FIRNTEC
BUILDING COMPLIANCE

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

Document Version 4
Valid From 03/03/2026
Suggested Review Date 03/03/2031

FIRE RISK APPRAISAL EXTERNAL WALLS

BOWATER HOUSE

Moor Lane
West Brom
B70 7AW

Table of Contents

Table of Contents Continued

Summary

Fire Risk Appraisal External Walls

Assessment and Certificate Reference
RB-IHFK5Q

Assessed On, By
03/03/2026, James Major (Facade Manager)

Approved / Validated On, By
10/03/2026, Lea Morland

Recommended Review Date
03/03/2031

Findings
4 Actions

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
Bowater House

Property Reference
RB-LSHEML

Address
Moor Lane
West Brom
B70 7AW

Assessing Organisation
Firntec Ltd
7 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

17 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.

8 Items	Effect	Risk
Wall Construction Brickwork (Masonry) (SHUAZH)	Positive	Low
Wall Construction Wall Type 2 - Curtain Walling (9SRKKS)	Neutral	Low
Wall Construction Wall Type 3 - Cladding (79N1PY)	Negative	Medium
Penetration Flue (QI1JSE)	Neutral	Low
Penetration Air Brick (7W5FYT)	Neutral	Low
External Window Top, Mid, Side Hung Casements (A9GLUG)	Neutral	Low
External Window Top, Mid, Side Hung Casements (5TBTRJ)	Neutral	Low
External Door Single Leaf Entrance Doors (FHTNU8)	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 **133CIZ** which includes wall construction **SHUAZH**.

Conclusion: This wall type is formed of double-leaf masonry, with an outer leaf of brickwork and an inner leaf of blockwork. Between the layers of masonry, the sample areas indicated an air cavity and foil-faced PUR insulation (understood to be a Nestaan product achieving a Euroclass F rating).

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.

Polyurethane (PUR) insulation is a widely used thermal insulant known for its low thermal conductivity and structural rigidity. It is commonly used in floors, roofs, walls, and prefabricated panels. While its insulating performance is excellent, PUR is considered to be a combustible material. PUR insulation typically ignites at approximately 400°C. The ignition temperature can vary depending on the specific formulation and any fire-retardant treatments applied. Once ignited, PUR insulation burns vigorously with a high flame spread rate. The material can melt and drip, potentially spreading the fire to other areas. Burning PUR insulation produces large amounts of dense, black smoke and toxic gases like hydrogen cyanide and carbon monoxide. The smoke can obscure visibility and hinder evacuation efforts. The Nestaan PUR insulation typically achieves a Euroclass F rating when tested in accordance with EN13501. This indicates that the material is easily ignitable and will contribute to fire growth.

This wall type forms approximately 60% of the external wall system of the building, and is present on all elevations beginning at the ground floor and extending the full height of the building. Structural openings into this facade system include windows opening into the accommodation and the means of escape stairwell, and service penetrations. It is noted that this wall type begins at the ground floor; however, due to its non-combustible outer leaf, ignition from external sources, accidental or otherwise, is considered to be very unlikely.

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 sample areas conducted by Firntec; however, it was observed that the concrete floor slab had been extended to form part of the external surface, compartmentalising each floor to disrupt the mechanism for vertical fire spread within the internal envelope. The client provided FRA states 'Further inspection holes were created within the external masonry at ground floor level to the north east facing side elevation. A borescope revealed evidence of PUR insulation board and what appeared to be a vertical cavity barrier contained within a green sock to the party wall. This type of cavity barrier can provide up to 4 hours of fire integrity dependant on which version was installed. Due to the limitations of the available resources, it could not be determined if the cavity barrier was consistent throughout the vertical lines of the party walls'. This evidences that cavity barriers have been provided within the system, although as stated above, it is generally recognised that cavity barriers are not required within a double leaf masonry system.

This building operates a 'Stay Put Unless' 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 two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 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 **FBB5S2** which includes wall construction **9SRKKS**.

Conclusion: This wall type is a curtain wall system formed of an aluminium framework containing solely glazed panels, affixed to the building's masonry substrate.

The aluminium framework is considered to be of limited combustibility and, as such, would not be expected to support, sustain, or contribute to fire spread across the external surface of the building. Although the outer skin is of limited combustibility, aluminium 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.

Due to the curtain walling location within the building's facade, being the external surface for the two escape stairs and having no openings into the accommodation, the risk posed to this wall type by a fire occurring within an internal dwelling is considered to be low. The neighbouring double leaf masonry system is non-combustible and would not be expected to present a mechanism for a fire to travel in such a way that this system could also be affected, compromising the means of escape. The means of escape should be maintained in such a way that there is minimal fire loading or potential sources of ignition, and therefore, the likelihood of a fire beginning in the staircase is also considered to be low. Due to the presence of two escape staircases that are remote from each other, the ability for occupants to escape the building in the unlikely event that one staircase is rendered untenable has been considered a positive factor. The system contains no spandrel panels, has no air cavity, and has no forms of insulation present.

This building operates a 'Stay Put Unless' 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 two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 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.

Risk Factor Analysis 3

This analysis looks at façade configuration **FH2KWM** which includes wall construction **79N1PY**.

Conclusion: This wall type forms the external facade in 2 configurations. The 1st is comprised of an outer 3mm aluminium panel supported by a metal framework, creating a 120mm ventilated air cavity. Following this is a layer of 60mm foil-faced PUR (Nestaan Euroclass F-rated) insulation foam board backed onto the masonry brickwork. The 2nd (highlighted within the provided FRA) is comprised of the outer aluminium panel, framework, PUR insulation, timber studwork, and 9.5mm EPS backed plasterboard.

Although the outer aluminium skin is of limited combustibility, aluminium 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. Such temperatures may be achieved by an externally venting compartment fire that has achieved flashover. This, in turn, will expose the underlying material to direct flame impingement and radiated heat.

Polyurethane (PUR) insulation is a widely used thermal insulation known for its low thermal conductivity and structural rigidity. It is commonly used in floors, roofs, walls, and prefabricated panels. While its insulating performance is excellent, PUR is considered to be a combustible material. PUR insulation typically ignites at approximately 400°C. The ignition temperature can vary depending on the specific formulation and any fire-retardant treatments applied. Once ignited, PUR insulation burns vigorously with a high flame spread rate. The material can melt and drip, potentially spreading the fire to other areas. Burning PUR insulation produces large amounts of dense, black smoke and toxic gases like hydrogen cyanide and carbon monoxide. The smoke can obscure visibility and hinder evacuation efforts. The Nestaan-manufactured PUR insulation, understood to be present on the building, typically achieves a Euroclass F rating when tested in accordance with EN13501. This indicates that the material is easily ignitable and will contribute to fire growth.

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.

This wall type is present on all elevations of the building. To the north and south elevations, it forms the corner sections of the building, ranging from the 1st floor to the top of the building in a continuous section. On these elevations, there is permanent parking for vehicles in close proximity to the external wall system. This parking increases the risk of external ignition, accidental or otherwise, to the combustible system. On the south elevation,

solar PV panels are also incorporated within this system. These panels pose an inherent risk to the surrounding combustible insulation due to their nature; an electrical fault or similar event could provide a source of ignition to the panels themselves, which could in turn spread to the surrounding insulation. The PV panels and the surrounding areas were subject to a targeted investigation to determine the inherent risk. As a result of this investigation, it was determined that the wall system configuration was concurrent with the sample areas in other locations, with the PV panels acting as the external surface. The combustible PUR insulation is continuous behind the PV panels with no form of non-combustible stopping or barrier around or between them. Looking through the system towards the refurbished balconies, the concrete floor slab is visible with surrounding PUR backing onto the EPS backed plasterboard. Some loose-fit mineral wool fire was observed within the surrounding supporting framework; however, there appeared to be a gap around the slab that may allow for the passage of smoke and flame through the system.

On the east and west elevations of the building, it forms continuous vertical sections in line with windows that were added during the refurbishment of the balconies. These windows open directly into the accommodation. This configuration presents a mechanism for uninterrupted vertical fire spread between compartments that could lead to secondary fires. The provided FRA includes an intrusive inspection that shows the internal make-up of this wall system includes no barrier past the internal plasterboard layer to the combustible PUR. The internal plasterboard was also noted to include a thin EPS layer. The absence of a non-combustible sheathing board or similar barrier provides a route for a fire to spread from the external envelope into the interior of the dwellings. The plasterboard was measured to be 9.5mm, excluding the EPS. This thickness is not anticipated to provide an adequate period of resistance to fire spread, and the provided FRA highlights that it is not expected to achieve 30 minutes of resistance. The presence of the EPS encourages the preheating of the underlying PUR insulation that will occur before direct flame impingement from a fire breaching the internal envelope in the event of a compartment fire; this would result in the insulation igniting at a faster rate.

As per PAS9980:2022 Annex B (Mechanisms of fire spread and the implications for the risk posed by external wall fires) 'Once flames from, for example, a broken window have attacked the external envelope of the building, there is the potential, especially if the façades incorporate external wall construction and cladding that is combustible, for the fire to develop rapidly and fire to spread extensively' with Figure B.2 demonstrating a scenario of rapid external fire spread and the risk of secondary fires. Annex B also discusses the importance of cavities within the system, 'These present the
particular danger of concealed and extensive fire spread. As well as contributing to the speed of fire development, this mechanism for fire spread can, if not properly mitigated by cavity barriers, circumvent key features in the building's fire safety design. Most notably, in the case of a block of flats, this can allow the compartmentation between floors and between flats to be bypassed'.

Although some layers of mineral wool were identified within the system, gaps surrounding their edges and within the framework could be observed. This would reduce their effectiveness and allow fire to spread between compartments. It is noted that the concrete floor slab extends underneath these bay-style windows. In the provided FRA, mineral wool is demonstrated in one area of the balcony conversions between the concrete slab and the PUR insulation, 'Historic images were provided inhouse which appear to show a horizontal layer of mineral wool between the cantilevered concrete base and PUR board'. However, it is our professional opinion that an adequate standard of compartmentation throughout the system has not been achieved, and as such, it is our opinion that a mechanism for fire spread within the internal envelope of the system remains. The contribution of cavities to the risk posed by the external wall system is also detailed in Annex B, 'It is due, largely, to the elongation of the flames as they seek out oxygen, and the dynamics of heat transfer from,
and to, flames within a confined space. This is further exacerbated when the cavity contains combustible material that is readily ignitable and that is able to release a significant quantity of heat when it burns. Such a situation can give rise to extremely rapid fire spread.'

A compartment fire that becomes externally venting (as a result of breaching an aperture or having penetrated the internal plasterboard layer) is expected to be of a temperature high enough to cause the aluminium to begin to degrade, and also preheat the combustible PUR insulation before direct flame impingement.

It is noted that this wall type is remote from the means of escape with a masonry substrate acting as a separation, and a fire here should not directly compromise the ability for occupants to escape. However, due to the softening point of the aluminium panels, consideration must be given to the possibility of structural failure of these components. If these panels were to detach from the building, falling debris must be considered that may present a hazard to escaping occupants, as well as emergency services carrying out intervention. The building does benefit from multiple exits from the ground floor that should enable people to use the opposite entrance to the elevation at risk, enabling occupants an escape route if needed. The continuity of the combustible insulation throughout the

system provides a mechanism for widespread secondary fires with vertical and horizontal fire spread.

This building operates a 'Stay Put Unless' evacuation policy. It is anticipated that, due to the nature of the building's internal construction, a fire would be reasonably contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary, but; occupants should be informed that if they feel threatened or are exposed to smoke, heat or flame that they should immediately evacuate the premises.

The building has two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;

a) Extremely rapid external fire spread is likely to occur; and/or
b) fire spread could give rise to widespread secondary fires, resulting in occupants being significantly harmed; 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) fire and rescue services are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is a requirement for remediation of this wall type.

High

Overall Building Risk Rating

High

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

1 Recommended Remediation

We recommend initiating remediations within a timeframe that is reasonably practicable.

Façade Configuration: FH2KWM

Remove and replace all combustible materials within this external wall type for materials that achieve Euroclass A2-s1,d0 rating or better.

Ensure fire/cavity barriers are installed at the relevant locations (such as at compartment junctions and around openings) as required by the system in conjunction with the current Building Regulations and guidance provided in Approved Document B.

This remediation will reduce the spread of fire within the external wall and prolong conditions for the means of evacuation or external intervention.

3 Recommended Interim Measures

Façade Configuration: FH2KWM

Although we have indicated that it is our opinion that the 'Stay Put Unless' policy remains suitable, it is our professional opinion that upon receiving this report, the building's Fire Risk Assessor should review their holistic assessment of this building's evacuation policy to ensure it remains suitable in line with the overall risk profile of the building and the information provided to them.

In the event of any change, the occupants of the building must also be informed and given suitable training regarding any alternative means of raising the alarm.

General Interim Measures

Resident engagement strategy.

Residents of the building should be informed of the outcome of the FRAEW and ways in which the responsible persons are managing the risks presented and any remediation proposals pursued.

Retain the communal alarm system.

For the purposes of mitigating the risk of fire spread within the building.

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 unless
A ‘stay put unless’ 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 unless’ evacuation policy relies heavily on adequate compartmentation being provided; fire should not spread from one dwelling to another, including by means of the external fabric of the building

Neutral

Photo Ref. 1

F.3 Escape Route Design

Access to more than one staircase for escape, where it is not possible for the same fire to affect all escape routes

Positive

Photo Ref. 2, 3

F.4 Compartmentation

Adequate compartmentation in line with the expectations for a block of flats. Sandwell have implemented an inspection regime to ensure compartmentation is maintained

Positive

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

Positive

Photo Ref. 4

F.6 Fire Alarm & Detection

Addressable system with automatic detection throughout the building, including within flats, capable of immediate full evacuation, configured as:
• common area coverage, also with detectors at least inside flat entrance halls (local warning within flat from domestic smoke/heat alarms); or
• common areas and throughout
flats*;

Positive

F.7 Fire Suppression

A deluge system is installed in the bin store 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

Neutral

F.10 Lifts Used By Firefighters

Suitable lift for the purposes of firefighting present (Fireman's Lift)

Positive

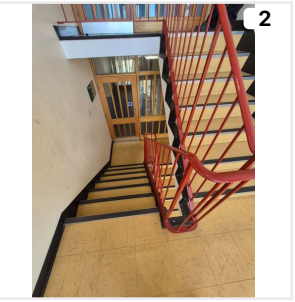
F.11 Specific Fire Hazards

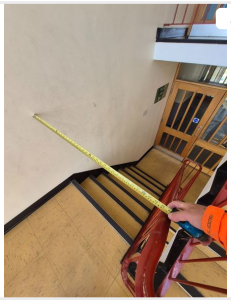
PV Panels installed within cladding containing combustible insulation.

Negative

Photos

1


2


3


4

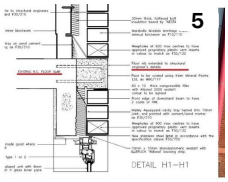
Fire Service Intervention

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
Firefighting Travel In Firefighting Lift	60 Seconds	1 Minute
Firefighter Travel Walking Up Two Flights Of Stairs To Fire Floor (75 Seconds)	75 Seconds	1 Minute 15 Seconds
Total Time	**875 Seconds**	**14 Minutes 35 Seconds**

Nearest Fire Station

West Bromwich Fire Station, approximately 1.6 miles. As per West Midlands CRMP, the attendance standard for response to a Category 1 fire is 5 minutes.

Wall Constructions

Photo	Wall Construction	Build-up
	**Brickwork (Masonry) (SHUAZH)**	• Outer leaf • Cavity • Inner Leaf (Blockwork)
No Image	**Wall Type 2 - Curtain Walling (9SRKKS)**	• Framework (Aluminium Framework) • Outer leaf
No Image	**Wall Type 3 - Cladding (79N1PY)**	• External Surface Material (Aluminium Panel) • Cavity • Insulation (PUR - Foil Faced) • Outer leaf

Wall Construction: Brickwork (Masonry)

Construction Reference
SHUAZH

This wall construction was identified by wall inspections 9KE1FV, Q45DMQ, and 5IPQ73. The build-up, cavity barrier, and floor slab information is taken directly from inspection 9KE1FV. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Brickwork (Masonry) (SHUAZH)	Positive	Low

Build-Up

3 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Outer leaf	102mm	Material Brand: Original brickwork	A1 - Non-Combustible
Cavity			
Inner Leaf	100mm	Blockwork	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material
Horizontal Cavity Barrier	Concrete

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

Materials with a calorific value (gross heat of combustion) of >35 MJ/kg — Negative

K.2 External Surfaces

Class A1 — Positive

K.3 Facings/Cladding Panels

Low HRR — Positive

K.4 Panel Construction

Not Applicable

K.5 Cavities

Cavities closed 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 do not form a stable char on fire exposure (e.g. PUR).

Nestaan PUR achieves Euroclass F rating.

Negative

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.

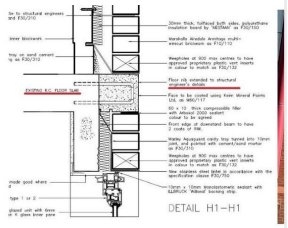
This is illustrated in Diagram 8.2 in ADB Volume 1:2019 [8]. The equivalent diagram in Volume 2:2019 [9] is Diagram 9.2.

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

Photos

5



Wall Construction: Wall Type 2 - Curtain Walling

Construction Reference
9SRKKS

This wall construction was identified by wall inspection RHK2UT. The build-up, cavity barrier, and floor slab information is taken directly from inspection RHK2UT. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall Type 2 - Curtain Walling (9SRKKS)	Neutral	Low

Build-Up

2 Elements	Thickness/Depth	Material	Rating (BS EN13501)
Framework		Aluminium Framework	A2 - Limited Combustibility
Outer leaf	102mm		A1 - Non-Combustible

Original brickwork

Cavity Barriers

No external cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

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

K.2 External Surfaces

Class A2 — Positive

K.3 Facings/Cladding Panels

Low HRR — Positive

K.4 Panel Construction

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

K.5 Cavities

Not applicable

K.6 Insulation

Not Applicable

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

Not Applicable

PAS Standard Benchmark

L10 Benchmark

CURTAIN WALLING SYSTEMS -

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

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

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

BR135 Benchmark

We have compared this external wall type to the cladding systems found on the BR135 database and we did 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: Wall Type 3 - Cladding

Construction Reference
79N1PY

This wall construction was identified by wall inspections I9165U, LWHBQS, P4RY71, I18RTW, NSDKK9, DRPHZQ, LTPZQB, XMTGFE, 9C9DP5, and KTE9Z1. The build-up, cavity barrier, and floor slab information is taken directly from inspection I9165U. See the Inspections section of this report for full inspection details.

Construction	Effect	Risk
Wall Type 3 - Cladding (79N1PY)	Negative	Medium

Build-Up

4 Elements	Thickness/Depth	Material	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	A2 - Limited Combustibility
Polyester Powder Coated cladding panel on aluminium support frame			
Cavity	120mm		
Insulation	60mm	PUR - Foil Faced Material Brand: Nestaan	F - Highly Combustible
Outer leaf	102mm		A1 - Non-Combustible
Original brickwork			

Cavity Barriers

No cavity barrier identified at this inspection location

Floor Slab

Backing Wall Sits On The Floor Slab

Fire Performance

K.1 General

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

K.2 External Surfaces

Class A2	Positive

K.3 Facings/Cladding Panels

Low HRR	Positive
Mechanically fixed	Positive

K.4 Panel Construction

Gaps between panels of 10 mm to 20 mm	Negative

K.5 Cavities

No cavity barriers present, or cavity barriers ineffective through poor installation/ maintenance	Negative

K.6 Insulation

Thermoset polymeric foams that may not form a stable char on fire exposure (e.g. PUR) Nestaan PUR insulation acheives Euroclass F rating.	Negative

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

Façade Configuration: 133CIZ

Items in Façade

6 Items	Effect	Risk
Wall Construction Brickwork (Masonry) (SHUAZH)	Positive	Low
External Door Single Leaf Entrance Doors (FHTNU8)	Neutral	Low
External Window Top, Mid, Side Hung Casements (A9GLUG)	Neutral	Low
External Window Top, Mid, Side Hung Casements (5TBTRJ)	Neutral	Low
Penetration Flue (QI1JSE)	Neutral	Low
Penetration Air Brick (7W5FYT)	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
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. — Positive

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)

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

Adjacent to windows and openings onto escape routes, but the same fire could not spread to affect more than one escape route

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: This wall type is formed of double-leaf masonry, with an outer leaf of brickwork and an inner leaf of blockwork. Between the layers of masonry, the sample areas indicated an air cavity and foil-faced PUR insulation (understood to be a Nestaan product achieving a Euroclass F rating).

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.

Polyurethane (PUR) insulation is a widely used thermal insulant known for its low thermal conductivity and structural rigidity. It is commonly used in floors, roofs, walls, and prefabricated panels. While its insulating performance is excellent, PUR is considered to be a combustible material. PUR insulation typically ignites at approximately 400°C. The ignition temperature can vary depending on the specific formulation and any fire-retardant treatments applied. Once ignited, PUR insulation burns vigorously with a high flame spread rate. The material can melt and drip, potentially spreading the fire to other areas. Burning PUR insulation produces large amounts of dense, black smoke and toxic gases like hydrogen cyanide and carbon monoxide. The smoke can obscure visibility and hinder evacuation efforts. The Nestaan PUR insulation typically achieves a Euroclass F rating when tested in accordance with EN13501. This indicates that the material is easily ignitable and will contribute to fire growth.

This wall type forms approximately 60% of the external wall system of the building, and is present on all elevations beginning at the ground floor and extending the full height of the building. Structural openings into this facade system include windows opening into the accommodation and the means of escape stairwell, and service penetrations. It is noted that this wall type begins at the ground floor; however, due to its non-combustible outer leaf, ignition from external sources, accidental or otherwise, is considered to be very unlikely.

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

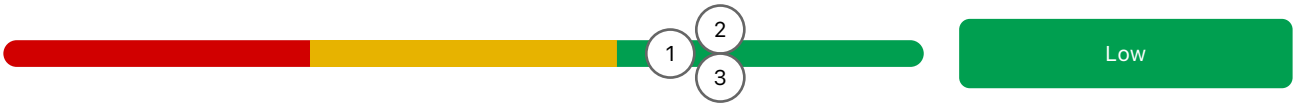
No dedicated cavity barriers were identified within the sample areas conducted by Firntec; however, it was observed that the concrete floor slab had been extended to form part of the external surface, compartmentalising each floor to disrupt the mechanism for vertical fire spread within the internal envelope. The client provided FRA states 'Further inspection holes were created within the external masonry at ground floor level to the north east facing side elevation. A borescope revealed evidence of PUR insulation board and what appeared to be a vertical cavity barrier contained within a green sock to the party wall. This type of cavity barrier can provide up to 4 hours of fire integrity dependant on which version was installed. Due to the limitations of the available resources, it could not be determined if the cavity barrier was consistent throughout the vertical lines of the party walls'. This evidences that cavity barriers have been provided within the system, although as stated above, it is generally recognised that cavity barriers are not required within a double leaf masonry system.

This building operates a 'Stay Put Unless' 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 two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 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.



Façade Configuration: FBB5S2

Items in Façade

6 Items	Effect	Risk
Wall Construction Wall Type 2 - Curtain Walling (9SRKKS)	Neutral	Low
External Door Single Leaf Entrance Doors (FHTNU8)	Neutral	Low
External Window Top, Mid, Side Hung Casements (A9GLUG)	Neutral	Low
External Window Top, Mid, Side Hung Casements (5TBTRJ)	Neutral	Low
Penetration Flue (QI1JSE)	Neutral	Low
Penetration Air Brick (7W5FYT)	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

No cavity

Positive

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

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

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

Positive

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

Not Applicable

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.

No combustible elements

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 type is a curtain wall system formed of an aluminium framework containing solely glazed panels, affixed to the building's masonry substrate.

The aluminium framework is considered to be of limited combustibility and, as such, would not be expected to support, sustain, or contribute to fire spread across the external surface of the building. Although the outer skin is of limited combustibility, aluminium 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.

Due to the curtain walling location within the building's facade, being the external surface for the two escape stairs and having no openings into the accommodation, the risk posed to this wall type by a fire occurring within an internal dwelling is considered to be low. The neighbouring double leaf masonry system is non-combustible and would not be expected to present a mechanism for a fire to travel in such a way that this system could also be affected, compromising the means of escape. The means of escape should be maintained in such a way that there is minimal fire loading or potential sources of ignition, and therefore, the likelihood of a fire beginning in the staircase is also considered to be low. Due to the presence of two escape staircases that are remote from each other, the ability for occupants to escape the building in the unlikely event that one staircase is rendered untenable has been considered a positive factor. The system contains no spandrel panels, has no air cavity, and has no forms of insulation present.

This building operates a ‘Stay Put Unless’ 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 two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 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: FH2KWM

Items in Façade

6 Items	Effect	Risk
Wall Construction Wall Type 3 - Cladding (79N1PY)	Negative	Medium
External Door Single Leaf Entrance Doors (FHTNU8)	Neutral	Low
External Window Top, Mid, Side Hung Casements (A9GLUG)	Neutral	Low
External Window Top, Mid, Side Hung Casements (5TBTRJ)	Neutral	Low
Penetration Flue (QI1JSE)	Neutral	Low
Penetration Air Brick (7W5FYT)	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

Scope for a cladding fire to breach compartment wall and floor boundaries significantly worsened by the nature and the extent of combustible material in the external wall construction

Negative

N.4 Cavities & Openings

Continuous vertically running cavity without cavity barriers or fire stops

Negative

N.5 Infill / Spandrel Panels

Not Applicable

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not Applicable

N.7 Overhangs & Projections

Not Applicable

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

Horizontally adjacent to windows and openings, and vertically in line with such openings, such that fire and smoke spread into the buildings, causing secondary fires, as a result of direct flame impingement, is highly likely

Negative

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

Not Applicable

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

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 type forms the external facade in 2 configurations. The 1st is comprised of an outer 3mm aluminium panel supported by a metal framework, creating a 120mm ventilated air cavity. Following this is a layer of 60mm foil-faced PUR (Nestaan Euroclass F-rated) insulation foam board backed onto the masonry brickwork. The 2nd (highlighted within the provided FRA) is comprised of the outer aluminium panel, framework, PUR insulation, timber studwork, and 9.5mm EPS backed plasterboard.

Although the outer aluminium skin is of limited combustibility, aluminium 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. Such temperatures may be achieved by an externally venting compartment fire that has achieved flashover. This, in turn, will expose the underlying material to direct flame impingement and radiated heat.

Polyurethane (PUR) insulation is a widely used thermal insulation known for its low thermal conductivity and structural rigidity. It is commonly used in floors, roofs, walls, and prefabricated panels. While its insulating performance is excellent, PUR is considered to be a combustible material. PUR insulation typically ignites at approximately 400°C. The ignition temperature can vary depending on the specific formulation and any fire-retardant treatments applied. Once ignited, PUR insulation burns vigorously with a high flame spread rate. The material can melt and drip, potentially spreading the fire to other areas. Burning PUR insulation produces large amounts of dense, black smoke and toxic gases like hydrogen cyanide and carbon monoxide. The smoke can obscure visibility and hinder evacuation efforts. The Nestaan-manufactured PUR insulation, understood to be present on the building, typically achieves a Euroclass F rating when tested in accordance with EN13501. This indicates that the material is easily ignitable and will contribute to fire growth.

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.

This wall type is present on all elevations of the building. To the north and south elevations, it forms the corner sections of the building, ranging from the 1st floor to the top of the building in a continuous section. On these elevations, there is permanent parking for vehicles in close proximity to the external wall system. This parking increases the risk of external ignition, accidental or otherwise, to the combustible system. On the south elevation, solar PV panels are also incorporated within this system. These panels pose an inherent risk to the surrounding combustible insulation due to their nature; an electrical fault or similar event could provide a source of ignition to the panels themselves, which could in turn spread to the surrounding insulation. The PV panels and the surrounding areas were subject to a targeted investigation to determine the inherent risk. As a result of this investigation, it was determined that the wall system configuration was concurrent with the sample areas in other locations, with the PV

panels acting as the external surface. The combustible PUR insulation is continuous behind the PV panels with no form of non-combustible stopping or barrier around or between them. Looking through the system towards the refurbished balconies, the concrete floor slab is visible with surrounding PUR backing onto the EPS backed plasterboard. Some loose-fit mineral wool fire was observed within the surrounding supporting framework; however, there appeared to be a gap around the slab that may allow for the passage of smoke and flame through the system.

On the east and west elevations of the building, it forms continuous vertical sections in line with windows that were added during the refurbishment of the balconies. These windows open directly into the accommodation. This configuration presents a mechanism for uninterrupted vertical fire spread between compartments that could lead to secondary fires. The provided FRA includes an intrusive inspection that shows the internal make-up of this wall system includes no barrier past the internal plasterboard layer to the combustible PUR. The internal plasterboard was also noted to include a thin EPS layer. The absence of a non-combustible sheathing board or similar barrier provides a route for a fire to spread from the external envelope into the interior of the dwellings. The plasterboard was measured to be 9.5mm, excluding the EPS. This thickness is not anticipated to provide an adequate period of resistance to fire spread, and the provided FRA highlights that it is not expected to achieve 30 minutes of resistance. The presence of the EPS encourages the preheating of the underlying PUR insulation that will occur before direct flame impingement from a fire breaching the internal envelope in the event of a compartment fire; this would result in the insulation igniting at a faster rate.

As per PAS9980:2022 Annex B (Mechanisms of fire spread and the implications for the risk posed by external wall fires) 'Once flames from, for example, a broken window have attacked the external envelope of the building, there is the potential, especially if the façades incorporate external wall construction and cladding that is combustible, for the fire to develop rapidly and fire to spread extensively' with Figure B.2 demonstrating a scenario of rapid external fire spread and the risk of secondary fires. Annex B also discusses the importance of cavities within the system, 'These present the
particular danger of concealed and extensive fire spread. As well as contributing to the speed of fire development, this mechanism for fire spread can, if not properly mitigated by cavity barriers, circumvent key features in the building's fire safety design. Most notably, in the case of a block of flats, this can allow the compartmentation between floors and between flats to be bypassed'.

Although some layers of mineral wool were identified within the system, gaps surrounding their edges and within the framework could be observed. This would reduce their effectiveness and allow fire to spread between compartments. It is noted that the concrete floor slab extends underneath these bay-style windows. In the provided FRA, mineral wool is demonstrated in one area of the balcony conversions between the concrete slab and the PUR insulation, 'Historic images were provided inhouse which appear to show a horizontal layer of mineral wool between the cantilevered concrete base and PUR board'. However, it is our professional opinion that an adequate standard of compartmentation throughout the system has not been achieved, and as such, it is our opinion that a mechanism for fire spread within the internal envelope of the system remains. The contribution of cavities to the risk posed by the external wall system is also detailed in Annex B, 'It is due, largely, to the elongation of the flames as they seek out oxygen, and the dynamics of heat transfer from,
and to, flames within a confined space. This is further exacerbated when the cavity contains combustible material that is readily ignitable and that is able to release a significant quantity of heat when it burns. Such a situation can give rise to extremely rapid fire spread.'

A compartment fire that becomes externally venting (as a result of breaching an aperture or having penetrated the internal plasterboard layer) is expected to be of a temperature high enough to cause the aluminium to begin to degrade, and also preheat the combustible PUR insulation before direct flame impingement.

It is noted that this wall type is remote from the means of escape with a masonry substrate acting as a separation, and a fire here should not directly compromise the ability for occupants to escape. However, due to the softening point of the aluminium panels, consideration must be given to the possibility of structural failure of these components. If these panels were to detach from the building, falling debris must be considered that may present a hazard to escaping occupants, as well as emergency services carrying out intervention. The building does benefit from multiple exits from the ground floor that should enable people to use the opposite entrance to the elevation at risk, enabling occupants an escape route if needed. The continuity of the combustible insulation throughout the system provides a mechanism for widespread secondary fires with vertical and horizontal fire spread.

This building operates a 'Stay Put Unless' evacuation policy. It is anticipated that, due to the nature of the building's internal construction, a fire would be reasonably contained within the compartment of origin long enough for firefighter intervention to begin or for affected occupants to evacuate if necessary, but; occupants should be informed that if they feel threatened or are exposed to smoke, heat or flame that they should immediately evacuate

the premises.

The building has two separate escape staircases with lobby protection serving all floors. AOVs are located within the staircases to prolong the tenability of the means of escape and to aid internal firefighter intervention. 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 1.5 miles away, and as such, the response to a call out would be expected to be swift.

In the event of a fire;

a) Extremely rapid external fire spread is likely to occur; and/or
b) fire spread could give rise to widespread secondary fires, resulting in occupants being significantly harmed; 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) fire and rescue services are likely to be able to intervene effectively to enable occupants to reach safety in time.

It is our professional opinion that there is a requirement for remediation of this wall type.

High

1 Recommended Remediation

We recommend initiating remediations within a timeframe that is reasonably practicable.

Remove and replace all combustible materials within this external wall type for materials that achieve Euroclass A2-s1,d0 rating or better.

Ensure fire/cavity barriers are installed at the relevant locations (such as at compartment junctions and around openings) as required by the system in conjunction with the current Building Regulations and guidance provided in Approved Document B.

This remediation will reduce the spread of fire within the external wall and prolong conditions for the means of evacuation or external intervention.

1 Recommended Interim Measure

Although we have indicated that it is our opinion that the 'Stay Put Unless' policy remains suitable, it is our professional opinion that upon receiving this report, the building's Fire Risk Assessor should review their holistic assessment of this building's evacuation policy to ensure it remains suitable in line with the overall risk profile of the building and the information provided to them.

In the event of any change, the occupants of the building must also be informed and given suitable training regarding any alternative means of raising the alarm.

APPENDIX

Asset Information

Client Name

Sandwell Metropolitan Borough Council

Client Address

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

Responsible Person

Sandwell Metropolitan Borough Council

Safety Assistance

Not Required

Fire Alarm System

Detection and alarm system within the communal areas appear to be installed in accordance with BS 5839 Part 1. British Standard that provides guidance and recommendations for the design, installation, commissioning and maintenance of fire protection systems in commercial/non-domestic premises.

Detection and alarm system within the living apartments appears to be installed in accordance with BS 5839 Part 6: 2019. British Standard that provides guidance and recommendations for the design, installation, commissioning, and maintenance of fire detection and fire alarm systems in domestic premises.

Early warning consists of hard wire or battery smoke alarms within each of the resident's flats. In addition to the system there is a heat detector within the hall of each flat that is monitored by the building's automatic fire alarm panel. The equipment is subjected to a cyclical test. Based on the sample of properties accessed during the fire risk assessment the smoke alarms and heat detectors within resident's flats are installed to an LD1 or LD2 Standard.

There's an addressable communal fire alarm system installed at Bowater House. The panel and zone plan can be found within the ground floor entrance lobby. The system is checked and tested weekly and biannually by the in house electrical team or procured contractor. The system provides detection to the communal areas which includes stairs, landings, mains cupboards, lift shaft, internal roof space and is also linked to heat detectors within resident's hallways.

Emergency Lighting

Installed in communal parts

Emergency Lighting

Coverage: Communal landings, stairwells, and lift motor room
Type: Self-contained emergency lights with strategically located test points
Testing: Monthly by in-house electrical team or approved contractor

Portable Fire Fighting Equipment

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

Portable Fire Fighting Equipment

Extinguisher equipment is installed within staff only / Restricted access areas of the building. Portable fire extinguisher (CO2) is provided to the lift motor room.

Smoke Control

Natural smoke control

Smoke Control

Type: Automatic Opening Vents (AOVs)
Location: Installed in both stairwells between floors 1-2, 3-4, 5-6, 7-8
Control: Firefighter control switch on wall (front stairwell, ground to 1st floor)

Suppression Systems

Partial sprinkler system installed (Detailed in Description)

Suppression System

Type: Deluge system to refuse chute bin store

Fire Fighting Facilities

Dry Riser

Fire Fighting Facilities

Dry Riser: Inlet at ground floor opposite lift; outlets on floors 1–8
Hydrant: Present adjacent to rear entrance
Extinguisher: CO_2 type in the lift motor room
Bin Store Protection: Deluge/sprinkler system with control panel in service cupboard

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

Location: Adjacent to rear entrance. Location detailed in on arrival information.

Housekeeping

Good standard. Means of escape clear. Refuse stored appropriately

Secure Information Boxes

Secure information box (SIB) installed

Secure Information Boxes

Type: Gerda PIB (Premises Information Box)
Location: Ground floor front entrance lobby
Contents: Floor plans, orientation drawings, vulnerability (PEEP) data

Signage

Appropriate signage installed throughout premises

Property Type

Residential Purpose-built

Building Era / Age

Known Build Date

Known Build Date

1963

Guidance Applicable At Time Of Construction

Model Byelaws 1953

Building Height

Overall Building Height Approximately 25m
Highest Occupied Floor Level 21.6m (as per FRA)
(calculated at 3m per floor as per PAS 9980-2022 section 3.1.22)

Number of Storeys (Ground and above)

9

Number of Basement Levels

None

Number of Flats

36

Flat Types

Single Storey

Structural Floor Material

Reinforced Concrete

Structural Stairs Material

Concrete

Construction (Details)

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

Exterior Cladding

FRAEW Completed on Exterior Cladding

Exterior Cladding (Details)

3mm solid aluminium panels	- External elevations
- Balcony enclosures	
- Entrances (front/rear)	A1-rated (non-combustible) as per documented info
PUR insulation boards	

Brickwork (Armitage multi cut)	- Approx. 43% of external wall surface	Non-combustible (inert masonry)
Solar PV panels	- South-west elevation (installed 1999)	
Pitched Roof Panels	- Profiled aluminium panels with mineral wool core	Non-combustible core; fire-resistant system

Electronic Entrance System

Yes

Carpark

External/Outdoor Carpark

Employees

None

Residents

Yes

Approx number of Residents

72

Residents (Extended)

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

Visitors

Not Known

People With Reduced Mobility

Not Known

People with Reduced Mobility (Extended)

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

Lone Workers

None

Young Persons Employed in the Premises

None

Escapes & Exits

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

Number Of Internal Escape Stairs

2

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

No

Stairwells Protected / Lobbied

Other

Stairwell Details

Protected Staircases - Two protected stairwells with FD30s doors and AOVs for smoke ventilation
Communal Lobbies Communal areas serve as access to flats and stairs; corridors are of adequate width and not dead-end

Flat Doors Open Onto Stairs

No

Current Evacuation Strategy

Stay Put

Current Stay Put Strategy Description

The current evacuation strategy is a 'Stay Put Unless' policy as denoted by the fire action notices displayed in the common area. This policy encourages occupants to stay put in the event of a fire unless they are threatened.

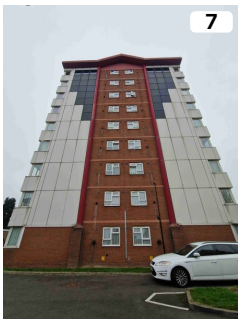
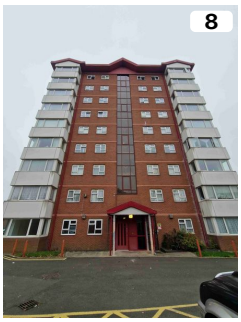
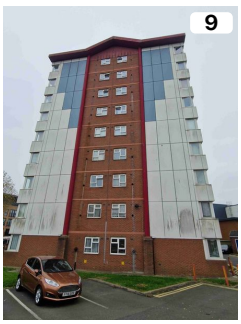
Current Evacuation Strategy for the property considered appropriate?

Yes

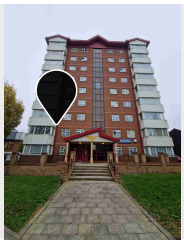
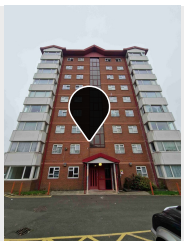
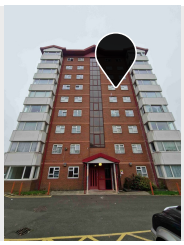
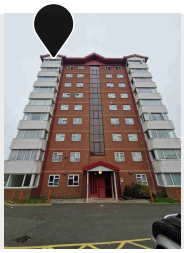
Aerial Perspective: Bowater House

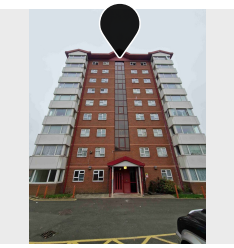
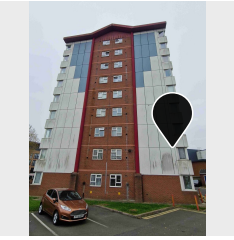
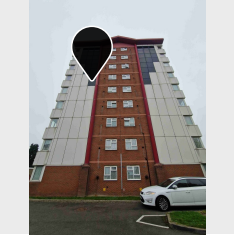
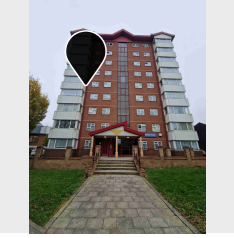
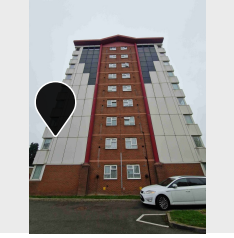
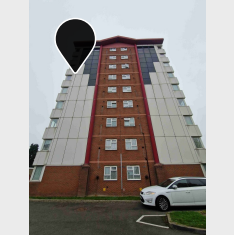
Aerial Perspective (picture sourced from Google Earth)

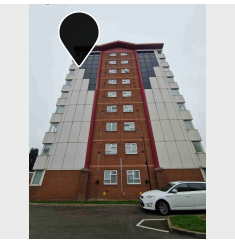
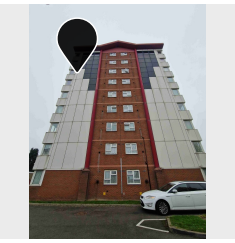
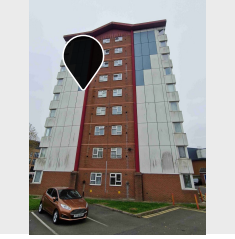
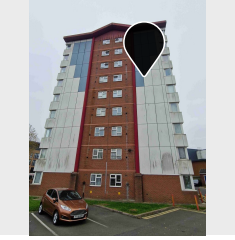
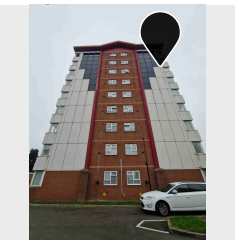
Elevations

Photo	Name	No. of Storeys	Features
	South East	9 Storeys	• Escape Route Exit
	South West	9 Storeys	• Photovoltaic (Solar) Panels
	North West	9 Storeys	• Escape Route Exit
	North East	9 Storeys	

Inspections

Elevation Location	Inspection	Elements
	**Inspection: 9KE1FV** East Elevation (Front Entrance) Compartment Floor	• Outer leaf • Cavity • Inner Leaf (Blockwork)
	**Inspection: Q45DMQ** East Elevation (Front Entrance) Compartment Floor and Vertical Compartment Junction	• Outer leaf • Cavity • Insulation (PUR - Foil Faced) • Inner Leaf (Blockwork)
	**Inspection: 5IPQ73** West Elevation Compartment Floor and Vertical Compartment Junction	• Outer leaf • Cavity • Insulation (PUR - Foil Faced) • Inner Leaf (Blockwork)
	**Inspection: RHK2UT** West Elevation Window Aperture	• Framework (Aluminium Framework) • Outer leaf
	**Inspection: I9165U** West Elevation Compartment Junction	• External Surface Material (Aluminium Panel) • Cavity • Insulation (PUR - Foil Faced) • Outer leaf

Elevation Location	Inspection	Elements
	**Inspection: LWHBQS** West Elevation Compartment Floor - Gable End	• Other (Galvanized steel support frame which has been installed over the original flat roof to create a pitched roof appearance. vertical sections are insulated with mineral wool.)
	**Inspection: P4RY71** North Elevation Compartment Floor	• External Surface Material (Aluminium Panel) • Cavity • Insulation (PUR - Foil Faced) • Outer leaf
	**Inspection: FMRHFQ** South Elevation VISUAL INSPECTION ONLY	No elements identified
	**Inspection: I18RTW** East Elevation (Front Entrance) Compartment Floor	• External Surface Material (Aluminium Panel) • Cavity • Insulation (PUR - Foil Faced) • Outer leaf
	**Inspection: NSDKK9** South Elevation Compartment Floor	• External Surface Material (Aluminium Panel) • Cavity • Insulation (PUR - Foil Faced) • Outer leaf
	**Inspection: KTE9Z1** South Elevation Cladding/PV Panel Interface	• External Surface Material (Aluminium Panel) • Framework (Steel bracket) • Cavity • Insulation (PUR - Foil Faced) • Substrate (Reinforced concrete)

Elevation Location	Inspection	Elements
	**Inspection: LTPZQB** South Elevation Cladding/PV Panel Interface	• External Surface Material (Aluminium Panel) • Framework (Steel) • Cavity • Insulation (PUR - Foil Faced) • Substrate (Reinforced concrete)
	**Inspection: 9C9DP5** South Elevation Cladding/PV Panel Interface	• External Surface Material (Aluminium Panel) • Framework (Steel) • Cavity • Insulation (PUR - Foil Faced) • Substrate (Reinforced concrete)
	**Inspection: XKCLMN** North Elevation Cladding/PV Panel Interface (confirm if PV Panels)	No elements identified
	**Inspection: 634BFP** North Elevation Cladding/PV Panel Interface (confirm if PV Panels)	No elements identified
	**Inspection: XMTGFE** South Elevation Cladding/PV Panel Interface	• External Surface Material (Aluminium Panel) • Framework (Steel) • Cavity • Insulation (PUR - Foil Faced) • Substrate (Reinforced concrete)
	**Inspection: DRPHZQ** South Elevation Cladding/PV Panel Interface	• External Surface Material (Aluminium Panel) • Framework (Steel) • Cavity • Insulation (PUR - Foil Faced) • Substrate (Reinforced concrete)

Inspection: 9KE1FV

Elevation • Location
East Elevation (Front Entrance) • Compartment Floor

Name/Summary

Brickwork (Masonry)

Description

The brickwork cavity is an open void between floor slabs that extend to the outer surface, creating effective compartmentation.

Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Outer leaf	102mm	Material Brand: Original brickwork	10, 11, 12	A1 - Non-Combustible
Cavity				
Inner Leaf	100mm	Blockwork		A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Concrete	

Cavity closed horizontally by the concrete floor slab

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos

10

11

12

Inspection Photos

13

14

15

16

Inspection: Q45DMQ

Elevation • Location
East Elevation (Front Entrance) • Compartment Floor and Vertical Compartment Junction

Name/Summary

Brickwork (Masonry)

Description

The brickwork cavity is an open void between floor slabs that extend to the outer surface, creating effective compartmentation.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Outer leaf	102mm	Material Brand: Original brickwork	17, 18, 19	A1 - Non-Combustible
Cavity				
Insulation	30mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Inner Leaf	100mm	Blockwork		A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Concrete	

Cavity closed horizontally by the concrete floor slab

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos

17

18

19

Inspection Photos

20

21

22

Inspection: 5IPQ73

Elevation • Location
West Elevation • Compartment Floor and Vertical Compartment Junction

Name/Summary

Brickwork (Masonry)

Description

The brickwork cavity is an open void between floor slabs that extend to the outer surface, creating effective compartmentation.

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Outer leaf	102mm	Material Brand: Original brickwork		A1 - Non-Combustible
Cavity				
Insulation	30mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Inner Leaf	100mm	Blockwork		A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Concrete	

Cavity closed horizontally by the concrete floor slab

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos

23

24

25

Inspection: RHK2UT

Elevation • Location
West Elevation • Window Aperture

Name/Summary

Curtain walling

Build-Up

2 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Framework		Aluminium Framework		A2 - Limited Combustibility
Outer leaf	102mm			A1 - Non-Combustible

Original brickwork

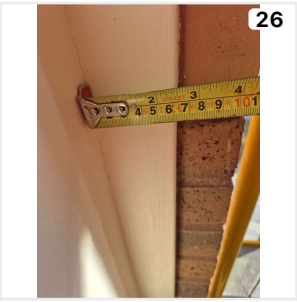
Cavity Barriers

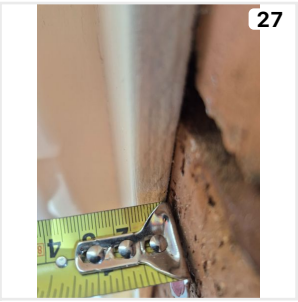
No external cavity

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection Photos





Inspection: I9165U

Elevation • Location
West Elevation • Compartment Junction

Name/Summary

Aluminium Cladding

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel		A2 - Limited Combustibility
Polyester Powder Coated cladding panel on aluminium support frame				
Cavity	120mm		29	
Insulation	60mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Outer leaf	102mm			A1 - Non-Combustible
Original brickwork				

Cavity Barriers

No cavity barrier identified at this inspection location

Floor Slab

Backing Wall Sits On The Floor Slab

Build-up Photos

Inspection Photos

Inspection: LWHBQS

Elevation • Location
West Elevation • Compartment Floor - Gable End

Name/Summary

Aluminium Cladding

Build-Up

1 Element	Material	Photo Ref.	Rating (BS EN13501)
Other	Galvanized steel support frame which has been installed over the original flat roof to create a pitched roof appearance. vertical sections are insulated with mineral wool.		A1 - Non-Combustible

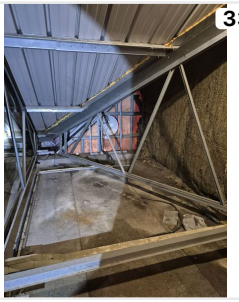
Cavity Barriers

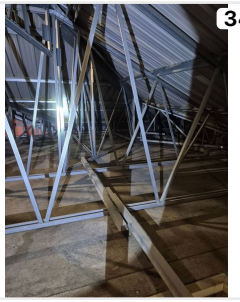
No cavity barrier identified at this inspection location

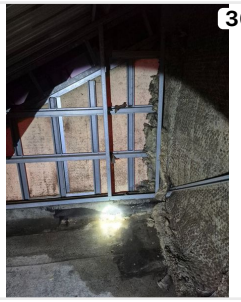
Floor Slab

Outside and backing walls sit on the floor slab

Inspection Photos







Inspection: P4RY71

Elevation • Location
North Elevation • Compartment Floor

Name/Summary

Aluminium Cladding

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel		A2 - Limited Combustibility
Cavity	120mm			
Insulation	60mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Outer leaf	102mm			A1 - Non-Combustible

Original brickwork

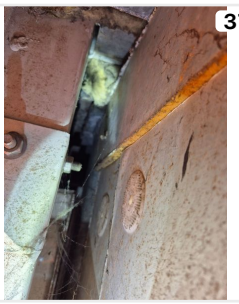
Cavity Barriers

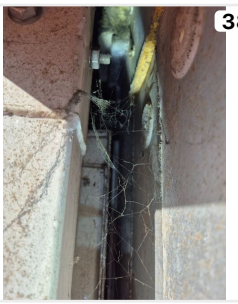
No cavity barrier identified at this inspection location

Floor Slab

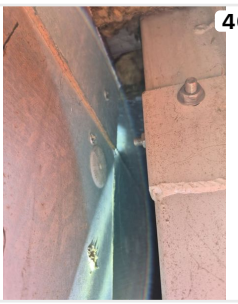
Backing Wall Sits On The Floor Slab

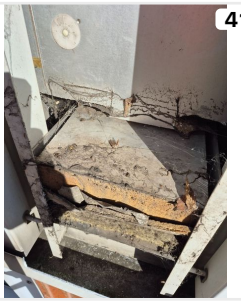
Inspection Photos


37

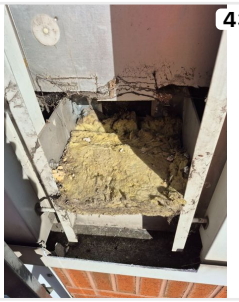

38


39


40


41


42


43


44


45


46


47

Inspection: FMRHFQ

Elevation • Location
South Elevation • VISUAL INSPECTION ONLY

Name/Summary

Photovoltaic Panels (PV)

Description

Live electric, Visual Inspection only

Inspection: I18RTW

Elevation • Location
East Elevation (Front Entrance) • Compartment Floor

Name/Summary

Aluminium Cladding

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel		A2 - Limited Combustibility
Cavity	120mm			
Insulation	60mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Outer leaf	102mm			A1 - Non-Combustible

Original brickwork

Cavity Barriers

No cavity barrier identified at this inspection location

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: NSDKK9

Elevation • Location
South Elevation • Compartment Floor

Name/Summary

Aluminium Cladding

Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel		A2 - Limited Combustibility
Cavity	120mm			
Insulation	60mm	PUR - Foil Faced Material Brand: Nestaan		F - Highly Combustible
Outer leaf	102mm			A1 - Non-Combustible

Original brickwork

Cavity Barriers

No cavity barrier identified at this inspection location

Floor Slab

Backing Wall Sits On The Floor Slab

Inspection: KTE9Z1

Elevation • Location
South Elevation • Cladding/PV Panel Interface

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	48	A2 - Limited Combustibility
Framework	200mm	Steel bracket	49	A1 - Non-Combustible
Cavity	70mm		50	
Insulation	100mm	PUR - Foil Faced	51	F - Highly Combustible
Substrate		Reinforced concrete	51	A1 - Non-Combustible

Exposure of the floor slab from the balcony/alcove

Cavity Barriers

No cavity barrier identified at this inspection location

Floor Slab

Reinforced concrete

Build-up Photos

Inspection Photos

Inspection: LTPZQB

Elevation • Location
South Elevation • Cladding/PV Panel Interface

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	55	A2 - Limited Combustibility
Framework		Steel	56, 57	A1 - Non-Combustible
Cavity	100mm		58, 59	
Insulation	100mm	PUR - Foil Faced	60	F - Highly Combustible
Insulation extends fully behind the PV panels				
Substrate		Reinforced concrete	61	A1 - Non-Combustible

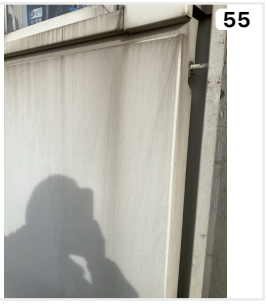
Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	62
Loose fit		

Floor Slab

Reinforced concrete

Build-up Photos


55


56


57


58


59


60


61

Cavity Barrier Photos


62

Inspection Photos

63

64

65

66

67

Inspection: 9C9DP5

Elevation • Location
South Elevation • Cladding/PV Panel Interface

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	68, 69, 70	A2 - Limited Combustibility
Framework	2mm	Steel	71, 72, 73	A1 - Non-Combustible
Cavity	70mm		74, 75, 76	
Insulation		PUR - Foil Faced	77, 78	F - Highly Combustible
Substrate		Reinforced concrete	79	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	80

Loose fit in the cavity

Floor Slab

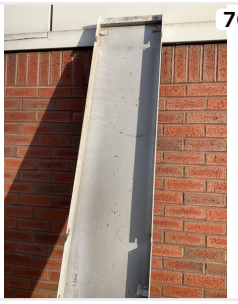
Reinforced concrete

Build-up Photos

68

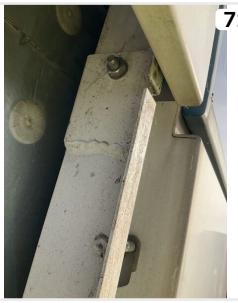
69

70



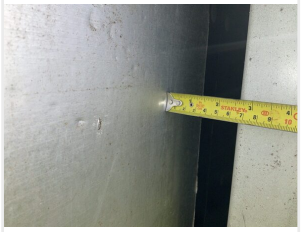
71

72



73

74



75

76

77

78

79

Cavity Barrier Photos

80

Inspection Photos

Inspection: XKCLMN

Elevation • Location
North Elevation • Cladding/PV Panel Interface (confirm if PV Panels)

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Inspection: 634BFP

Elevation • Location
North Elevation • Cladding/PV Panel Interface (confirm if PV Panels)

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Inspection: XMTGFE

Elevation • Location
South Elevation • Cladding/PV Panel Interface

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	82, 83	A2 - Limited Combustibility
Framework		Steel	84, 49	A1 - Non-Combustible
Cavity			50	
Insulation	100mm	PUR - Foil Faced	85, 86	F - Highly Combustible
Substrate		Reinforced concrete	87	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	88

Loose fit in the cavity

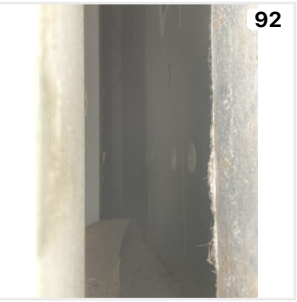
Floor Slab

Reinforced concrete

Build-up Photos

Cavity Barrier Photos

Inspection Photos



Inspection: DRPHZQ

Elevation • Location
South Elevation • Cladding/PV Panel Interface

Name/Summary

Cladding/PV Panel Interface

Description

To identify the presence of a non-combustible barrier between the PV panels and the combustible PUR insulation contained within the cladding.

Build-Up

5 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
External Surface Material	3mm	Aluminium Panel	90	A2 - Limited Combustibility
Framework		Steel	93	A1 - Non-Combustible
Cavity	70mm		94	
Insulation	90mm	PUR - Foil Faced	94	F - Highly Combustible
Substrate		Reinforced concrete	95	A1 - Non-Combustible

Cavity Barriers

1 Cavity Barrier	Material	Photo Ref.
Horizontal Cavity Barrier	Solid State Mineral Wool	94

Loose fit in the cavity

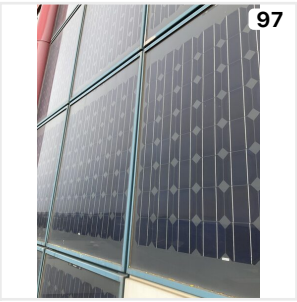
Floor Slab

Reinforced concrete

Build-up Photos

Cavity Barrier Photos

Inspection Photos



Penetrations

Photo	Penetration
No Image	**Flue (QI1JSE)** Inspection Type: Visual
No Image	**Air Brick (7W5FYT)** Inspection Type: Visual

Penetration: Flue

Penetration Reference
QI1JSE

Details

Photo

1 Image

Inspection Type

Visual

Duct Pipework Material

PVC

Penetration: Air Brick

Penetration Reference
7W5FYT

Details

Photo

1 Image

Inspection Type

Visual

Duct Pipework Material

PVC

External Windows

Photo	External Window
	**Top, Mid, Side Hung Casements (A9GLUG)**
	**Top, Mid, Side Hung Casements (5TBTRJ)**

External Window: Top, Mid, Side Hung Casements

External Window Reference
A9GLUG

Details

Surface Material

uPVC

Frame Material

uPVC

Infill / Panel Material

Toughened Safety Glass

Photos

External Window: Top, Mid, Side Hung Casements

External Window Reference
5TBTRJ

Details

Surface Material

uPVC

Frame Material

Steel

Infill / Panel Material

Glazing

Details

Tempered Glass

Photos

99

101

102

External Doors

Photo	External Door
	Single Leaf Entrance Doors (FHTNU8)

External Door: Single Leaf Entrance Doors

External Door Reference
FHTNU8

Details

Surface Material

Steel

Frame Material

Steel

Infill / Panel Material

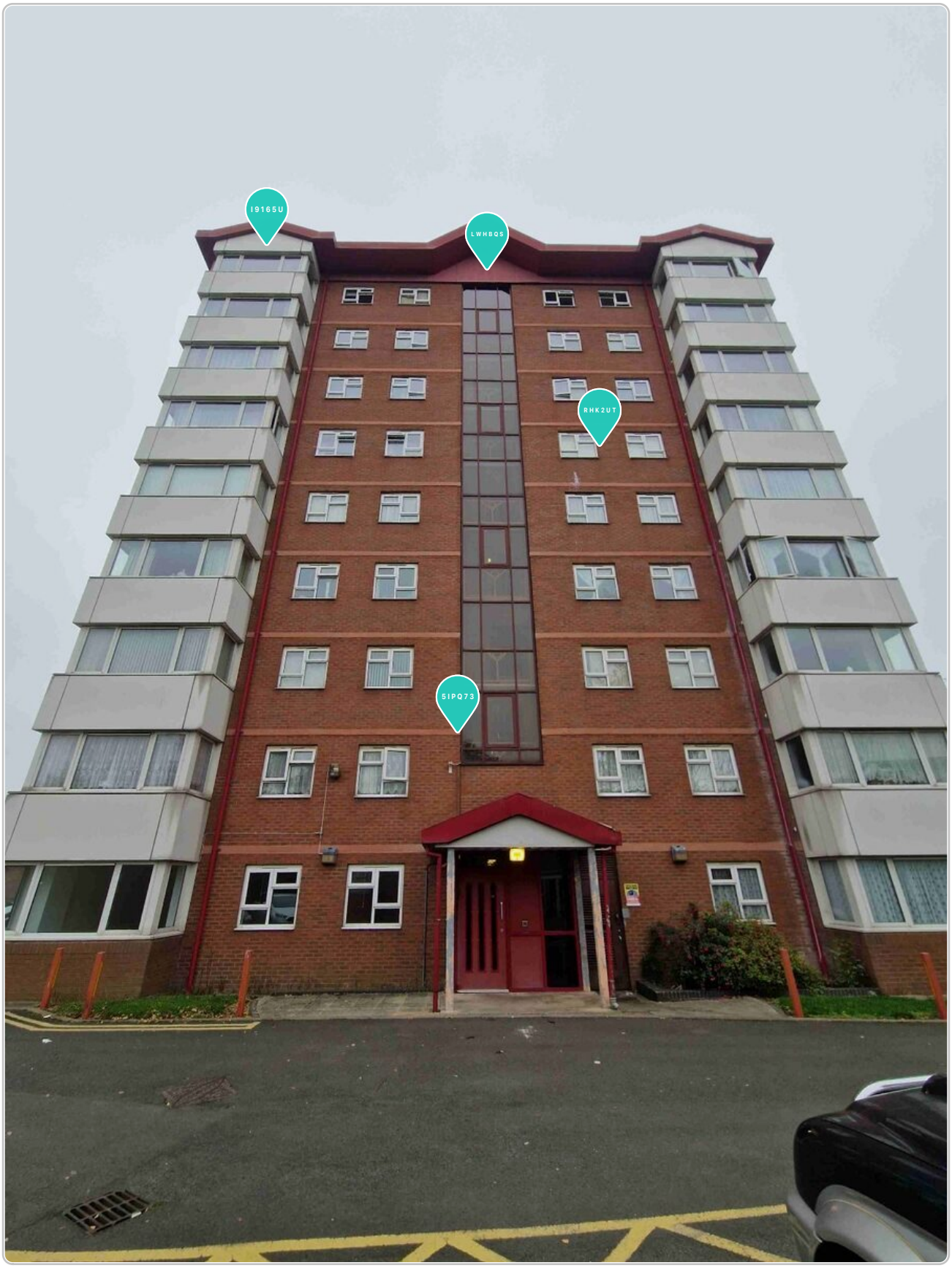
Toughened Glass

Photos

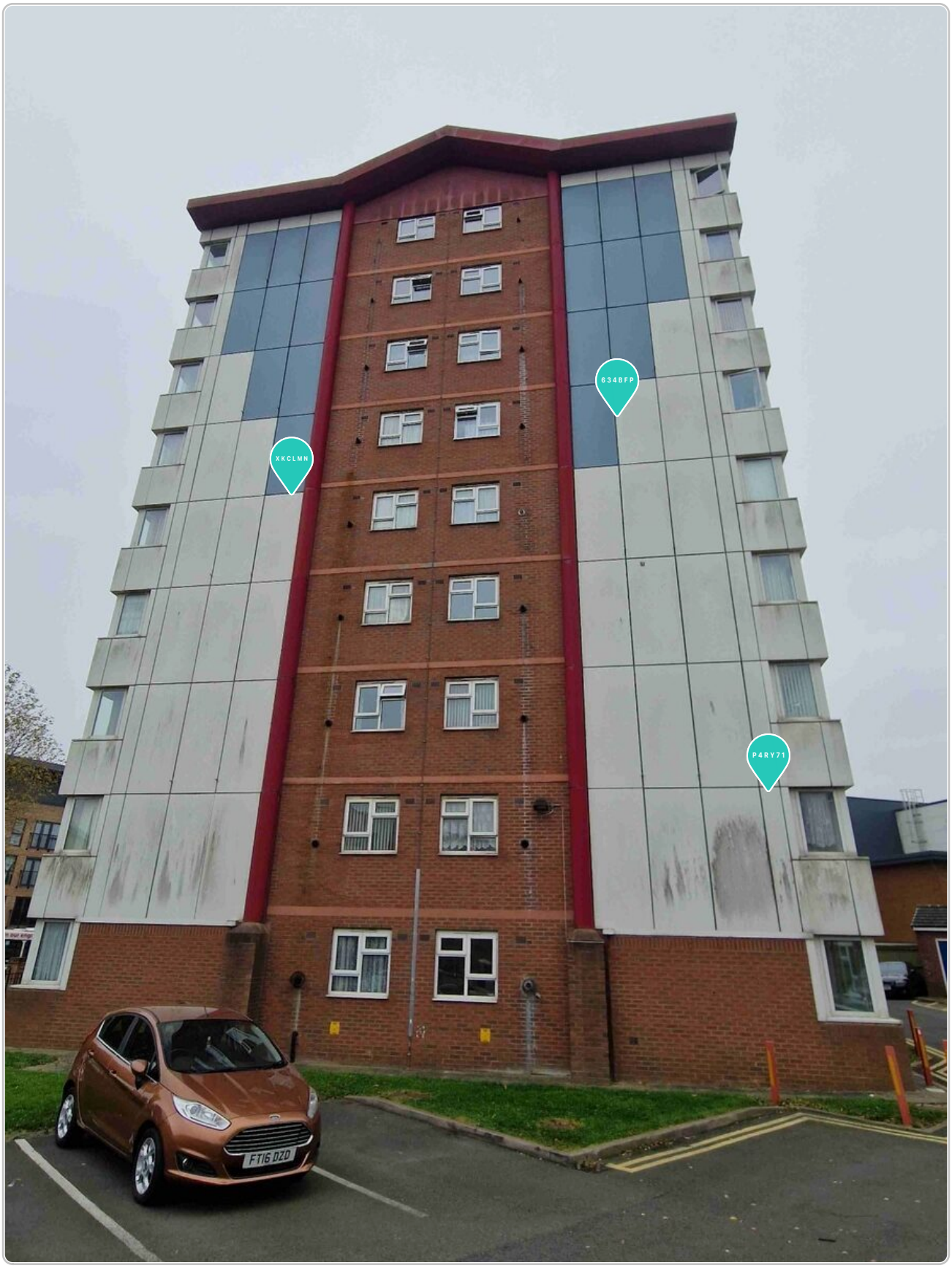
103

Plan: East Elevation (Front Entrance)

Plan: West Elevation



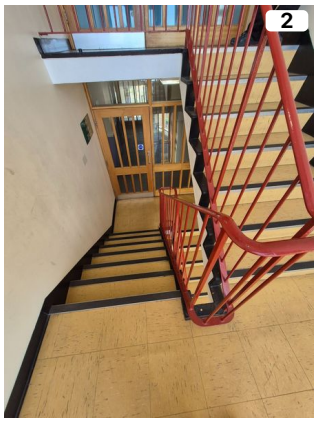
Plan: North Elevation

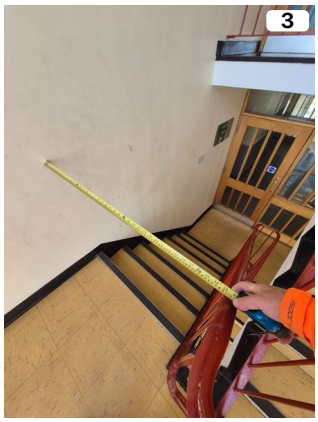


Plan: South Elevation

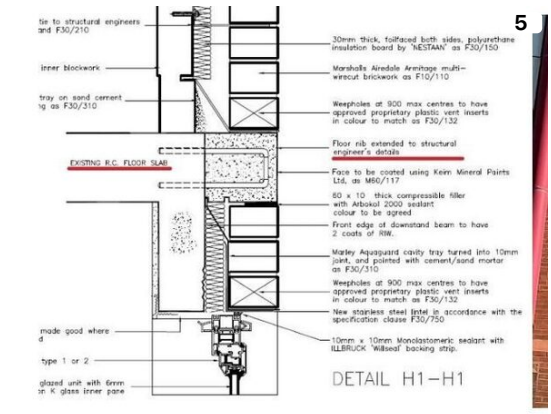
Photos


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

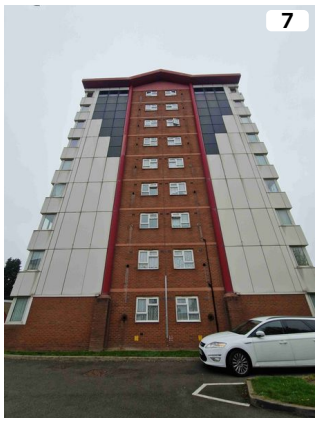

2


3

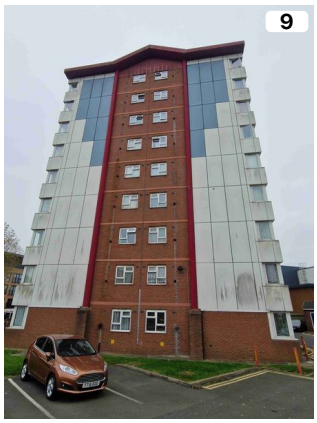

4


5
tie to structural engineers and F30/210
inner blockwork
tray on sand cement ig as F30/310
EXISTING R.C. FLOOR SLAB
made good where d
type 1 or 2
glazed unit with 6mm in K glass inner pane
30mm thick, foilfaced both sides, polyurethane insulation board by 'KESTAIN' as F30/150
Marshalls Alreadale Armitage multi-wirecut brickwork as F10/110
Weepholes at 900 max centres to have approved proprietary plastic vent inserts in colour to match as F30/132
Floor nib extended to structural engineer's details
Face to be coated using Keim Mineral Paints Ltd, as M60/117
60 x 10 thick compressible filler with Arbokol 2000 sealant colour to be agreed
Front edge of downstand beam to have 2 coats of RIW.
Marley Aquaguard cavity tray turned into 10mm joint, and pointed with cement/sand mortar as F30/310
Weepholes at 900 max centres to have approved proprietary plastic vent inserts in colour to match as F30/132
New stainless steel lintel in accordance with the specification clause F30/750
10mm x 10mm Monolastomeric sealant with ILLBRUCK 'Willseal' backing strip.
DETAIL H1–H1


6


7


8


9

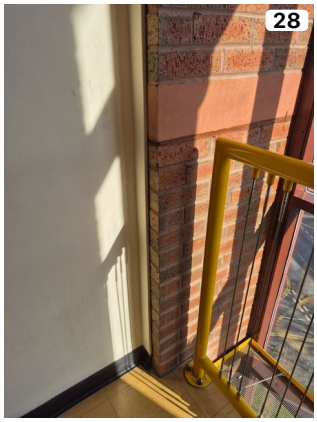

10
2024-09-09 09:56:33

Photos Continued...

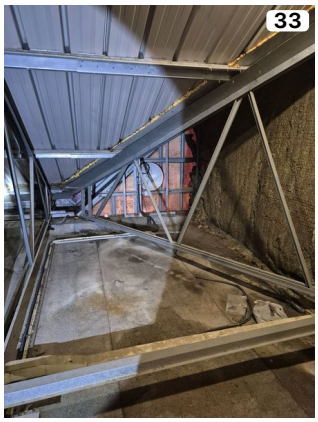
Photos Continued...

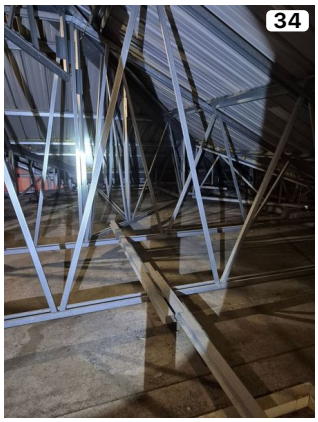
Photos Continued...

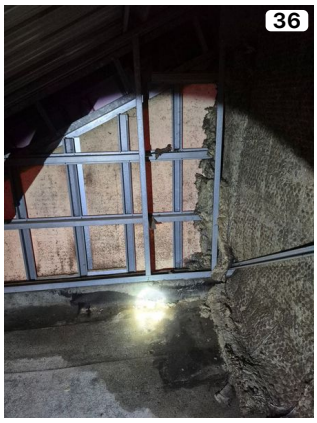
Photos Continued...

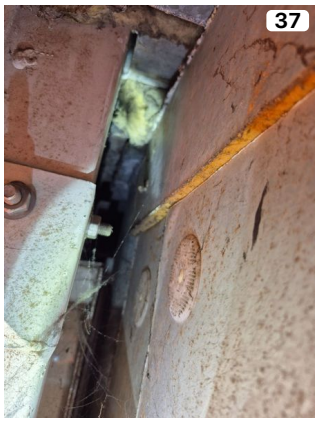


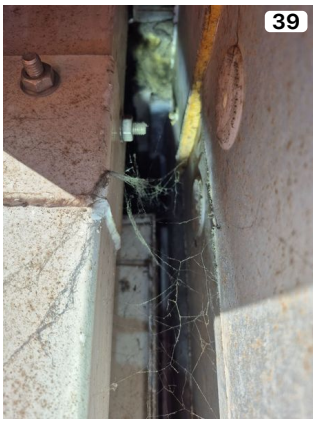
Photos Continued...



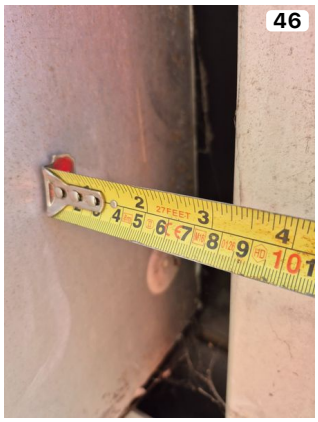


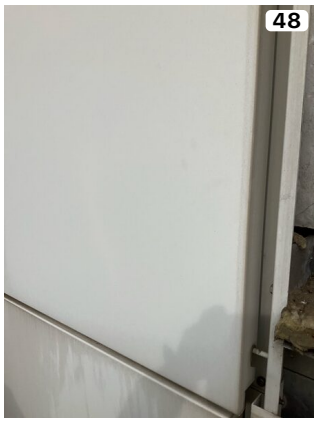






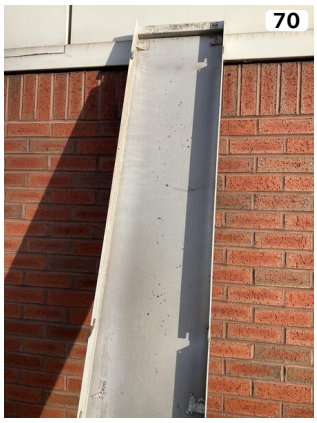
Photos Continued...

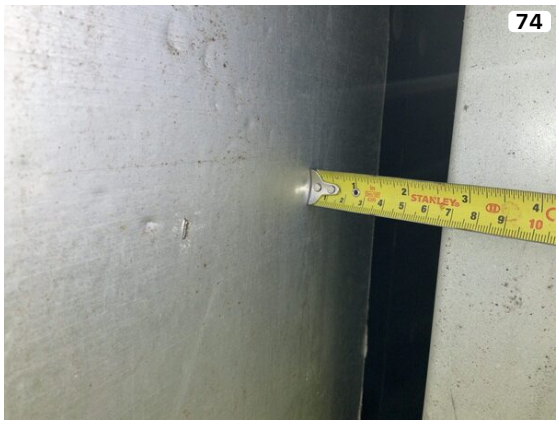




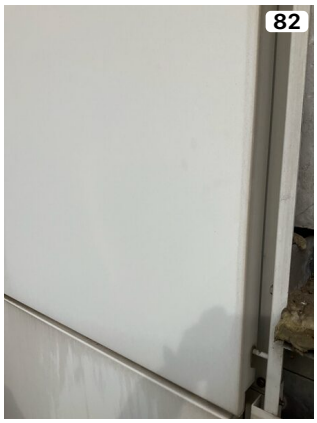
Photos Continued...

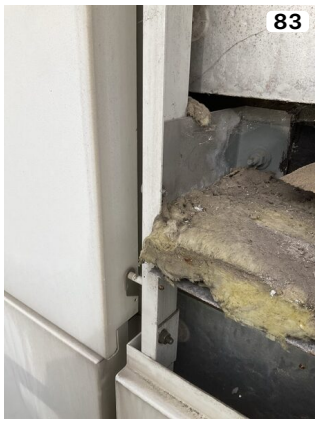
Photos Continued...





Photos Continued...





Photos Continued...

Photos Continued...

FIRNTEC

BUILDING COMPLIANCE

0345 646 1566 | info@firntec.com | www.firntec.com