FIRNTEC
BUILDING COMPLIANCE

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

Document Version 1
Survey Date 15/09/2025
Suggested Review Date 15/09/2030

FIRE RISK APPRAISAL EXTERNAL WALLS

LAWRENCE COURT

Kingsway
Brandhall
B68 0HB

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Summary

Fire Risk Appraisal External Walls

Assessment and Certificate Reference
RB-PX4Q8T

Assessed On, By
15/09/2025, James Major (Facade Manager)

Approved / Validated On, By
16/10/2025, Lea Morland

Recommended Review Date
15/09/2030

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.

Assessed Property

Property Name
Lawrence Court

Property Reference
RB-7TF9VM

Address
Kingsway
Brandhall
B68 0HB

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

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).

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
Fire Risk Assessment Sandwell Metropolitan Borough Council Fire Risk Assessment	Received

Executive Summary

External Wall Systems and Attachments on the Building

15 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.

6 Items	Effect	Risk
Wall Construction Ceramic Tile System (IGTWT6)	Positive	Low
Wall Construction Aluminium Panels (M9EXUS)	Positive	Low
Wall Construction Masonry (Brickwork) (6JS9AW)	Positive	Low
Wall Construction Aluminium Spandrel Panels (PIR) (6UFCTS)	Neutral	Medium
External Window Top, Mid, Side Hung Casements (JTYFJS)	Neutral	Low
External Door Single Leaf Entrance Doors (IEU3CT)	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 **Y5IMD7** which includes wall construction **IGTWT6**.

Conclusion: This wall system is comprised of a 15mm terracotta tile affixed to an aluminium rail system. Beneath this is 100mm mineral wool insulation and the original brickwork.

The terracotta tiles are generally considered to be non-combustible due to the nature of their composition and would not be expected so sustain, support, or contribute to fire spread across the external surface of the building.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Rockwool cavity barriers were identified in all sample locations. These were observed to be intumescent in order to close the air cavity under fire conditions.

This wall system forms continuous vertical sections adjacent to the aluminium panel system. They begin on the first floor and extend the full height of the building. There are no structural openings in this wall type. Given the limited combustibility of the materials used to form the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low. The adjacent aluminium system is also non-combustible and as such fire would not be expected to spread between the wall systems.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Risk Factor Analysis 2

This analysis looks at façade configuration **C4IB3L** which includes wall construction **M9EXUS**.

Conclusion: This wall system is comprised of a 3mm aluminium panel affixed to an aluminium rail system. Beneath this is 100mm mineral wool insulation and the original brickwork.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Horizontal Rockwool cavity barriers were identified in all sample locations. These were observed to be intumescent in order to close the air cavity under fire conditions.

This wall system forms continuous vertical sections in line with the windows of the building. They begin at ground floor and extend the full height of the building. Structural openings in the facade include windows opening into the accommodation. Given the limited combustibility of the materials used to form the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low. The adjacent terracotta tiling system is also non-combustible.

This building operates a ‘Stay Put’ evacuation policy. It is anticipated that, due to the nature of the building’s construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

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

b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Risk Factor Analysis 3

This analysis looks at façade configuration **G9Q466** which includes wall construction **6JS9AW**.

Conclusion: This wall system is comprised of a double-leaf masonry system. The outer leaf of masonry was identified as 102mm brickwork and the inner leaf was observed to be 100mm blockwork. Within the cavity, mineral wool insulation was identified.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

As set out in PAS9980, a building whose external walls are composed exclusively of this form of construction is not ordinarily expected to require an FRAEW. However, it is recognised 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

No dedicated cavity barriers were identified within the wall system; however, it was observed that the cavity was fully filled with mineral wool, effectively disrupting the mechanism for vertical fire spread within the cavity.

This wall system forms the facade of the ground floor and spans the entire perimeter of the building. Structural openings in the facade include windows opening into the accommodation and is adjacent to the entrance/exit doors. Given the non-combustibility of the materials used to form the outer and inner leaf of the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate

access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Risk Factor Analysis 4

This analysis looks at façade configuration **6EC4CN** which includes wall construction **6UFCTS**.

Conclusion: The spandrel panel system is comprised of a 2mm aluminium panel affixed to an aluminium rail system. Within this sits approximately 140mm PIR foam insulation and then the concrete floor slab.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

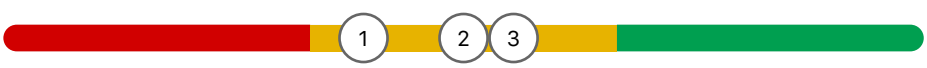
The PIR (Polyisocyanurate) is viewed as presenting a medium risk to the contribution to fire spread. PIR insulation is less combustible and has better fire performance compared to some other foam insulations. It ignites at temperatures typically around 300°C to 400°C, forms a protective char layer which helps to insulate and protect the underlying material, and generally produces less smoke and toxic gases. However, it can still contribute to fire growth and produce hazardous gases when it burns. It should be noted that the final fire performance of plastic foams such as PIR strongly depends on the chemical composition and manufacturing process. e.g., content of isocyanate linkages and type of isocyanate-reactive component for PIR.

This wall system sits at floor level as part of the curtain wall forming the external surface of the escape staircase. It begins at the first floor level and extends the full height of the building. Structural openings in the facade include windows opening into the escape staircase. The adjacent wall systems of terracotta tiling and aluminium panels are non-combustible and, as such, would not be expected to allow fire to spread to this wall type containing combustible insulation. Due to this wall type beginning at the first floor above the primary entrance, the likelihood of exposure to external sources of ignition is limited.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.



Medium

Overall Building Risk Rating

Medium

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

Recommended Remediations

No recommended remediations identified.

Recommended Interim Measures

No recommended interim measures identified.

Recommended Enhancements

No recommended enhancements 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

Photo Ref. 1, 2, 3

Neutral

F.3 Escape Route Design

Single staircase, with lobby approach

Photo Ref. 2

Neutral

F.4 Compartmentation

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

Photo Ref. 4, 2, 5

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

Neutral

F.6 Fire Alarm & Detection

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

Neutral

F.7 Fire Suppression

Sprinkler system installed within bin rooms only

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

Photo Ref. 6, 7

Neutral

F.10 Lifts Used By Firefighters

No dedicated firefighting lift.

Fire control switch.

Photo Ref. 8, 9

Neutral

F.11 Specific Fire Hazards

Vehicle parking on roadways adjacent to building

Neutral

Photos

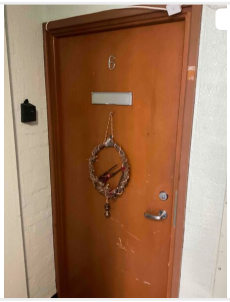
1

2

3

4

5



6

7

8

9

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	300 Seconds	5 Minutes
Arrival Protocol And Entry Preparation Time	180 Seconds	3 Minutes
Firefighter travel to operational bridgehead	45 Seconds	45 Seconds
Firefighter Travel Walking Up Two Flights Of Stairs To Fire Floor (75 Seconds)	75 Seconds	1 Minute 15 Seconds
Total Time	**860 Seconds**	**14 Minutes 20 Seconds**

Nearest Fire Station

Oldbury Fire Station, located at Old Park Lane, Oldbury, B69 4PU. This station is approximately 1 mile (1.6 km)

Wall Constructions

Wall Construction	Build-up
Ceramic Tile System (IGTWT6)	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
Aluminium Panels (M9EXUS)	• External Surface Material (Aluminium Panel) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
Masonry (Brickwork) (6JS9AW)	• External Surface Material (Brickwork) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
Aluminium Spandrel Panels (PIR) (6UFCTS)	• External Surface Material (Aluminium Panel) • Insulation (PIR Insulation) • Cavity • Substrate (Reinforced concrete column)

Wall Construction: Ceramic Tile System

Construction Reference
IGTWT6

This wall construction was identified by wall inspections W4GKY2, 2JYAUH, 7JNJ5D, 7R31AH, 8KCJ9I, and 4ZIYD4. The build-up, cavity barrier, and floor slab information is taken directly from inspection W4GKY2. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Ceramic Tile System (IGTWT6)	Positive	Low

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
External Surface Material	14mm	Terracotta Tile	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	A2 - Limited Combustibility
Insulation		Mineral Wool Insulation	A1 - Non-Combustible
Encased in foil faces, x2 each 100mm			
Substrate		Original brickwork	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/A2	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

Cavity barriers present with no more than minor workmanship defects	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

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 not find a cladding system with the configuration and components that would constitute an exact match to what our inspections found on the Property. Therefore, a BR135 benchmark would not be applicable for this external wall type

Wall Construction: Aluminium Panels

Construction Reference
M9EXUS

This wall construction was identified by wall inspections EM4M1L, NBKJBS, 2BC9YL, and AS6JL2. The build-up, cavity barrier, and floor slab information is taken directly from inspection EM4M1L. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Aluminium Panels (M9EXUS)	Positive	Low

Build-Up

5 Elements	Thickness/Depth	Material	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	A2 - Limited Combustibility
Framework		Aluminium L/T Rail	A2 - Limited Combustibility
Cavity	98mm		
Insulation	100mm	Mineral Wool Insulation	A1 - Non-Combustible
Substrate		Original brickwork	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces Material Brand: Rockwool

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	Positive
Low HRR	Positive

K.4 Panel Construction

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

K.5 Cavities

Cavity barriers present with no more than minor workmanship defects	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

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

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.

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. Therefore, a BR135 benchmark would not be applicable for this external wall type

Wall Construction: Masonry (Brickwork)

Construction Reference
6JS9AW

This wall construction was identified by wall inspections 9K6S77, 9M32VC, and 2JY3ZK. The build-up, cavity barrier, and floor slab information is taken directly from inspection 9K6S77. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Masonry (Brickwork) (6JS9AW)	Positive	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
External Surface Material	102mm	Brickwork	A1 - Non-Combustible
Insulation	210mm	Mineral Wool Insulation	A1 - Non-Combustible
Substrate		Original brickwork	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material
Vertical Cavity Barrier	Solid State Mineral Wool

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/A2 — Positive

K.3 Facings/Cladding Panels

Low HRR — Positive

K.4 Panel Construction

Not Applicable

K.5 Cavities

Cavity barriers present with no more than minor workmanship defects — 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

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 not find a cladding system with the configuration and components that would constitute an exact match to what our inspections found on the Property. Therefore, a BR135 benchmark would not be applicable for this external wall type

Wall Construction: Aluminium Spandrel Panels (PIR)

Construction Reference
6UFCTS

This wall construction was identified by wall inspection L3836L. The build-up, cavity barrier, and floor slab information is taken directly from inspection L3836L. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Aluminium Spandrel Panels (PIR) (6UFCTS)	Neutral	Medium

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	A2 - Limited Combustibility
Insulation	140mm	PIR Insulation Material Brand: Kingspan (Green)	F - Highly Combustible
x2 each board 70mm			
Cavity			
Substrate		Reinforced concrete column	A1 - Non-Combustible

Cavity Barriers

No cavity barrier identified at this inspection location

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/A2	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 at least at compartment floors and walls but not: • around windows and other openings*; or • at ventilation ducts, grilles or other openings for services	Neutral

K.6 Insulation

Thermoset polymeric foams that form a stable char on fire exposure, e.g. some PIR foams	Neutral

K.7 Substrate

Masonry, >75 mm thick

K.8 Sheathing Boards

Not Applicable

K.9 Insulated Core Panels

Not Applicable

K.10 ETICS

Not Applicable

K.11 Infill / Spandrel Panels

Thermoset polymeric foams that form a stable char under fire exposure (e.g. phenolic and some PIRs) faced on front and rear with Class A1/A2 materials (this could include laminated glass on the front face)

Neutral

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

PAS Standard Benchmark

L9 Benchmark

PANELS -

Panels are cut from sheet material to the relevant size and fixed as rainscreen. The materials used to form panels, and the method of fixing them, both need to be assessed (see "Fixing methods" in Table L.6).

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. Therefore, a BR135 benchmark would not be applicable for this external wall type

Façade Configuration: Y5IMD7

Items in Façade

2 Items	Effect	Risk
Wall Construction Ceramic Tile System (IGTWT6)	Positive	Low
External Window Top, Mid, Side Hung Casements (JTYFJS)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building 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 accidently 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

Continuous vertically running cavity with cavity barriers or fire stops as appropriate — 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

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

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

Remote from windows and openings, such that fire spread into the escape routes to give rise to untenable conditions is remote

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: This wall system is comprised of a 15mm terracotta tile affixed to an aluminium rail system. Beneath this is 100mm mineral wool insulation and the original brickwork.

The terracotta tiles are generally considered to be non-combustible due to the nature of their composition and would not be expected so sustain, support, or contribute to fire spread across the external surface of the building.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Rockwool cavity barriers were identified in all sample locations. These were observed to be intumescent in order to close the air cavity under fire conditions.

This wall system forms continuous vertical sections adjacent to the aluminium panel system. They begin on the first floor and extend the full height of the building. There are no structural openings in this wall type. Given the limited combustibility of the materials used to form the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low. The adjacent aluminium system is also non-combustible and as such fire would not be expected to spread between the wall systems.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Façade Configuration: C4IB3L

Items in Façade

2 Items	Effect	Risk
Wall Construction Aluminium Panels (M9EXUS)	Positive	Low
External Window Top, Mid, Side Hung Casements (JTYFJS)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building 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 accidently 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 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, 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

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

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: This wall system is comprised of a 3mm aluminium panel affixed to an aluminium rail system. Beneath this is 100mm mineral wool insulation and the original brickwork.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Horizontal Rockwool cavity barriers were identified in all sample locations. These were observed to be intumescent in order to close the air cavity under fire conditions.

This wall system forms continuous vertical sections in line with the windows of the building. They begin at ground floor and extend the full height of the building. Structural openings in the facade include windows opening into the accommodation. Given the limited combustibility of the materials used to form the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low. The adjacent terracotta tiling system is also non-combustible.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Façade Configuration: G9Q466

Items in Façade

1 Item	Effect	Risk
Wall Construction Masonry (Brickwork) (6JS9AW)	Positive	Low

Façade Configuration Risk Factors

N.1 Building 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 accidently 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 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)

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

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

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

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: This wall system is comprised of a double-leaf masonry system. The outer leaf of masonry was identified as 102mm brickwork and the inner leaf was observed to be 100mm blockwork. Within the cavity, mineral wool insulation was identified.

Masonry brickwork is generally considered fire-resistant and can provide significant protection against fire for structural and non-structural elements. Masonry bricks, typically made from clay or concrete, have very high melting points (above 1000°C for clay bricks), making them resistant to fire and heat. Bricks have low thermal conductivity. This helps prevent the spread of fire to adjacent areas and provides a thermal barrier that protects the underlying structure. Masonry walls provide effective fire containment, often preventing fire from spreading between compartments within a building. The thickness and density of the masonry wall determine its fire resistance rating.

Mineral wool, which includes materials like stone wool, is known for its excellent fire-resistant properties. Mineral wool has a very high melting point, typically around 1,000°C to 1,200°C. This makes it non-combustible, meaning it does not contribute to the spread of fire. In the event of a fire, mineral wool acts as a thermal barrier. Its fibrous structure traps air, reducing the transmission of heat to other parts of the structure and slowing the spread of fire. Mineral wool maintains its insulation properties and shape even at high temperatures, further protecting the structural components of buildings, like steel, from heat damage.

As set out in PAS9980, a building whose external walls are composed exclusively of this form of construction is not ordinarily expected to require an FRAEW. However, it is recognised 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

No dedicated cavity barriers were identified within the wall system; however, it was observed that the cavity was fully filled with mineral wool, effectively disrupting the mechanism for vertical fire spread within the cavity.

This wall system forms the facade of the ground floor and spans the entire perimeter of the building. Structural openings in the facade include windows opening into the accommodation and is adjacent to the entrance/exit doors. Given the non-combustibility of the materials used to form the outer and inner leaf of the system, an externally venting fire from a compartment would not be expected to spread across this wall type, and the likelihood of an external fire igniting this wall type is also low.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Low

Façade Configuration: 6EC4CN

Items in Façade

2 Items	Effect	Risk
Wall Construction Aluminium Spandrel Panels (PIR) (6UFCTS)	Neutral	Medium
External Window Top, Mid, Side Hung Casements (JTYFJS)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building 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 accidently 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 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

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

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

Not Applicable

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

Adjacent to windows and openings, such that fire and smoke spread into the escape routes to give rise to untenable conditions is likely and there is only one escape for some or all occupants

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 spandrel panel system is comprised of a 2mm aluminium panel affixed to an aluminium rail system. Within this sits approximately 140mm PIR foam insulation and then the concrete floor slab.

Although aluminium is generally considered to be of limited combustibility, it is recognised as having a lower melting point than other metals used in construction. This may mean that in scenarios resulting in prolonged exposure to fire where temperatures exceed 600 degrees the material may begin to lose its structural integrity.

The PIR (Polyisocyanurate) is viewed as presenting a medium risk to the contribution to fire spread. PIR insulation is less combustible and has better fire performance compared to some other foam insulations. It ignites at temperatures typically around 300°C to 400°C, forms a protective char layer which helps to insulate and protect the underlying material, and generally produces less smoke and toxic gases. However, it can still contribute to fire growth and produce hazardous gases when it burns. It should be noted that the final fire performance of plastic foams such as PIR strongly depends on the chemical composition and manufacturing process. e.g., content of isocyanate linkages and type of isocyanate-reactive component for PIR.

This wall system sits at floor level as part of the curtain wall forming the external surface of the escape staircase. It begins at the first floor level and extends the full height of the building. Structural openings in the facade include windows opening into the escape staircase. The adjacent wall systems of terracotta tiling and aluminium panels are non-combustible and, as such, would not be expected to allow fire to spread to this wall type containing combustible insulation. Due to this wall type beginning at the first floor above the primary entrance, the likelihood of exposure to external sources of ignition is limited.

This building operates a 'Stay Put' evacuation policy. It is anticipated that, due to the nature of the building's construction, a fire would be contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary. The building has 1 escape staircase with lobby protection serving all floors. The stairs are provided with adequate ventilation in the form of manually openable windows and an AOV for the control of smoke.A dry riser is fitted to the building with an outlet on every floor. There is adequate access for the fire service to the front and rear of the building. The nearest fire station is approximately 2.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;
a) fire spread is likely to be at a rate within expectations for a building of this height, given the circumstances at the building in question; and/or
b) fire spread is unlikely to give rise to widespread secondary fires resulting in occupants being significantly harmed or prevented from escaping; and/or
c) 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; and/or
d) the fire and rescue service are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is no requirement for remediation of this wall type.

Medium

APPENDIX

Asset Information

Client Name

Sandwell Metropolitan Borough Council

Client Address

Sandwell house, Freeth street, Oldbury, B69 3DB

Contact Details

01215695254

Fire Alarm System

Early warning is limited to hard wire or battery smoke alarms within each of the resident's flats. The equipment is subjected to a cyclical test. Based on the sample of properties accessed during the fire risk assessment the smoke alarms within resident's flats are installed to an LD1, LD2 or LD3 Standard.

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.

Portable Fire Fighting Equipment

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

Portable Fire Fighting Equipment

Portable fire extinguisher (CO2) is provided to the lift motor room.

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

Sprinkler system installed within bin rooms only

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

Public fire hydrant are available. Located directly outside front entrance. Approximately 2m from the building.
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, General Needs

Building Era / Age

Known Build Date

Known Build Date

1964, refurbished 2007

Guidance Applicable At Time Of Construction

Model Byelaws 1953, Building Regulations 2000 and Approved Document B Volume 2 2006

Building Height

Overall Building Height Approximately 27m
Highest Occupied Floor Level 24m
(calculated at 3m per floor as per PAS 9980-2022 section 3.1.22)

Number of Storeys (Ground and above)

8

Number of Flats

48

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, aluminium panels and terracotta tiles

Exterior Cladding

FRAEW Completed on Exterior Cladding

Exterior Cladding (Details)

Aluminium panels and terracotta tiles

Electronic Entrance System

Yes

Carpark

External/Outdoor Carpark

Employees

None

Residents

Yes

Approx number of Residents

96

Residents (Extended)

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

Visitors

Not Known

People With Reduced Mobility

Not Known

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 + Fireman's Control

Evacuation Chairs Installed

No

Refuge Points Present

Yes

Stairwells Protected / Lobbied

Yes

Flat Doors Open Onto Stairs

No

Current Evacuation Strategy

Stay Put

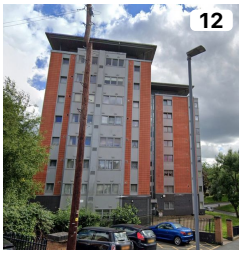
Current Stay Put Strategy Description

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

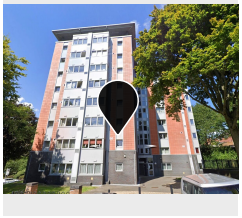
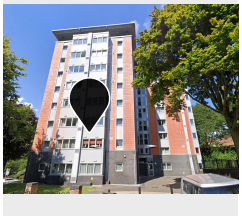
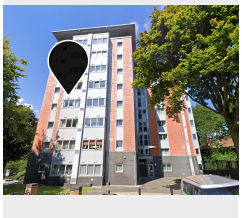
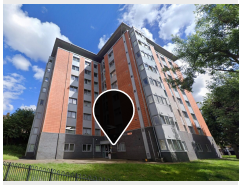
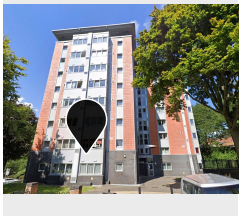
Aerial Perspective: Lawrence Court, Kingsway, Brandhall, B68 0HB

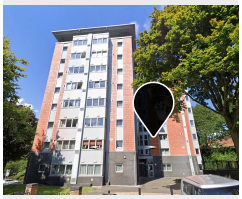
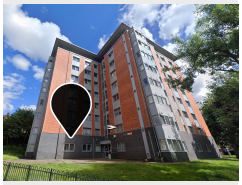
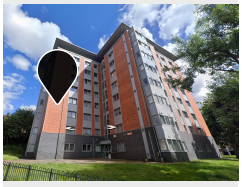
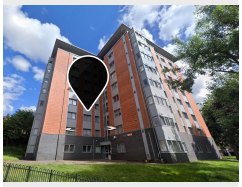
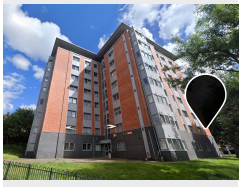
Aerial Perspective (picture sourced from Google Earth)

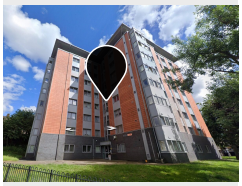
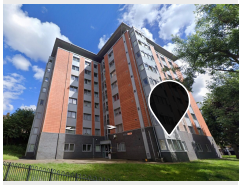
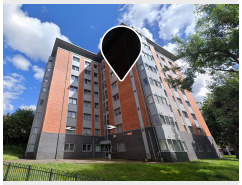
Elevations

Photo	Name	No. of Storeys
	NORTH	8 Storeys
	SOUTH	8 Storeys
	EAST	8 Storeys
	WEST	

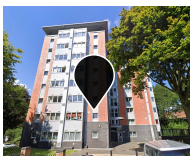
Inspections

Elevation Location	Inspection	Elements
	**Inspection: W4GKY2** Wall Inspection Compartment Floor Junction	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: EM4M1L** Wall Inspection Compartment Floor Junction	• External Surface Material (Aluminium Panel) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: NBKJBS** Wall Inspection Compartment Floor Junction	• External Surface Material (Aluminium Panel) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 9K6S77** Wall Inspection Compartment Wall Junction	• External Surface Material (Brickwork) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 2BC9YL** Wall Inspection Compartment Floor Junction	• External Surface Material (Aluminium Panel) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)

Elevation Location	Inspection	Elements
	**Inspection: 2JYAUH** Wall Inspection Compartment Wall Junction	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 7JNJ5D** Wall Inspection Compartment Floor and Wall Junction Interface	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 9M32VC** Wall Inspection Compartment Floor Junction	• External Surface Material (Brickwork) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 7R31AH** Wall Inspection Compartment Floor and Wall Junction Interface	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: AS6JL2** Wall Inspection Alcove windows	• External Surface Material (Aluminium Panel) • Insulation (Mineral Wool Insulation) • Framework (Aluminium L/T Rail) • Substrate (Sheathing Board)
	**Inspection: 8KCJ9I** Wall Inspection Compartment Floor and Wall Junction Interface	• External Surface Material (Terracotta Tile) • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)

Elevation Location	Inspection	Elements
	**Inspection: L3836L** Wall Inspection Compartment Floor Junction	• External Surface Material (Aluminium Panel) • Insulation (PIR Insulation) • Cavity • Substrate (Reinforced concrete column)
	**Inspection: 4ZIYD4** Wall Inspection Ventilation Outlet	• External Surface Material (Terracotta Tile (replacement tile for flue)) • Outer leaf • Framework (Aluminium L/T Rail) • Cavity • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 2JY3ZK** Wall Inspection Aperture Opening	• External Surface Material (Brickwork) • Insulation (Mineral Wool Insulation) • Substrate (Original brickwork)
	**Inspection: 4T2E6Q** Wall Inspection Compartment Floor and Wall Junction Interface	No elements identified

Inspection: W4GKY2



Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Terracotta tiles

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	14mm	Terracotta Tile	14, 15	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	16, 17	A2 - Limited Combustibility
Insulation		Mineral Wool Insulation	18, 19, 20	A1 - Non-Combustible

Encased in foil faces, x2 each 100mm

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Original brickwork	21	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	20

Cavity closed at compartmentation floor

Floor Slab

Reinforced concrete

Build-up Photos

14

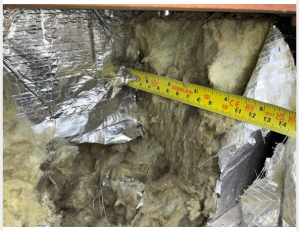
15

16

17

18

19



20

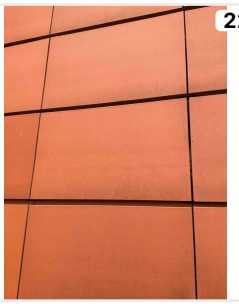
21

Cavity Barrier Photos

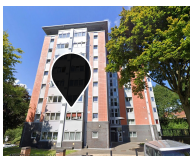
20

Inspection Photos

22



Inspection: EM4M1L



Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Infill panel

Proposed Inspection

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The Engineer will be looking to determine the:
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b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	23	A2 - Limited Combustibility
Framework		Aluminium L/T Rail	24, 25	A2 - Limited Combustibility
Cavity	98mm		26, 27	
Insulation	100mm	Mineral Wool Insulation	28, 29	A1 - Non-Combustible

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Original brickwork	30	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces Material Brand: Rockwool	31, 32

Cavity closed at compartmentation floor

Floor Slab

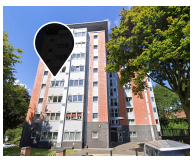
Backing Wall Sits On The Floor Slab

Build-up Photos

Cavity Barrier Photos

Inspection Photos

Inspection: NBKJBS



Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Infill panel

Proposed Inspection

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b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

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The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	35, 36, 37	A2 - Limited Combustibility
Framework		Aluminium L/T Rail	38	A2 - Limited Combustibility
Cavity	85mm		39	

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Insulation	100mm	Mineral Wool Insulation	40, 41	A1 - Non-Combustible
Fixed with mechanical fixers				
Substrate		Original brickwork	42	A1 - Non-Combustible

Cavity Barriers

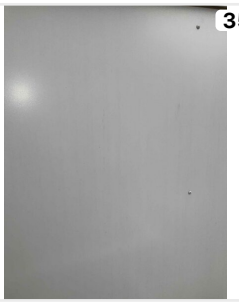
1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	43
Cavity closed at compartmentation floor		

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos

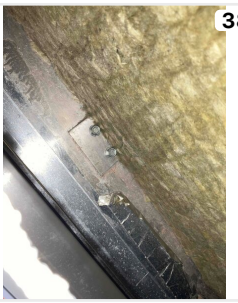
35



36

37

38



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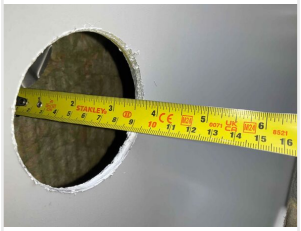


40

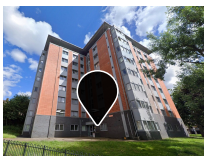
41

42

Cavity Barrier Photos

43

Inspection: 9K6S77



Elevation • Location
Wall Inspection • Compartment Wall Junction

Name/Summary

Masonry

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

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a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
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Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	102mm	Brickwork	44, 45	A1 - Non-Combustible
Insulation	210mm	Mineral Wool Insulation	46, 47	A1 - Non-Combustible
Substrate		Original brickwork	48	A1 - Non-Combustible

Cavity Barriers

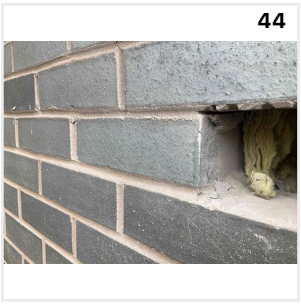
1 Cavity Barrier	Material	Photo Ref.
Vertical Cavity Barrier	Solid State Mineral Wool	47

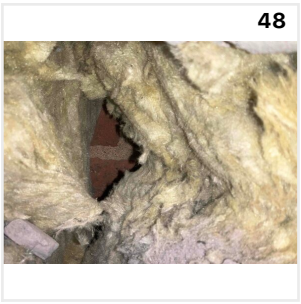
Cavity closed at compartmentation wall

Floor Slab

Reinforced concrete

Build-up Photos





Cavity Barrier Photos

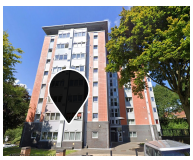
47

Inspection Photos

49

50

Inspection: 2BC9YL



Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Infill panel

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	51, 52, 53	A2 - Limited Combustibility
Framework		Aluminium L/T Rail	54	A2 - Limited Combustibility
Cavity	82mm		55	
Insulation	100mm	Mineral Wool Insulation	56, 57	A1 - Non-Combustible

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Original brickwork	58	A1 - Non-Combustible

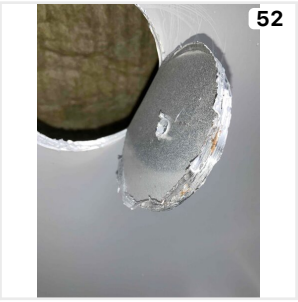
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	59

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos



Cavity Barrier Photos

59

Inspection: 2JYAUH

Elevation • Location
Wall Inspection • Compartment Wall Junction

Name/Summary

Terracotta tiles

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	15mm	Terracotta Tile	60, 61	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	62, 63, 64	A2 - Limited Combustibility
Cavity	80mm		65	

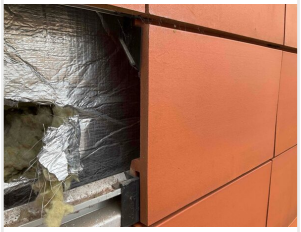
5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Insulation	120mm	Mineral Wool Insulation	66, 67	A1 - Non-Combustible
Encased in foil faces				
Substrate		Original brickwork	68	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	69
Cavity not closed between the compartment wall and the outer tiles		

Build-up Photos

60



61

62

63

64

65

66

67

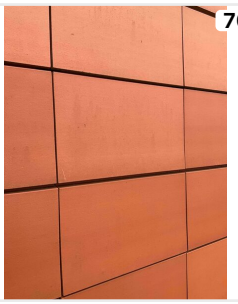
68

Cavity Barrier Photos

69

Inspection Photos

70



Inspection: 7JNJ5D

Elevation • Location
Wall Inspection • Compartment Floor and Wall Junction Interface

Name/Summary

Terracotta tiles

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	15mm	Terracotta Tile	71, 72	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	73, 74, 75	A2 - Limited Combustibility
Cavity	120mm		76	

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Insulation	100mm	Mineral Wool Insulation	77, 78	A1 - Non-Combustible
Encased in foil faces				
Substrate		Original brickwork	79	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	80
Cavity closed at compartmentation floor		

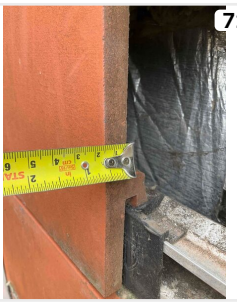
Floor Slab

Reinforced concrete

Build-up Photos

71

72



73

74

75

76

77

78

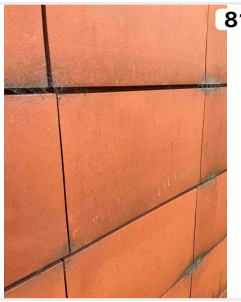
79

Cavity Barrier Photos

80

Inspection Photos

81



Inspection: 9M32VC

Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Masonry

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	102mm	Brickwork	82, 83	A1 - Non-Combustible
Insulation	200mm	Mineral Wool Insulation	84, 85	A1 - Non-Combustible
Fully fills cavity				
Substrate		Original brickwork	86	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	84

Cavity closed at compartmentation floor

Floor Slab

Reinforced concrete

Build-up Photos

82

83

84

85

86

Cavity Barrier Photos

84

Inspection Photos

87

88

Inspection: 7R31AH

Elevation • Location
Wall Inspection • Compartment Floor and Wall Junction Interface

Name/Summary

Terracotta tiles

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	15mm	Terracotta Tile	89, 90	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	91, 92, 93, 94	A1 - Non-Combustible
Confirmation via magnet				
Cavity	120mm		95	

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Insulation	100mm	Mineral Wool Insulation	96, 97	A1 - Non-Combustible
Substrate		Original brickwork	98	A1 - Non-Combustible

Cavity Barriers

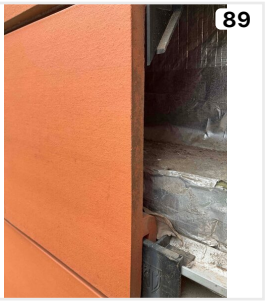
1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	99, 100

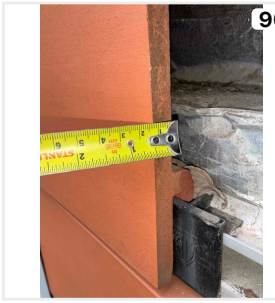
Cavity closed at compartmentation floor

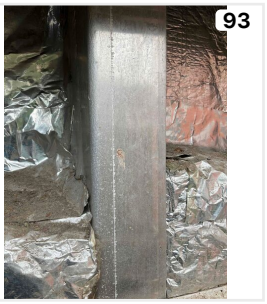
Floor Slab

Reinforced concrete

Build-up Photos







97

98

Cavity Barrier Photos

99

100

Inspection Photos

101

Inspection: AS6JL2

Elevation • Location
Wall Inspection • Alcove windows

Name/Summary

Infill panel

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

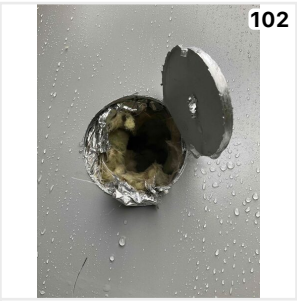
4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	102	A2 - Limited Combustibility
Insulation		Mineral Wool Insulation	103	A1 - Non-Combustible
Framework		Aluminium L/T Rail		A2 - Limited Combustibility

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Sheathing Board		A2 - Limited Combustibility

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	103

Build-up Photos



Cavity Barrier Photos

Inspection: 8KCJ9I

Elevation • Location
Wall Inspection • Compartment Floor and Wall Junction Interface

Name/Summary

Terracotta tiles

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	15mm	Terracotta Tile	104, 105	A1 - Non-Combustible
Framework	30mm	Aluminium L/T Rail	106, 107, 108	A2 - Limited Combustibility
Cavity	100mm		109, 110	
Insulation	100mm	Mineral Wool Insulation	111, 112	A1 - Non-Combustible

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Original brickwork	113	A1 - Non-Combustible

Cavity Barriers

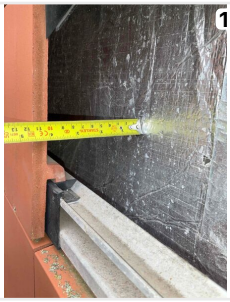
1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Stonewool core, aluminium foil faces	114

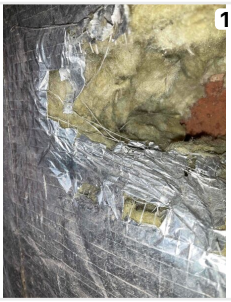
Cavity closed at compartmentation floor

Floor Slab

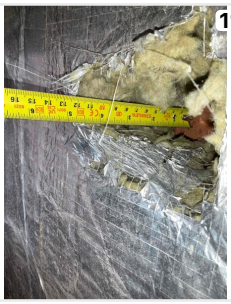
Backing Wall Sits On The Floor Slab

Build-up Photos





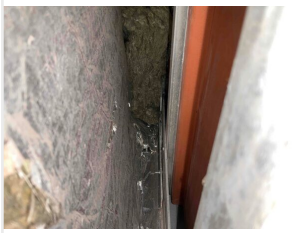
112



113

Cavity Barrier Photos

114



Inspection Photos

115

Inspection: L3836L

Elevation • Location
Wall Inspection • Compartment Floor Junction

Name/Summary

Spandrel Infill panel (stairwell)

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	116, 117, 118	A2 - Limited Combustibility
Insulation	140mm	PIR Insulation Material Brand: Kingspan (Green)	119, 120, 121	F - Highly Combustible
x2 each board 70mm				
Cavity			122	

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Substrate		Reinforced concrete column	122	A1 - Non-Combustible

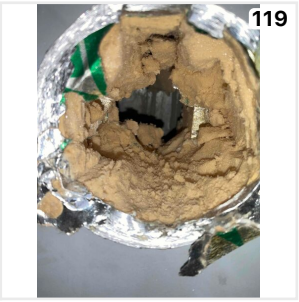
Cavity Barriers

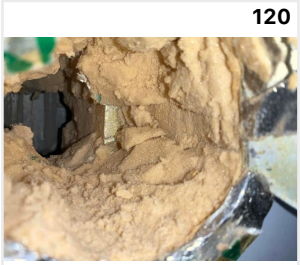
No cavity barrier identified at this inspection location

Floor Slab

Reinforced concrete

Build-up Photos





Inspection Photos

Inspection: 4ZIYD4

Elevation • Location
Wall Inspection • Ventilation Outlet

Name/Summary

Terracotta tiles (flue penetration)

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

6 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Terracotta Tile (replacement tile for flue)	124, 125	A1 - Non-Combustible
Outer leaf	20mm		126, 127	A2 - Limited Combustibility

Cement particle board

6 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Framework	30mm	Aluminium L/T Rail	128	A2 - Limited Combustibility
Cavity	10mm		129, 130	
Insulation	100mm	Mineral Wool Insulation		A1 - Non-Combustible
Substrate		Original brickwork		A1 - Non-Combustible

Cavity Barriers

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

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos

Inspection Photos

131

Inspection: 2JY3ZK

Elevation • Location
Wall Inspection • Aperture Opening

Name/Summary

Masonry

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	102mm	Brickwork	132, 133	A1 - Non-Combustible
Insulation	120mm	Mineral Wool Insulation	134, 135	A1 - Non-Combustible
Fully fills cavity				
Substrate		Original brickwork	136	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Window Aperture	Solid State Mineral Wool	137

Cavity closed at the window opening

Floor Slab

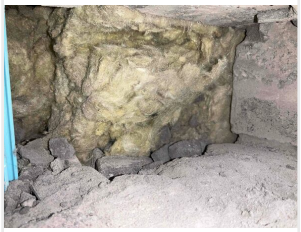
Backing Wall Sits On The Floor Slab

Build-up Photos

132

133

134



135

136

Cavity Barrier Photos

137

Inspection Photos

138

139

Inspection: 4T2E6Q

Elevation • Location
Wall Inspection • Compartment Floor and Wall Junction Interface

Name/Summary

Rainscreen

Proposed Inspection

The purpose of the intrusive survey will consist of the visual and intrusive inspections of the identified systems and attachments to determine the through wall construction.

The Engineer will be looking to determine the:
a) External Leaf (Identify the material and Euroclass)
b) Cavities (if a cavity is present and if so the depth and extent)
c) Insulation (identify the material and Euroclass)
d) Sheathing Board (the presence of any Sheathing Board)
e) Membranes (identify their presence and where possible manufacturer)
f) Substrates (the means in which the façade is attached to the building)
g) Cavity Barriers (Horizontally, Vertically, Around Openings)

The external inspection is undertaken by either using an approximate 25mm – 150mm bore in a discreet location or the removal of the external surface material. The engineer will then gather the external walls construction from external to internal.

The materials are then measured and observed in there construction along with photographic evidence.
Upon completion the removed material is placed back into the opening and sealed to a fire safe condition but will not conduct any decorative repairs.

External Windows

Photo	External Window
	Top, Mid, Side Hung Casements (JTYFJS)

External Window: Top, Mid, Side Hung Casements

External Window Reference
JTYFJS

Details

Surface Material

Aluminium

Frame Material

Aluminium

Infill / Panel Material

Toughened Safety Glass

Fire Engineer Comments

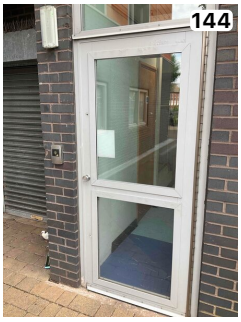
Aluminium is a non-combustible material and does not contribute to the spread of fire. However, its relatively low melting point (approximately 660°C) and high thermal conductivity mean that it may deform or fail when exposed to high levels of heat.
The window infill was identified as EN 12150, Thermally toughened glazing.

Thermally toughened (tempered) glass offers significant benefits in terms of strength and resistance to thermal shock under normal service conditions. However, when exposed to fire, it has no meaningful fire-resistance performance. Once critical temperatures are reached, typically before 300°C it shatters abruptly, losing all integrity and allowing smoke, flames, and hot gases to pass through.

The windows are vertically aligned with less than 2 metres of separation between openings, which could create a potential pathway for vertical fire spread.
However, the aluminium window frames may be likely to maintain integrity beyond flashover temperatures. This offers a temporary barrier to flame ingress within the cavity, potentially delaying fire spread and supporting occupant evacuation and external firefighting intervention.

Photos

External Doors

Photo	External Door
	Single Leaf Entrance Doors (IEU3CT)

External Door: Single Leaf Entrance Doors

External Door Reference
IEU3CT

Details

Surface Material

Aluminium

Frame Material

Aluminium

Infill / Panel Material

Toughened Glass

Details

Confirmation via magnet

Fire Engineer Comments

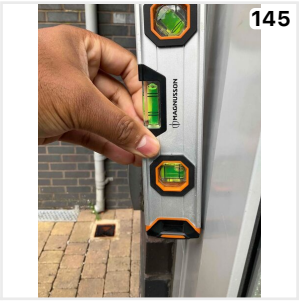
Aluminium is a non-combustible material and does not contribute to the spread of fire. However, its relatively low melting point (approximately 660°C) and high thermal conductivity mean that it may deform or fail when exposed to high levels of heat.
The door infill was identified as EN 12150, Thermally toughened glazing.

Thermally toughened (tempered) glass offers significant benefits in terms of strength and resistance to thermal shock under normal service conditions. However, when exposed to fire, it has no meaningful fire-resistance performance. Once critical temperatures are reached, typically before 300°C it shatters abruptly, losing all integrity and allowing smoke, flames, and hot gases to pass through.

However, the aluminium door frames may be likely to maintain integrity beyond flashover temperatures. This offers a temporary barrier to flame ingress within the cavity, potentially delaying fire spread and supporting occupant evacuation and external firefighting intervention.

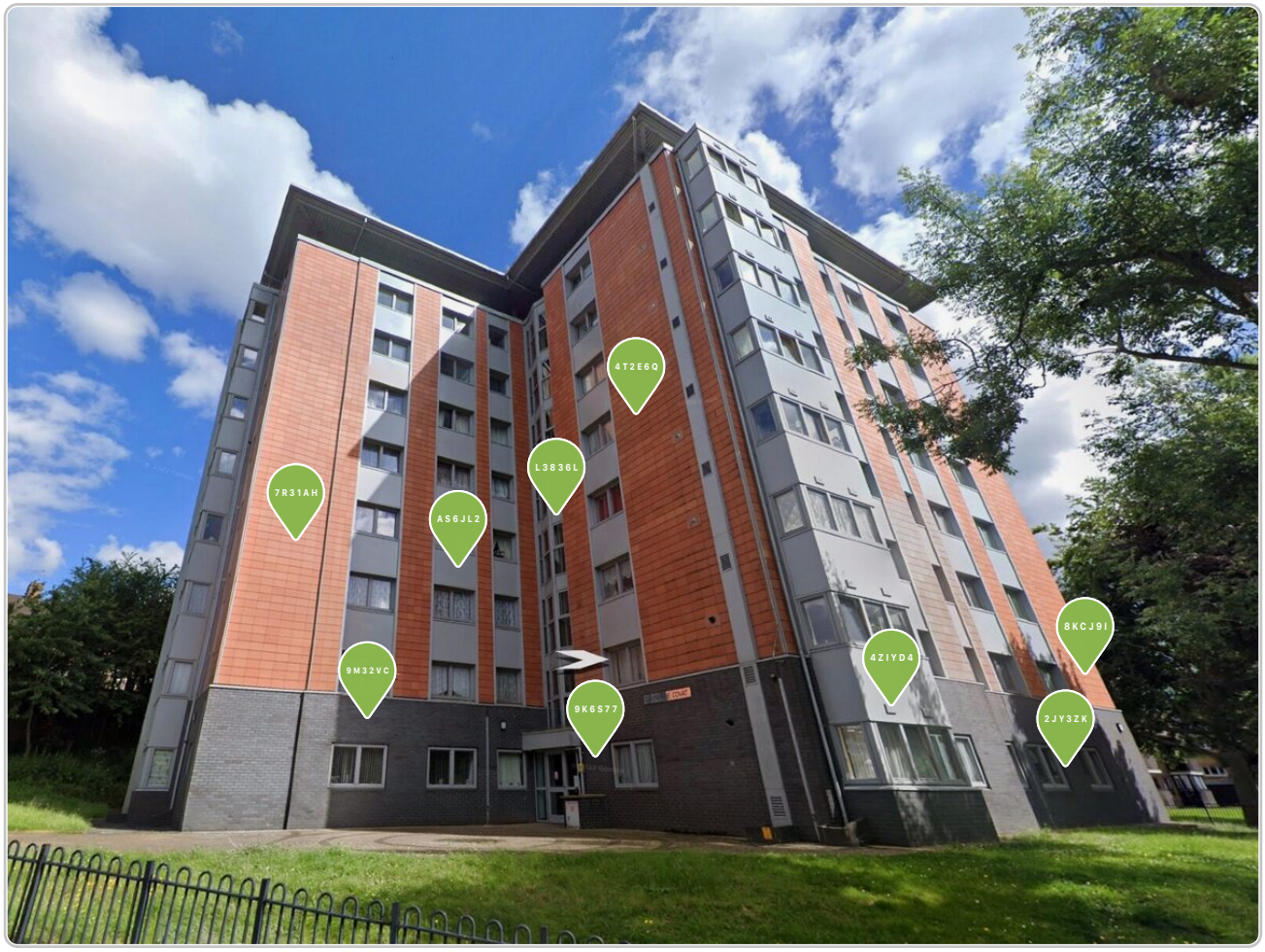
Photos


144


145


146

Plan: Wall Inspection



Plan: Wall Inspection

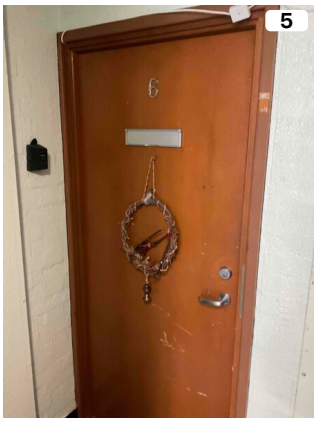
Photos


1
FIRE NOTICE
In case of fire dial:
999 or 112
Do not use lifts
Use stairs


2
BUILDING SAFETY INFORMATION
Sandwell
LAWRENCE COURT
FIRE SAFETY INFORMATION


3
FIRE NOTICE
In case of fire dial:
999 or 112
Do not use lifts
Use stairs


4
Ground Floor
Flats
1-6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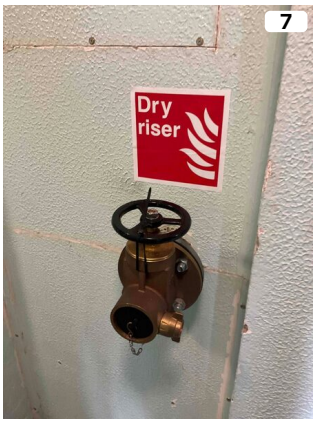
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Dry
riser

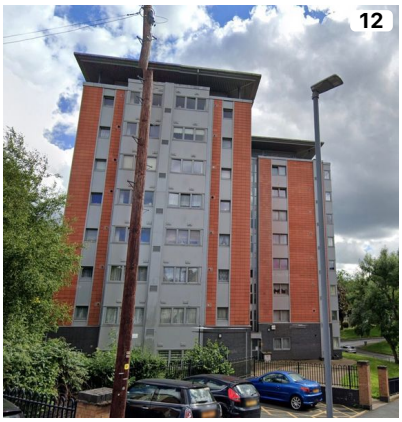

8


9
ON
OFF
FIRE
CONTROL
7


10


11
Lawrence Court

Photos Continued...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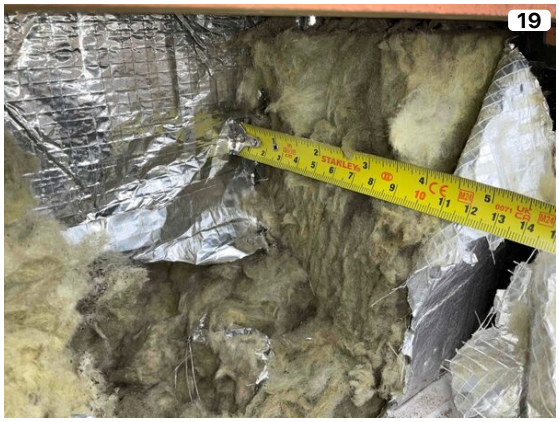
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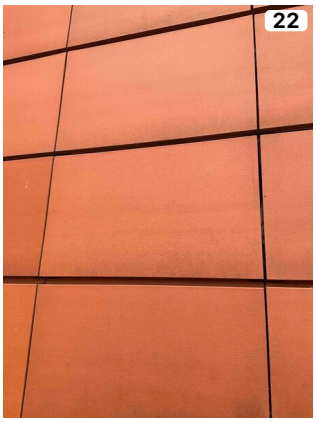

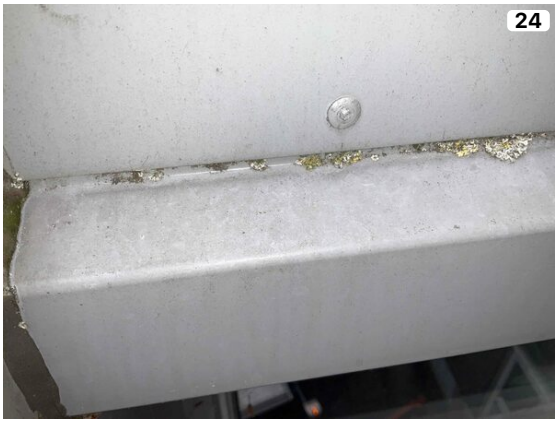

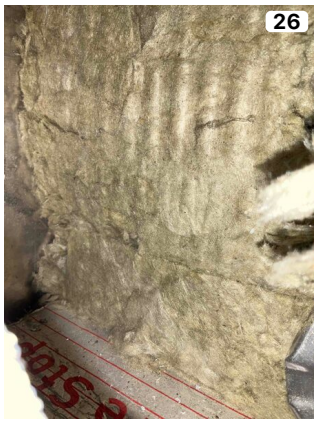

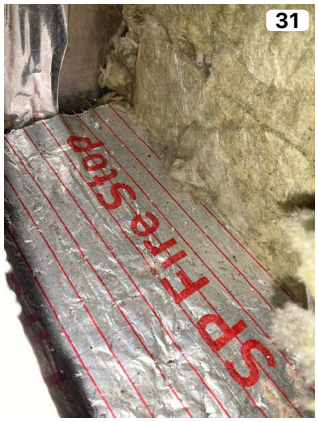

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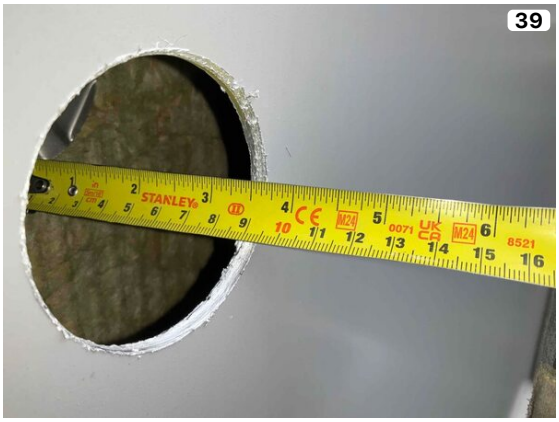

Photos Continued...


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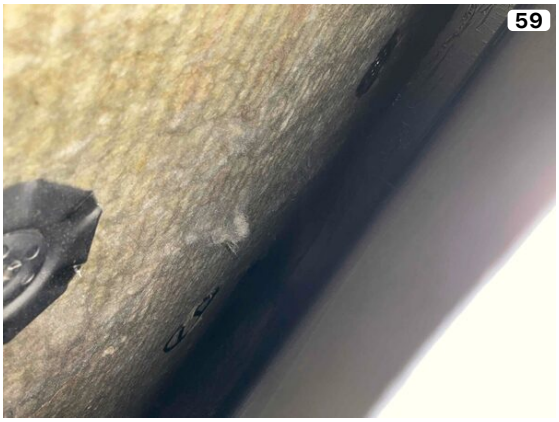
Photos Continued...



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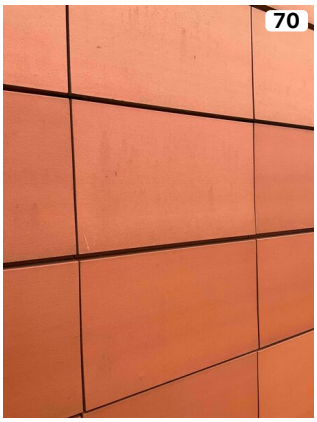

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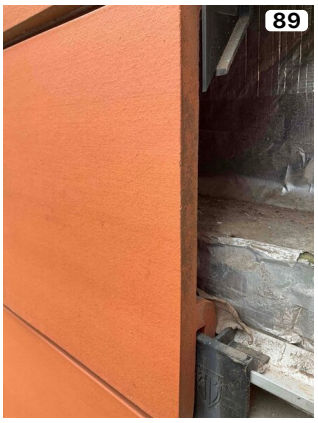

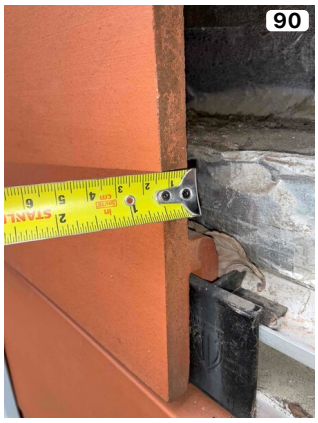

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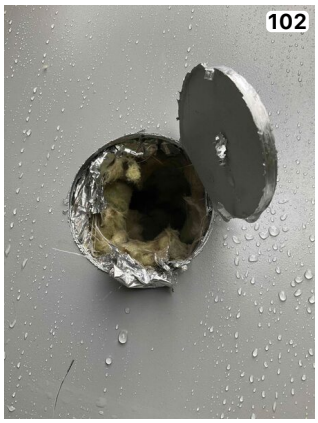

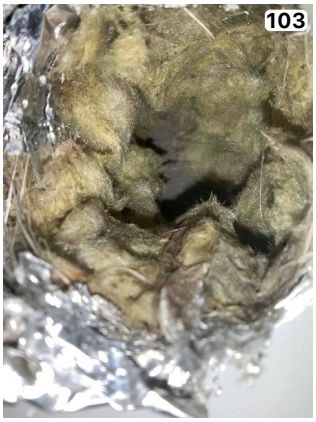

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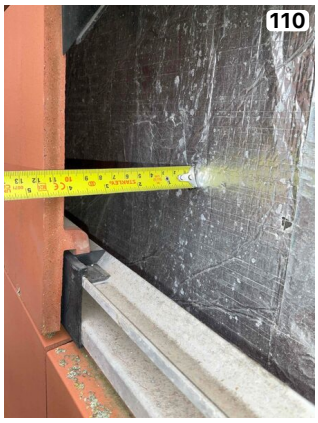

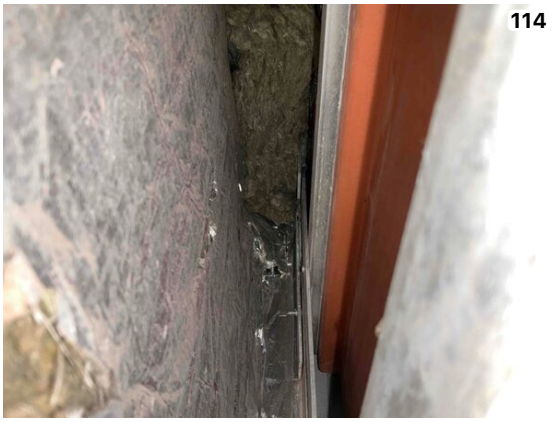

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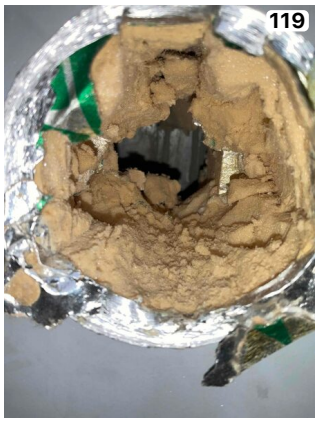

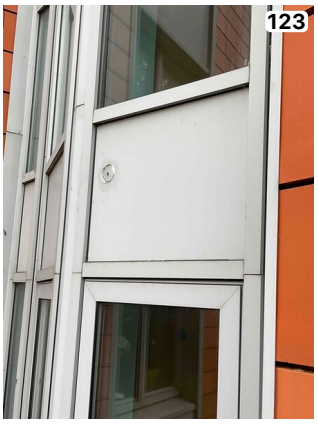

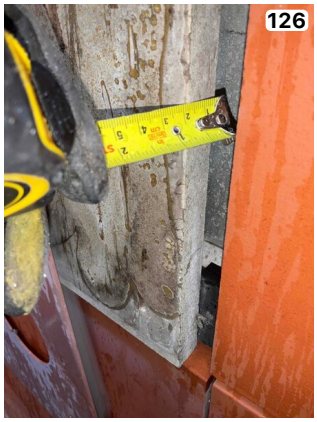

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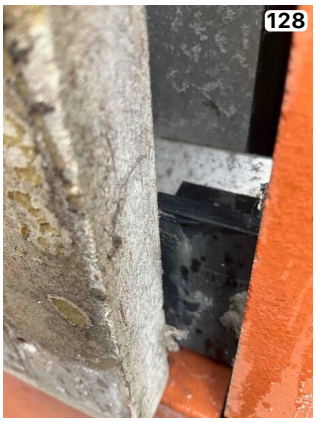

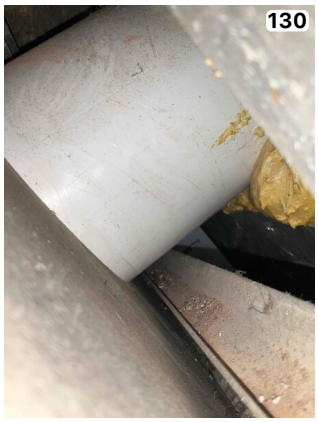

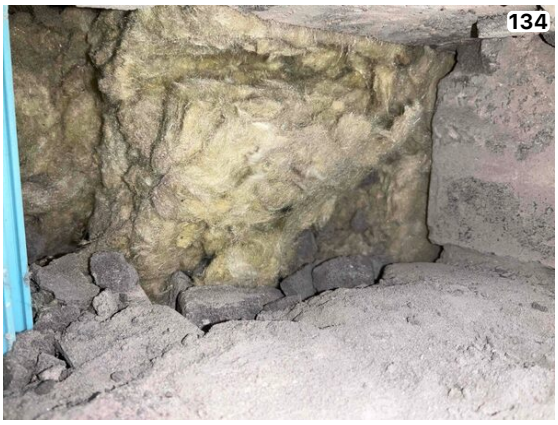

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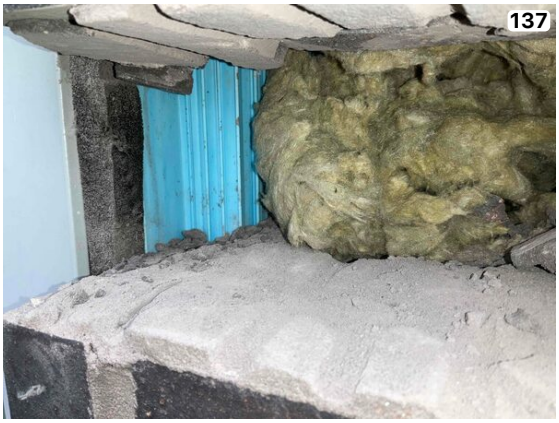
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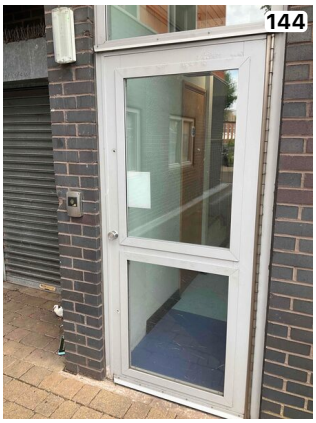
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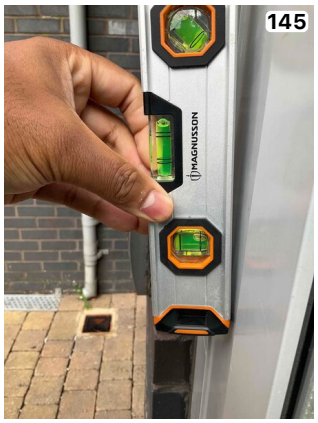

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BUILDING COMPLIANCE

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