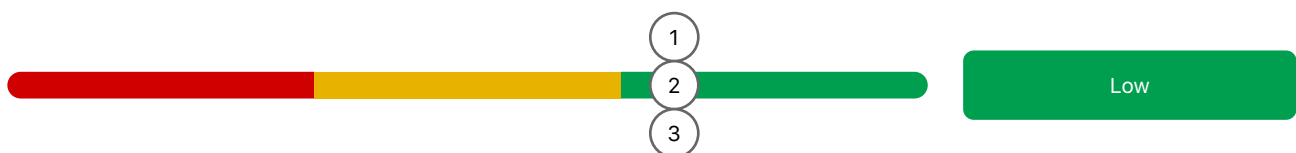
We have considered this external wall type against benchmark L7.

This external wall type extends across the ground floor to first floor level areas of the buildings envelope and given the sample locations.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Façade Configuration: 6GPGWM

Items in Façade

1 Item	Effect	Risk
Wall Construction Render ETICs (YCXZAR)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m	Negative
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N.2 Height of Base of Cladding (Above Ground)

2 m to 5 m NOTE At this height, the scope for a fire originating externally (e.g. involving a parked vehicle or waste skip started either accidentally or deliberately) igniting the cladding is considered possible, but not likely at an early stage in the development of the fire.	Neutral
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N.3 Extent of Cladding

Limited in extent such as to delay fire spread over the external walls	Neutral
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N.4 Cavities & Openings

Cavity limited in extent and running vertically, closed by construction.	Neutral
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N.5 Infill / Spandrel Panels

Not Applicable	
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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, and 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 highly likely

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

No combustible elements

Neutral

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

Conclusion: A Wetherby Render ETICs system has been applied to north and south elevations. The applied render is 4mm thick with A2 fire classification. Cavity is full filled with the insulation was identified as 80mm mineral wool insulating slab board. The Mineral wool is viewed as A1 fire classification presenting a non-combustible product.

This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

System is affixed to the A1 non-combustible substrate. Possibly using a sheathing board which has been included within this wall type.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

It was noted that the masonry external surface material formed a return within the cavity where window apertures were located which would assist in preventing any fire spread breaching apertures into the cavity as well as preventing the free flow of air to assist in pyrolysis.

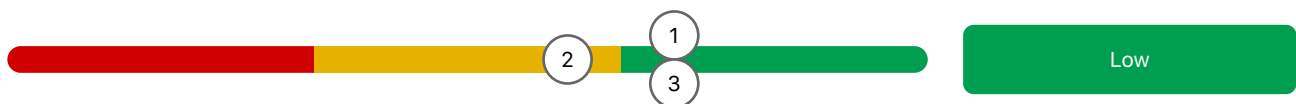
We have considered this external wall type against benchmark L10.

This external wall type extends vertically from the ground floor to first floor at two elevations on the buildings envelope and given the sample locations, the wall type is flanked either side by other non combustible wall types. 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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Façade Configuration: VEPIPX

Items in Façade

1 Item

Wall Construction
Ceramic Tile system (YJFJ73)

Effect

Neutral

Risk

Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m

Negative

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

2 m to 5 m

NOTE At this height, the scope for a fire originating externally (e.g. involving a parked vehicle or waste skip started either accidentally or deliberately) igniting the cladding is considered possible, but not likely at an early stage in the development of the fire.

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 limited in extent and running vertically, closed by construction.

Neutral

N.5 Infill / Spandrel Panels

In a vertical continuous line with windows such as to increase the likelihood of secondary fires

Negative

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, and 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 highly likely

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

Conclusion: The external surface material is formed with a 16mm ceramic lockclad tile. The tile is viewed as presenting a non-combustible product, This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The ceramic tile construction is formed using a natural and organic material that has been shaped and kiln baked, this process is in excess of 1000°C. As such this façade material is considered not to contribute or aid in the development of fire spread across the envelop of the building.

The tiles are fixed to a metal framing system and beyond the surface is a filled 120mm cavity. Insulation is provided by 100mm rockwool slab ahead of the support backing wall which is affixed to the substrate.

The Mineral wool insulating layer is viewed as presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

We have considered this external wall type against benchmark L9.

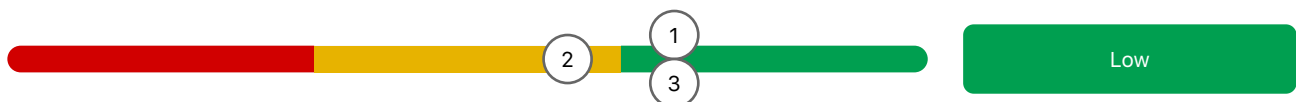
This external wall type is present on all elevations in sections with non-combustible spandrel sections present below windows on the east elevation.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Façade Configuration: 1TU22Y

Items in Façade

1 Item	Effect	Risk
Wall Construction Aluminium Cladding System (2AC2EG)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m	Negative
--------------	----------

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 accidentally or deliberately) igniting the cladding is highly likely.	Negative
--	----------

N.3 Extent of Cladding

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

N.4 Cavities & Openings

Cavity limited in extent and running vertically, closed by construction.	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, and 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 highly likely

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

No combustible elements

Neutral

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

Conclusion: The external surface material is formed with a 3-4mm solid aluminium panel, Aluminium is a soft metal that has a low melting point. As such this material is able to perform in temperatures between 400°C and 600°C, after which the metal will start to melt. Although it will not combust it will form molten droplets which may fall and

ignite combustible materials below to cause secondary fires.
The panel is held in position using aluminium helping hand brackets.

Beyond the surface is a filled 60mm cavity ahead of the support backing wall of 10mm masonry which is affixed to the substrate.

The insulating layer was formed of 60mm of mineral wool at the central light coloured sections (80mm at grey aluminium flank ends), the survey details this as Rockwool slab, The Mineral wool is viewed as presenting a non-combustible product. This means this product will not ignite as such this poses a low risk to the contribution of fire and external fire spread.

The system fully encloses the original balconies at the corners of the building.
The substrate for the building is the original construction -Wates Precast reinforced concrete. These walls are supported with reinforced concrete floor slab. This presents a non-combustible element that will not aid or support the contribution to fire spread.

The inner leaf plasterboard is considered limited in combustibility to prevent the passage of fire through the external wall system. No conclusion can be formed on the installation, fixing methods and spacings of fixings of the plasterboard sheets to confirm its installation as per the manufacturers guidelines.

Within the inspection location the cavities were fully filled, tightly packed with the mineral wool slab board.

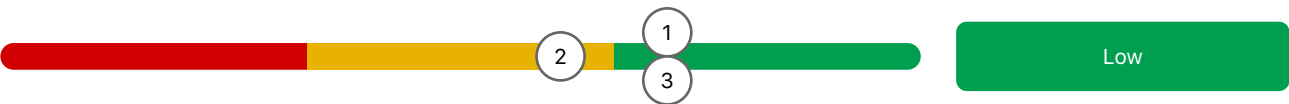
We have considered this external wall type against benchmark L9.

This external wall type extends vertically from the ground floor at building corners and at central spandrel locations to rear elevations on the buildings envelope.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



Façade Configuration: C6YMSR

Items in Façade

1 Item	Effect	Risk
Wall Construction Glazed Curtain wall system (B5VHAZ)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

18 m to 30 m	Negative
--------------	----------

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 accidentally or deliberately) igniting the cladding is highly likely.	Negative
--	----------

N.3 Extent of Cladding

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

N.4 Cavities & Openings

Cavity limited in extent and running vertically, closed by construction.	Neutral
--	---------

N.5 Infill / Spandrel Panels

Not Applicable	
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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, and 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 highly likely

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

No combustible elements

Neutral

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

Conclusion: The curtain walling is constructed using an aluminium framework, aluminium is a soft metal that has a low melting point. As such this material is able to perform in temperatures between 400°C and 600°C, after which the metal will start to melt. Although it will not combust it will form molten droplets which may fall and ignite

combustible materials below to cause secondary fires.

Within the aluminium framework is an infill of glazing. The glazing has been identified as thermal glazing for its strength and ability to comply with Approved Document K. As such the glass is able with stand temperature differentials up to 200°C (plus ambient).

This means that there is a lower risk to thermal fracturing and will aid in preventing fire penetration through the external wall internally; and as such would allow the occupants to turn their back on fire to escape from the effects of the fires effluents.

Furthermore, these systems are mechanically secured into the floor slab and will afford a period of mechanical support.

The position of these systems within the buildings envelope are in areas of communal means of escape and should legally be kept sterile at all times as to present a lower risk to ignition.

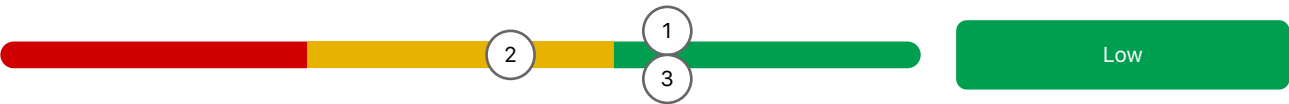
We have considered this external wall type against benchmark L10.

This wall type is flanked by the Non-combustible render ETICs system.

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.

It is our professional opinion that given the analysis of this external wall type, that there is no requirement for remediation.



APPENDIX

Asset Information

Client Name

Sandwell Metropolitan Council

Responsible Person

Sandwell Metropolitan Council

Contact Details

Lisa Ellis

Fire Alarm System

There is no BS5839 (Part 6 or Part 1) Fire detection/alarm system provided in the common areas of the building. The smoke detection provided is part of the smoke ventilation system. Smoke vents have their own control panels located within the riser cupboards.

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). Luminaires appear to be correctly sited and appear to provide adequate lighting.

Smoke Control

Natural smoke control, Smoke control installed

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

A suppression system is installed in high risk areas such as the refuse/bin store.

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

Hydrant is located on the approach road to the front of the main entrance/main access point. Information for services is in the PIB.
Public fire hydrants can be located: <https://dataservices.riscauthority.co.uk/map/index>

Housekeeping

Good standard. Means of escape clear. Refuse stored appropriately

Secure Information Boxes

Secure information box (SIB) installed

Signage

Appropriate signage installed throughout premises

Property Type

Residential

Building Era / Age

Known Build Date

Known Build Date

1964

Building Height

Approximately 24m to the highest occupied floor level. (calculated at 3m per floor as per PAS 9980-2022 section 3.1.22)

Number of Storeys (Ground and above)

9

Number of Flats

36

Flat Types

Single Storey

Structural Wall Material

Concrete / Brick

Structural Floor Material

Reinforced Concrete

Structural Stairs Material

Concrete

Construction (Details)

Traditional concrete frame and brick construction

Exterior Cladding

FRAEW Completed on Exterior Cladding

Exterior Cladding (Details)

H&H Aluminium panels (A1), Rockwool insulated Wetherby Render (A2) - Lockclad ceramic (A1) tiles, brick

Electronic Entrance System

Yes

Carpark

External/Outdoor Carpark

Employees

Day staff

Employees (Extended)

No staff on site (Occasional staff attendance expected - low numbers anticipated)

Residents

Yes

Approx number of Residents

72

Residents (Extended)

Assumed to be two residents per flat (Exact numbers not known)

Visitors

Day

Visitors (Extended)

Residential block - low number of visitors expected at any one time

People With Reduced Mobility

None

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 sufficient fire exits from the premises of suitable width and within acceptable travel distances. These will allow all persons in the premises to evacuate safely in the event of fire. Emergency exits open outwards in escape direction.

Number Of Internal Escape Stairs

1

Number Of Final Exits

2

External Means Of Escape

None Present

Types Of Lifts Installed

Passenger

Evacuation Chairs Installed

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: Macaulay House

Aerial Perspective (picture sourced from Google Earth)



Elevations

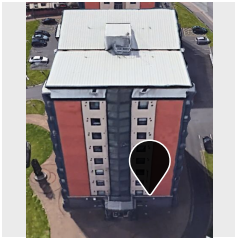
Photo	Name	No. of Storeys
 Aerial view of the North Elevation of Macaulay House, showing a 9-storey building with a flat roof and a central vertical strip of windows. A small white box with the number '1' is in the top right corner.	North Elevation	9 Storeys
 Ground-level view of the East Elevation of Macaulay House, showing a 9-storey building with a flat roof and a central vertical strip of windows. A small white box with the number '2' is in the top right corner.	East Elevation	9 Storeys
 Aerial view of the South Elevation of Macaulay House, showing a 9-storey building with a flat roof and a central vertical strip of windows. A small white box with the number '3' is in the top right corner.	South Elevation	9 Storeys
 Aerial view of the West Elevation of Macaulay House, showing a 9-storey building with a flat roof and a central vertical strip of windows. A small white box with the number '4' is in the top right corner.	West Elevation	9 Storeys

Inspections

Elevation Location

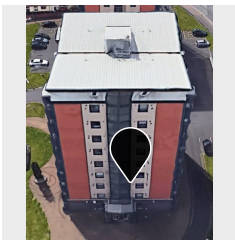
Inspection

Elements



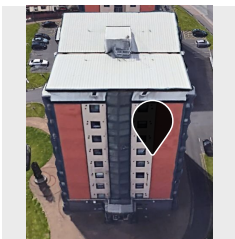
Inspection: GEFEB A
North Elevation
Compartment Floor Junction

- Surface Finish (Brickwork)
- Cavity
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Blockwork)



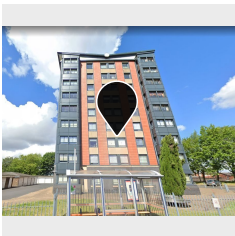
Inspection: QW1JA2
North Elevation
Vertical Compartment Junction

- Surface Finish (Sto render)
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Reinforced concrete)



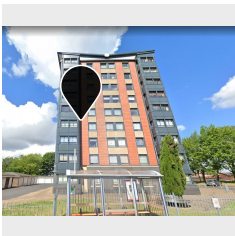
Inspection: UXYJJZ
North Elevation
Compartment Floor Junction & System Interface

- Surface Finish (Terracotta tile)
- Cavity
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Blockwork)



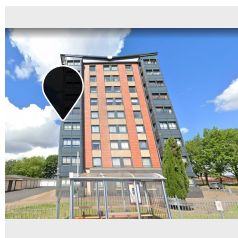
Inspection: YRKR2E
East Elevation
Compartment Floor & Compartment Wall Junction

- Surface Finish (Sto render)
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Reinforced concrete)



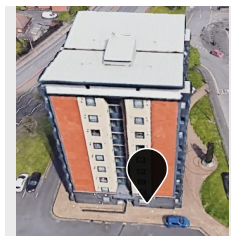
Inspection: I6795V
East Elevation
Compartment Floor Junction & System Interface

- Surface Finish (Terracotta tile)
- Cavity
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Reinforced concrete)

Elevation Location**Inspection****Elements**

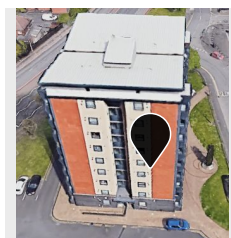
Inspection: 2WJ26W
East Elevation
Compartment Floor Junction

- Surface Finish (Aluminium panel)
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Reinforced concrete)



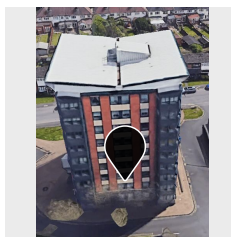
Inspection: QJJYRS
South Elevation
Window Aperture Junction

- Surface Finish (Brickwork)
- Insulation (Mineral Wool Insulation)
- Cavity
- Inner Leaf (Blockwork)



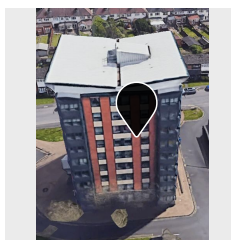
Inspection: FRJ7M9
South Elevation
Compartment Floor Junction & System Interface

- Surface Finish (Sto render)
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Blockwork)



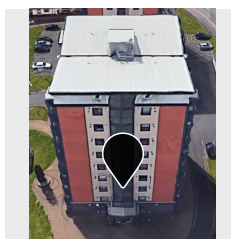
Inspection: HIEDS5
West Elevation
Compartment Floor & Compartment Wall Junction

- Surface Finish (Sto render)
- Insulation (Mineral Wool Insulation)
- Sheathing Board
- Inner Leaf (Reinforced concrete)
- Cavity



Inspection: 2RHJT8
West Elevation
Compartment Floor Junction

- Surface Finish (Terracotta tile)
- Insulation (Mineral Wool Insulation)
- Inner Leaf (Brickwork)



Inspection: F7B8US
North Elevation
Curtain Glazing wall

No elements identified

Elevation Location	Inspection	Elements
	Inspection: ZYPREG Desktop added	No elements identified

Inspection: GEFEB A

Elevation • Location
North Elevation • Compartment Floor Junction



Name/Summary

Sample Area 1

Description

Floor level no cavity barrier

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	100mm	Brickwork	5, 6	A1 - Non-Combustible
Cavity	135mm		7	
Insulation	75mm	Mineral Wool Insulation Material Brand: Rockwool slab	8	A1 - Non-Combustible
Inner Leaf	100mm	Blockwork	9	A1 - Non-Combustible

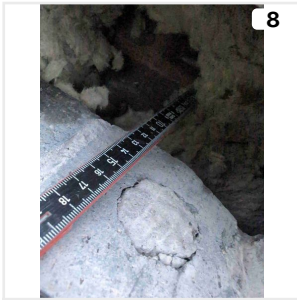
Cavity Barriers

None

Floor Slab

Floor Slab Abuts The Backing Wall

Build-up Photos



Inspection Photos



Inspection: QW1JA2

Elevation • Location
North Elevation • Vertical Compartment Junction



Name/Summary

Sample Area 2

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	4mm	Sto render	11	A1 - Non-Combustible
Insulation	90mm	Mineral Wool Insulation	12	A1 - Non-Combustible
Render onto rockwool slab				
Inner Leaf		Reinforced concrete	13	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	11

Floor Slab

Reinforced concrete

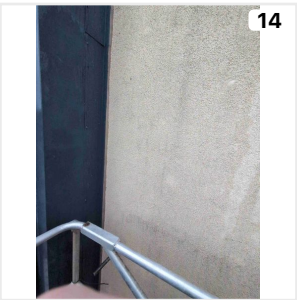
Build-up Photos



Cavity Barrier Photos



Inspection Photos



Inspection: UXYJJZ

Elevation • Location
North Elevation • Compartment Floor Junction & System Interface



Name/Summary

Sample Area 3

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	16mm	Terracotta tile	15	A1 - Non-Combustible
Cavity	210mm		16, 17	
Insulation	100mm	Mineral Wool Insulation	18, 19	A1 - Non-Combustible
Mesh foil on one side				
Inner Leaf		Blockwork Material Brand: Block work	20	A1 - Non-Combustible

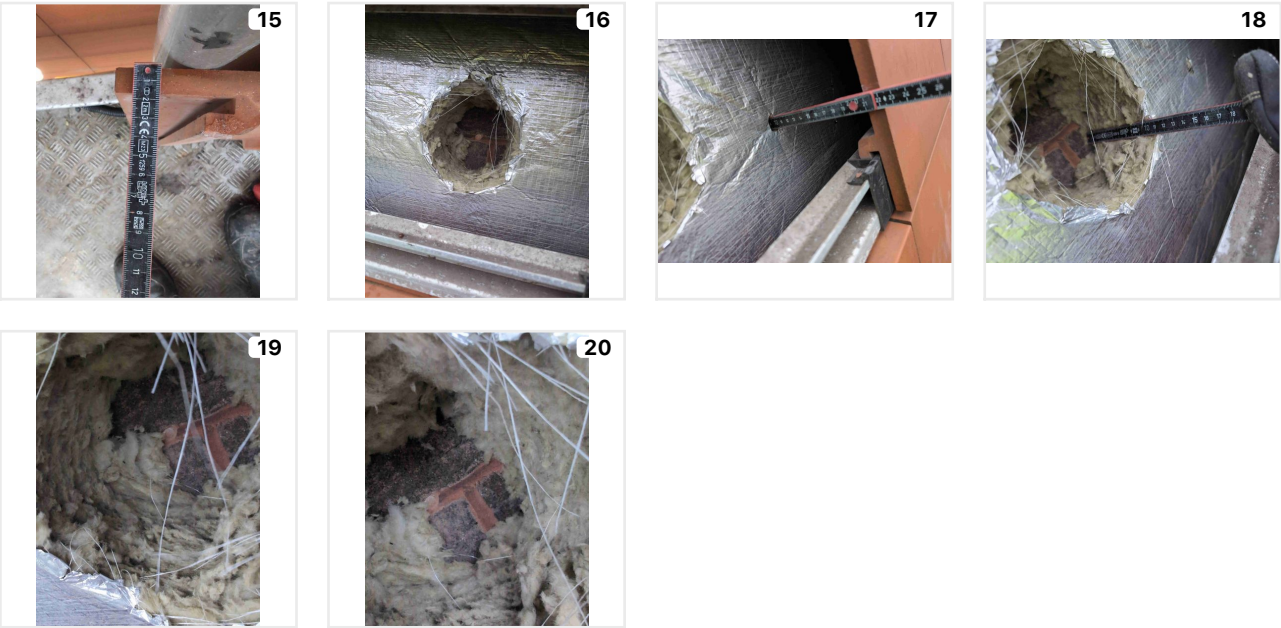
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	16

Floor Slab

Reinforced concrete

Build-up Photos



Cavity Barrier Photos



Inspection Photos



Inspection: YRKR2E

Elevation • Location
East Elevation • Compartment Floor & Compartment Wall Junction



Name/Summary

Sample Area 4

Description

Render on to slab

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	4mm	Sto render	22, 23	A1 - Non-Combustible
Insulation	90mm	Mineral Wool Insulation	24, 25	A1 - Non-Combustible
Inner Leaf		Reinforced concrete Material Brand: Concrete	26, 27	A1 - Non-Combustible

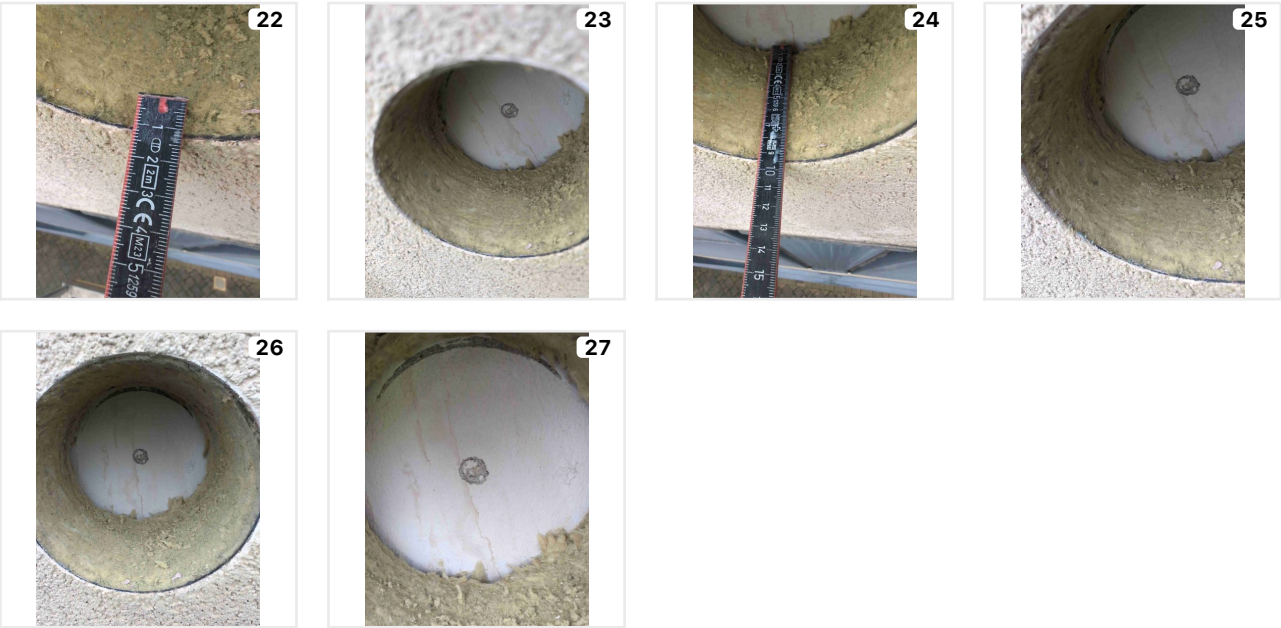
Cavity Barriers

Installed

Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: I6795V

Elevation • Location
East Elevation • Compartment Floor Junction & System Interface



Name/Summary

Sample Area 6

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	16mm	Terracotta tile	29	A1 - Non-Combustible
Cavity	120mm		30, 31, 32	
Insulation	90mm	Mineral Wool Insulation	33, 34, 35	A1 - Non-Combustible
Inner Leaf		Reinforced concrete	36, 37	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	38

Floor Slab

Reinforced concrete

Build-up Photos



Cavity Barrier Photos



Inspection Photos



Inspection: 2WJ26W

Elevation • Location
East Elevation • Compartment Floor Junction



Name/Summary

Sample Area 7

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	3mm	Aluminium panel	40, 41	A1 - Non-Combustible
Insulation	40mm	Mineral Wool Insulation	42, 43	A1 - Non-Combustible
Inner Leaf	10mm	Reinforced concrete	44, 45, 46	A1 - Non-Combustible

Concrete wall with steel beam.

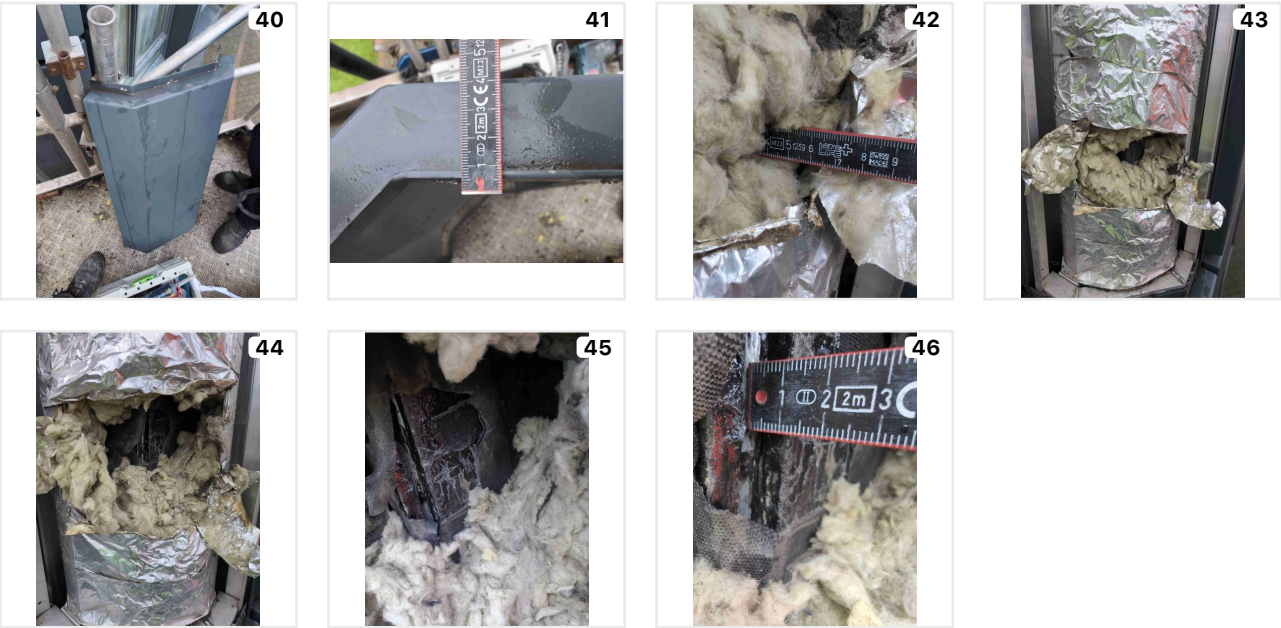
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	

Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: QJJYRS

Elevation • Location
South Elevation • Window Aperture Junction



Name/Summary

Sample Area 8

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	100mm	Brickwork	48, 49	A1 - Non-Combustible
Insulation	80mm	Mineral Wool Insulation	50, 51, 52	A1 - Non-Combustible
Window jam window closed by plastic cavity closer				
Cavity	140mm		53	
Inner Leaf		Blockwork Material Brand: Block work	54	A1 - Non-Combustible

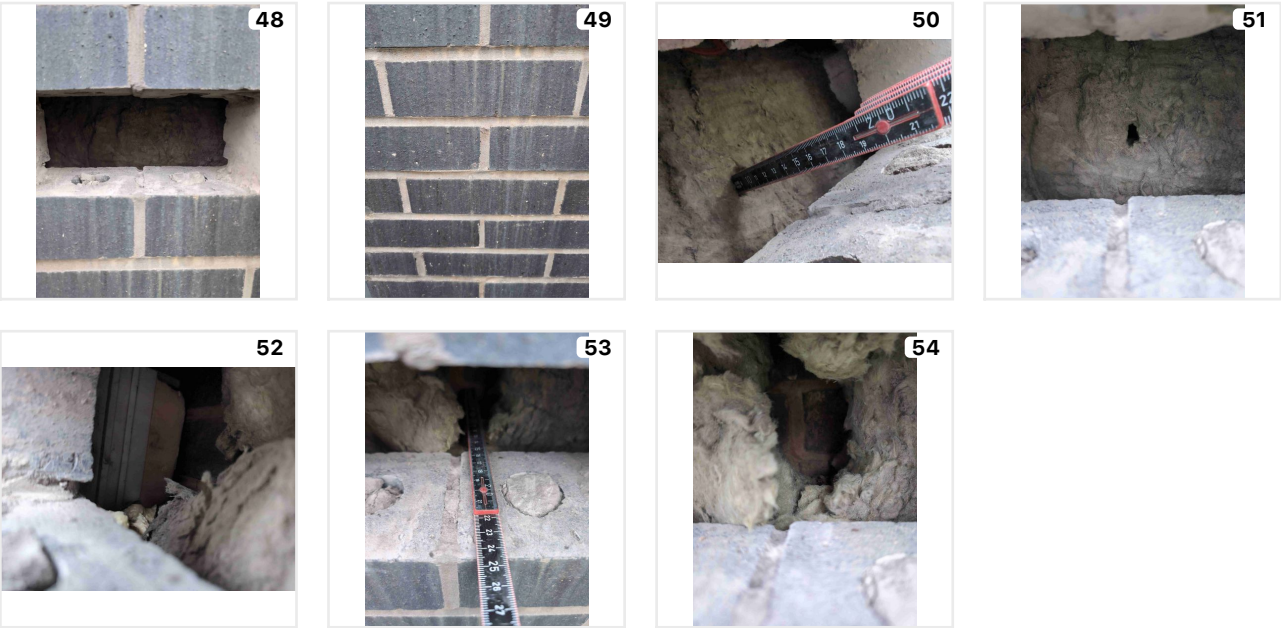
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	

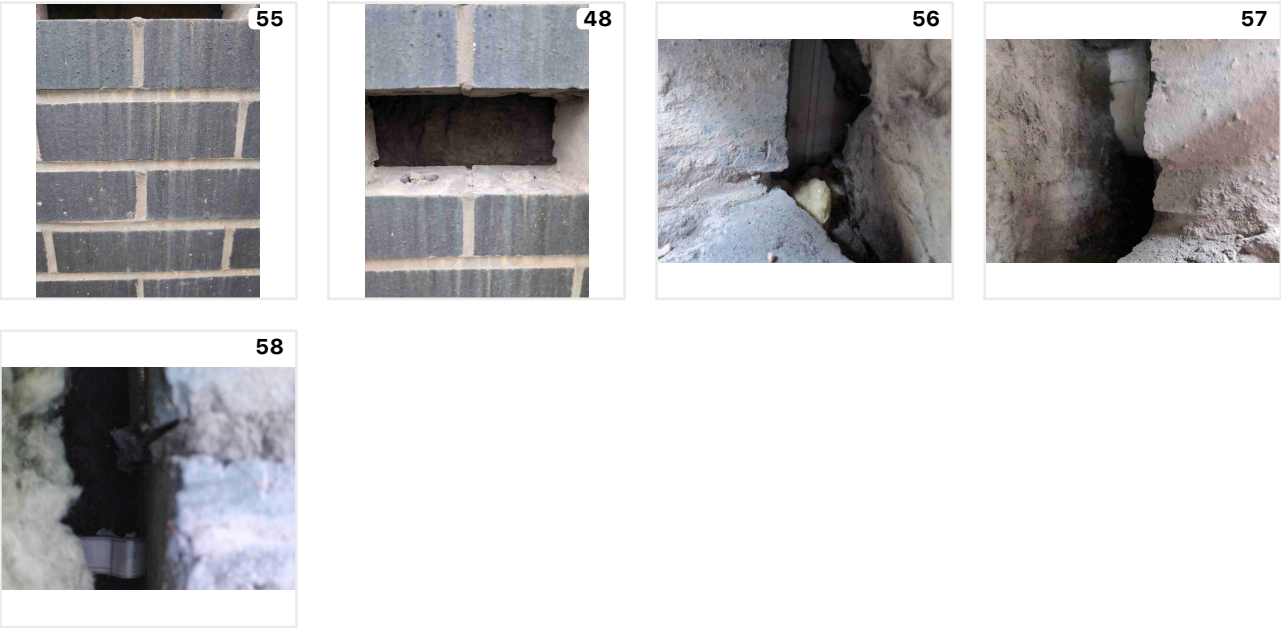
Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: FRJ7M9

Elevation • Location
South Elevation • Compartment Floor Junction & System Interface



Name/Summary

Sample Area 9

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	4mm	Sto render	59, 60	A1 - Non-Combustible
Render onto rockwool slab				
Insulation	90mm	Mineral Wool Insulation	61, 62	A1 - Non-Combustible
Inner Leaf		Blockwork	63, 64	A1 - Non-Combustible
Block work				

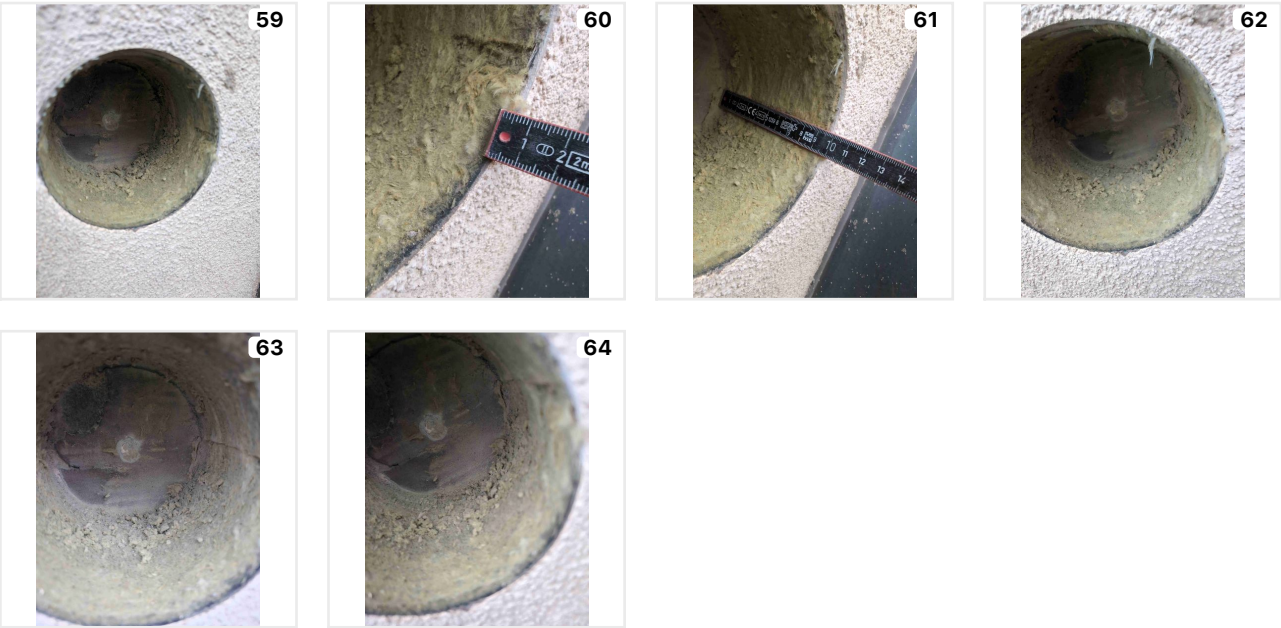
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	

Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: HIEDS5

Elevation • Location

West Elevation • Compartment Floor & Compartment Wall Junction



Name/Summary

Sample Area 10

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	4mm	Sto render	66, 67, 68	A1 - Non-Combustible
Insulation	90mm	Mineral Wool Insulation	69	A1 - Non-Combustible
Render onto rockwool slab				
Sheathing Board	30mm		70, 71	D - Highly Combustible
Marine plywood				
Inner Leaf		Reinforced concrete	72	A1 - Non-Combustible
30mm cavity				
Cavity	30mm			

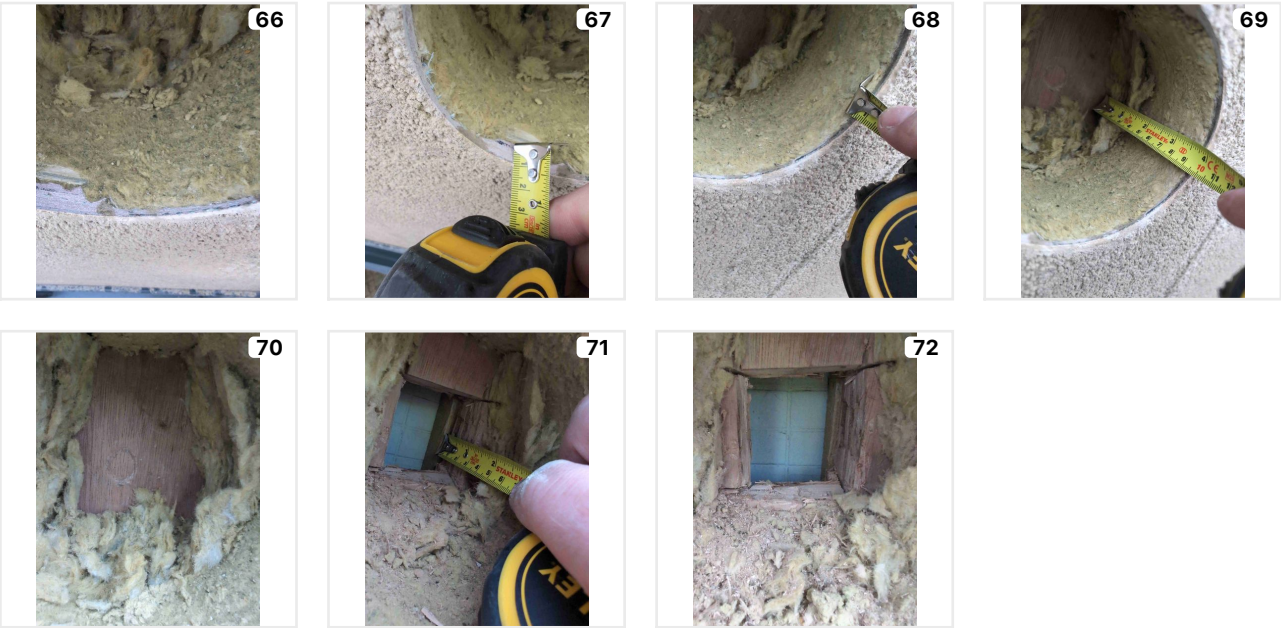
Cavity Barriers

None

Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: 2RHJT8

Elevation • Location
West Elevation • Compartment Floor Junction



Name/Summary

Sample Area 11

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	16mm	Terracotta tile	74	A1 - Non-Combustible
Insulation	100mm	Mineral Wool Insulation	75, 76, 77	A1 - Non-Combustible
Inner Leaf	100mm	Brickwork	78	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	

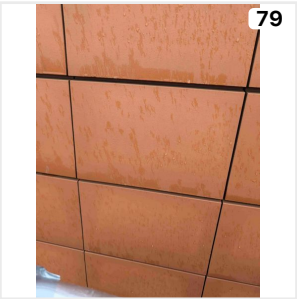
Floor Slab

Reinforced concrete

Build-up Photos



Inspection Photos



Inspection: F7B8US

Elevation • Location
North Elevation • Curtain Glazing wall



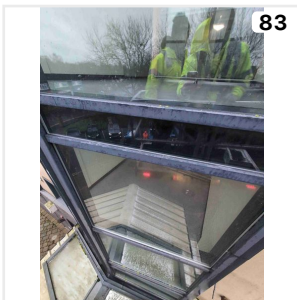
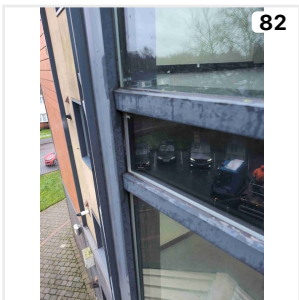
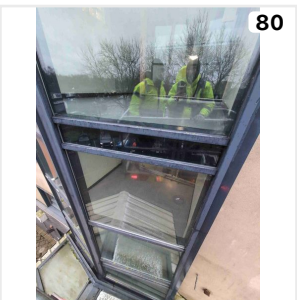
Name/Summary

Sample Area 12

Description

Glass panel on aluminium frame

Inspection Photos



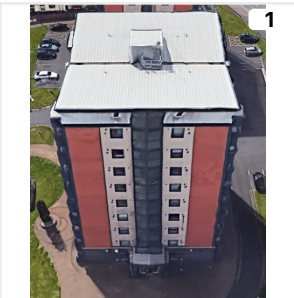
Inspection: ZYPREG

Location
Desktop added

Name/Summary

White Cladding section at top floor

Inspection Photos



External Windows

Photo

External Window



Other (M4DSDQ)

External Window: Other

External Window Reference
M4DSDQ

Details

Surface Material

Aluminium

Infill / Panel Material

Toughened Glass

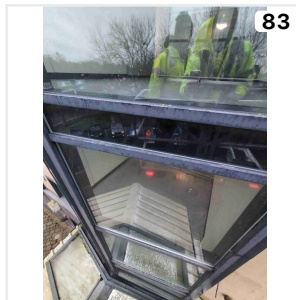
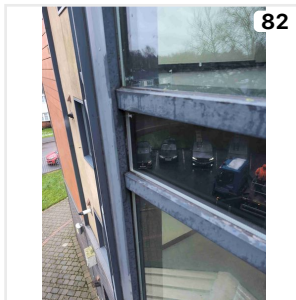
Frame Material

Aluminium

Details

Curtain Glazing wall

Photos



External Doors

Photo

External Door

No Image

Single Leaf Entrance Doors (NU4FKI)

External Door: Single Leaf Entrance Doors

External Door Reference
NU4FKI

Details

Surface Material

Aluminium and Glass

Infill / Panel Material

Toughened Glass

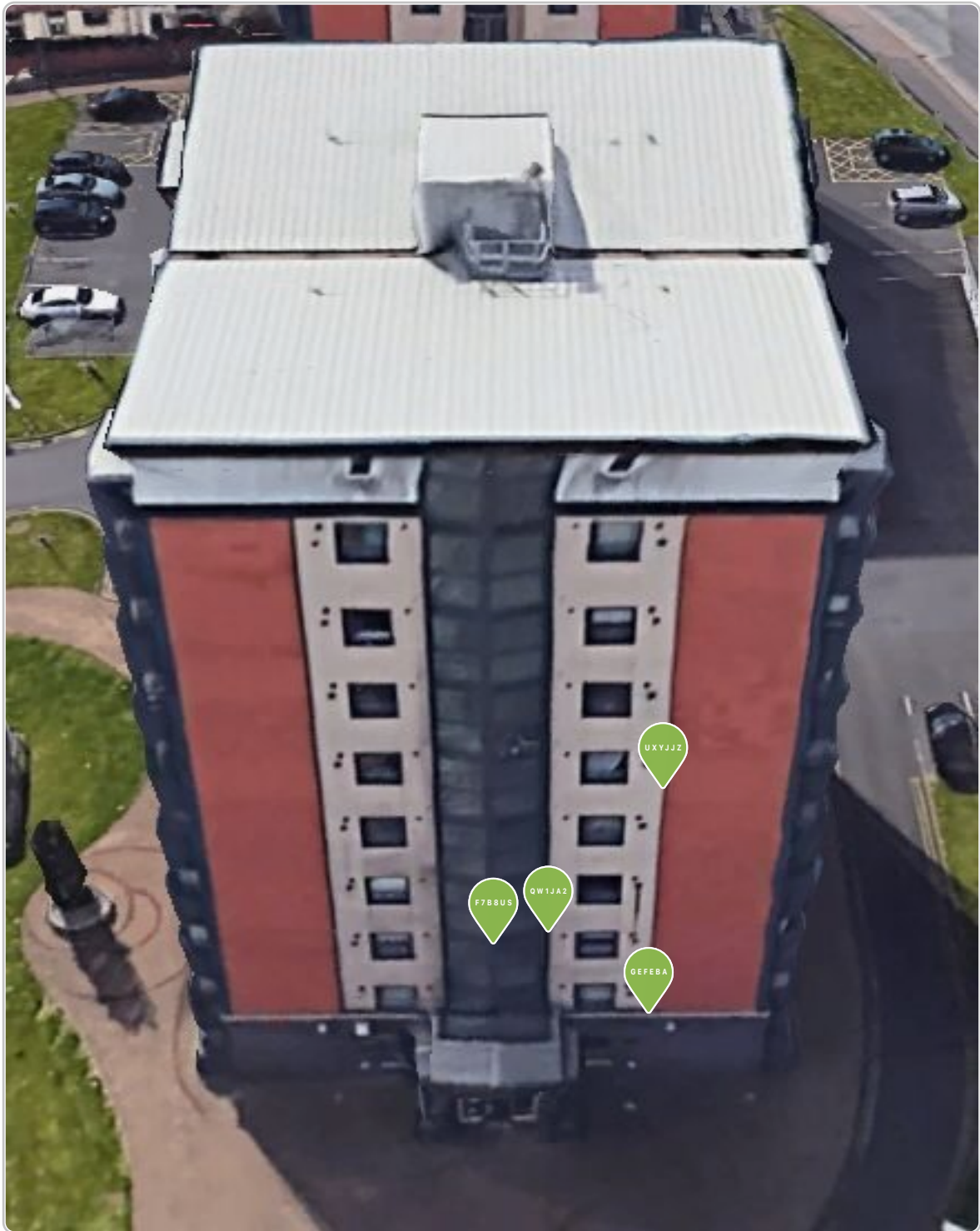
Frame Material

Aluminium

Details

Entrance doors

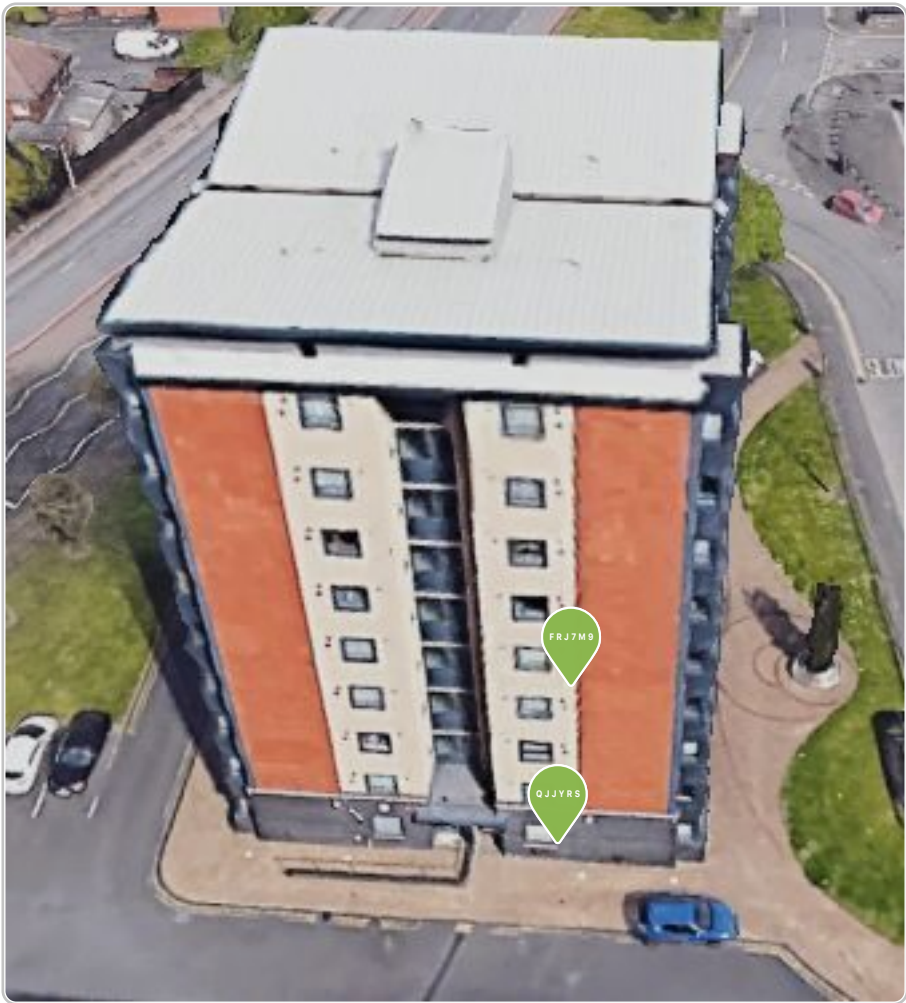
Plan: North Elevation



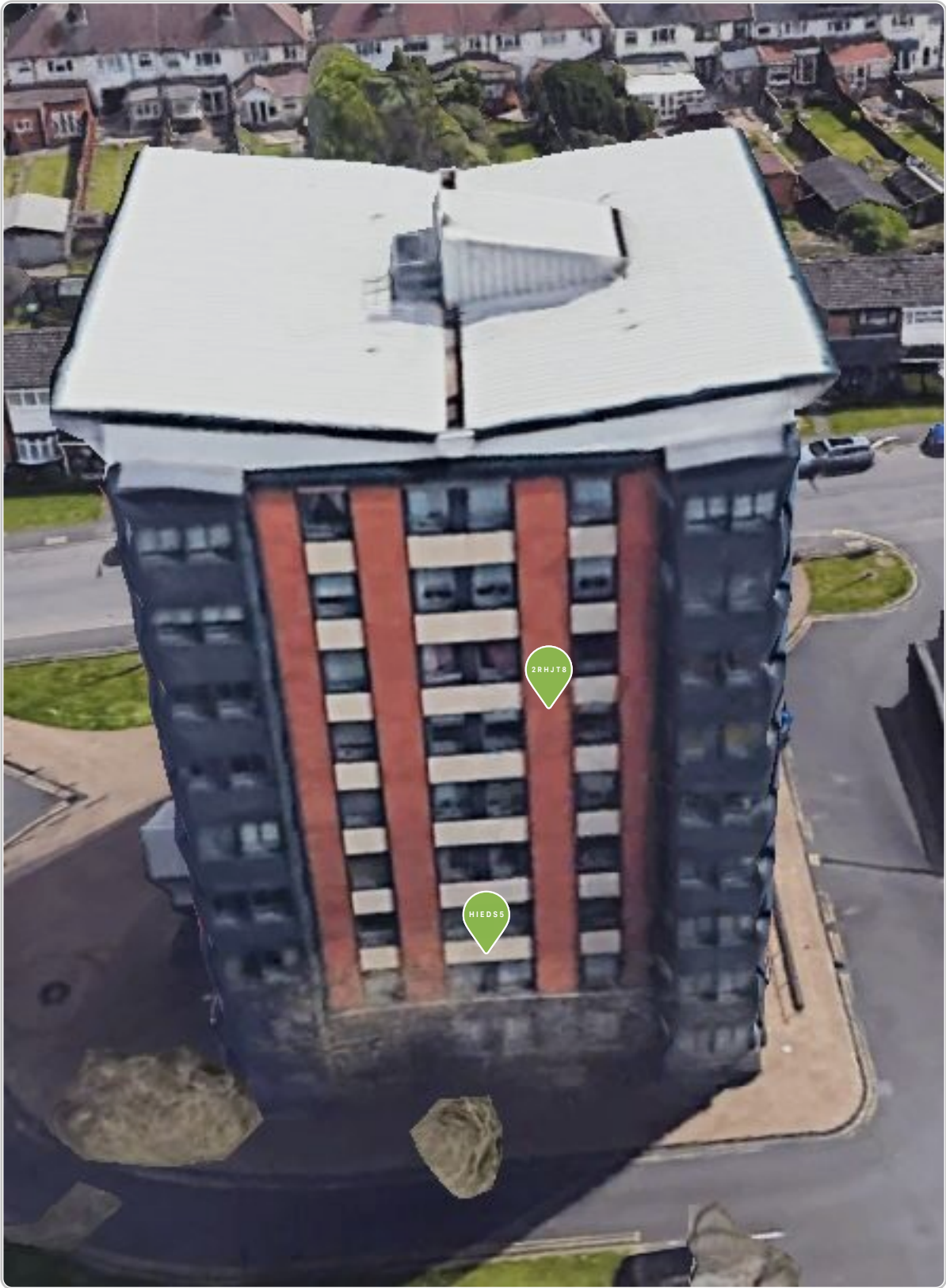
Plan: East Elevation



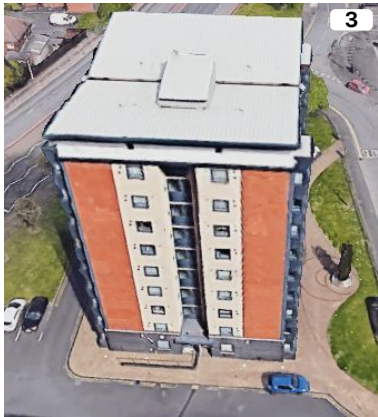
Plan: South Elevation



Plan: West Elevation



Photos



Photos Continued...



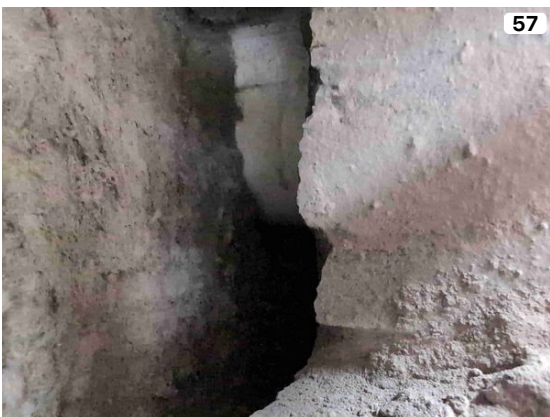
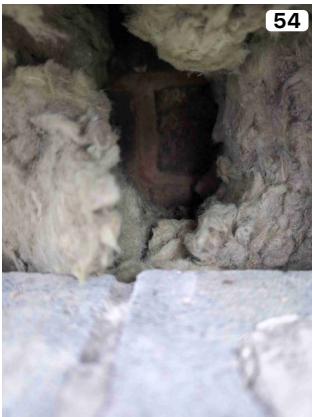
Photos Continued...



Photos Continued...



Photos Continued...



Photos Continued...



Photos Continued...





FIRNTEC
BUILDING COMPLIANCE