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PAS 9980 STEP 2-5 (FRAEW) LABURNUM HOUSE

Laburnum House
89 Bradwell Avenue
Dagenham
London
RM10 7AE

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

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

Fire Policy and Testing and Maintenance records

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Summary

PAS 9980 Step 2-5 (FRAEW)

Assessment and Certificate Reference

RB-9WWXBG

Assessed On, By

10/02/2024, Lee Kenny

Approved / Validated On, By

15/02/2024, Ellie Dixon (Operations Administrator)

Start Date — Recommended Review Date

10/02/2024 — 10/02/2025

Assessed Property

Property Name

Laburnum House

89 Bradwell Avenue

Property Reference

RB-SJPI5V

RM10 7AE

Produced For the Overall Responsible Person

London Borough of Barking & Dagenham

Specification Conforms To

Our own internal quality system.

Assessment Scope

Assessment applies only to the building specified.

Address

Laburnum House

Dagenham

London

Assessing Organisation

Firntec

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

0345 646 1566 — www.firntec.com



Summary

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

External Wall Summary (22/01/2024) Barry Jubb

Fire Risk Assessment (27/04/2023)

Marton Kovacs-Buna Type 1

FRA

Fire Strategy Report

Firntec Building Compliance

Retrospective Fire Safety Strategy



Executive Summary

External Wall Systems and Attachments on the Building

6 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.

In accordance with the PAS 9980 Guidance, any items of construction which are considered as “Medium Risk” should be subject to

6 Items	Effect	Risk
Wall Construction Masonry Face Brick (GS4V55)	Positive	Low
Wall Construction Render (E7VRE9)	Positive	Low
External Window Top, Mid, Side Hung Casements (GSC1VD)	Neutral	Low
External Window Top, Mid, Side Hung Casements (9KG3TC)	Neutral	Low
External Door Single Leaf Block Entrance Door and Double Leaf Access Doors to Refuse Store and Plant Rooms (MK1LKQ)	Neutral	Low
External Door Single Leaf Entrance Doors (XYLY1T) periodic review, to ensure that conditions do not change, such that the risk may be upgraded to high, prompting the requirement for remediation.	Neutral	Low

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 **L5XUDB** which includes wall construction **GS4V55**.

- 1) **Impact of Risk from Fire Performance:** The external wall is of traditional brick / masonry cavity wall construction. The brick outer leaf is greater than 75mm thick. The masonry inner leaf is assumed to be greater than 75mm thick. A 80mm cavity is present between the inner and outer leaf's that is loose filled with a combustible XPDS insulation. Both the inner and outer leaves have a reaction to fire classification A1: non combustible. Consequently the materials present would not support combustion and thus generally accepted to accommodate combustible materials within the cavity irrespective of height.
- 2) **Impact of Risk from Façade Configuration:** The masonry face brick wall type is installed to approximately 80% of the buildings external wall area. The inner and outer walls are non combustible. A cavity is present between the masonry leaves that is loose filled with combustible insulation. Vertically aligned windows and ventilation penetrations are present on brick each elevation. The cavity was observed to be closed around window openings by the brick construction and and compartment floor level by the concrete slab. The risk presented by combustible insulation is not considered to present an excessive risk as the main components within the wall make up will not support combustion and the cavity is limited in extent.
- 3) **Impact of Risk from Fire Strategy / Fire Hazards:** The majority of the fire safety features provided to the block are in line with expectations for a general needs block of this size.

Conclusion: The assessment concludes with Low risk for the masonry face brick wall type, therefore no remediation is recommended as the risk is at a tolerable level.



Risk Factor Analysis 2

This analysis looks at façade configuration **DLPVH3** which includes wall construction **E7VRE9**.

- 1) **Impact of Risk from Fire Performance:** The outer facing render coat is adhered to a reinforced concrete substrate. The materials present have a reaction to fire classification A1: non combustible.
- 2) **Impact of Risk from Façade Configuration:** The render wall type is installed to approximately 20% of the buildings external wall area to the stairway and areas of the uprights enclosing the parapet roof. The wall is constructed of cement render over reinforced concrete and as such non combustible. Vertically aligned windows are present to the wall type. The excessive risk of fire spread presented by the openings is mitigated as the main components within the wall make up will not support combustion.
- 3) **Impact of Risk from Fire Strategy / Fire Hazards:** The majority of the fire safety features provided to the block are in line with expectations for a general needs block of this size.

Conclusion: The assessment concludes with Low risk for the masonry face brick wall type, therefore no remediation is recommended as the risk is at a tolerable level.



Overall Building Risk Rating



This fire risk appraisal of external walls report (FRAEW) has been undertaken by a competent assessor and has established that the external walls comprise the following:

- Wall system 1 - Masonry Face Brick
- Wall system 2 - Render

In the context of a risk based approach and using the methodology outlined in PAS 9980 the risk in question is a combination of the following:

The likelihood of undue speed of fire spread over the external walls of the building and the likely consequences i.e., the occurrence and extent of secondary fires on other floor levels and the likely consequences in terms of evacuation before the onset of untenable conditions within escape routes before occupants can escape, whether evacuation is intended to occur immediately on warning of fire or at some point during the course of the fire as with a stay put strategy and the likelihood of effective fire and rescue service intervention before all of the above can occur.

The report has judged the building against these benchmarks and the following aspects were considered particularly relevant.

1. The main components of each wall type are non-combustible.
2. The rendered area was inspected visually during the site inspection, therefore limited information relating to the wall make up is provided. Consequently, the make up observed to the neighbouring block has been assumed for assessment - 20mm render, 20mm reinforced concrete. Should this assumption be found to be inaccurate, this FRAEW should be reviewed.
3. XPS insulation used within infill panels comprising are not considered to present a risk of excessive fire spread across compartments as the combustible core is considered to be fully encapsulated with steel outer layers.
4. A single fire affecting the external wall is not anticipated to extend over all facades and preclude means of escape.
5. Fire service access is good to all elevations and response is expected to be within average timescales for a building located within 3.5 mile from a city fire station.

In this instance the FRAEW concludes that improvements or alterations to the buildings fire safety design and fire strategy are unnecessary.

This FRAEW should be used to inform the buildings fire risk assessment.

Recommended Remediations

No recommended remediations identified.

Recommended Interim Measures

No recommended interim measures identified.

Fire Strategy

Strategy & Hazard Risk Factors

F.1 Occupancy

General needs Housing

Neutral

F.2 Evacuation

The premises have adopted a stay put policy

Neutral

F.3 Escape Route Design

Single staircase with lobby approach

Neutral

F.4 Compartmentation

Adequate compartmentation in line with the expectations for blocks of flats

Neutral

F.5 Smoke Control

The fire risk assessment report identifies the presence of automatic smoke ventilation to the stair enclosure and adjoining lobbies. Any form of smoke control present would not be considered to be unduly affected by a façade fire due to the non combustibile nature of the wall types present.

Neutral

F.6 Fire Alarm & Detection

Commercial smoke alarms installed throughout the common areas in addition to domestic smoke and heat alarms within flats to at least a Category LD3 standard

Positive

F.7 Fire Suppression

AWFSS provided to refuse store room

Neutral

Fire Strategy

F.8 - Firefighting Facilities

Adequate access for firefighting vehicles. Fire service access is provided to more than 15% of the buildings perimeter. As an existing building accessed from the public highway, water supplies for firefighting operations are provided via existing hydrants.

Neutral

F.9 Rising Mains

Suitable dry rising main provided, serving all floors

Neutral

F.10 Lifts Used By Firefighters

Suitable firefighting lifts provided

Neutral

Fire Service Intervention

Travelling Time Of Fire Service	1,020 Seconds	17 Minutes
Total Time	1,020 Seconds	17 Minutes
Event	Seconds	Minutes & Seconds

Nearest Fire Station

The nearest fire station, Hornchurch Fire Station, is located 3.5 mile away

Wall Constructions

Photo

Wall Construction

Build-up



Masonry Face Brick (GS4V55)

- Surface Finish (Brickwork)
- Cavity
- Insulation (XPS Insulation)
- Inner Leaf (Brickwork)



Render (E7VRE9)

No elements identified

Wall Construction: Masonry Face Brick

Construction Reference
GS4V55

This wall construction was identified by wall inspections XBR6V1, NF82QT, THXLJQ, and VKCB7Q. The build-up, cavity barrier, and floor slab information is taken directly from inspection XBR6V1. See the Inspections section of this report for full inspection details.

Construction

Effect

Risk

Masonry Face Brick (GS4V55)

Positive

Low

Build-Up

4 Elements

Thickness/Depth

Material

Rating (BS EN13501)

Surface Finish

102mm

Brickwork

A1 - Non-Combustible

Cavity

80mm

Insulation

80mm

XPS Insulation

E - Highly Combustible

Blown expanded polystyrene beads

Inner Leaf

Brickwork

A1 - Non-Combustible

Cavity Barriers

2 Cavity Barriers

Material

Window Aperture

Brick

Horizontal Cavity Barrier

Concrete

Floor Slab

Outside and backing walls sit on the floor slab

Fire Performance

K.1 General

102mm brick, 80mm cavity loose filled with blown XPS insulation, brick substrate.

Whilst outer wall and substrate are non combustible, XPS insulation assumed Class

Negative
E

K.2 External Surfaces

102mm Brick (Euroclass A1)

Positive

K.3 Facings/Cladding Panels

Masonry facings, Euroclass A1, Low HRR

Positive

K.4 Panel Construction

Not applicable to this wall type

K.5 Cavities

Facings into the cavity at least A2. Cavity observed to be closed at compartment floor level and window openings

Positive

K.6 Insulation

Assumed Class E

Negative

K.7 Substrate

Masonry Brick assumed >75mm in thickness

Positive

K.8 Sheathing Boards

Not applicable to this wall type

K.9 Insulated Core Panels

Not applicable to this wall type

K.10 ETICS

Not applicable to this wall type

K.11 Infill / Spandrel Panels

Infill panels are provided to window openings across the façade. The infill panels comprise 30mm XPS insulation between 1mm steel sheets. The combustible core is Neutral considered to be fully encapsulated by the steel outer skin.

K.12 Internal Finishes

Information relating to the internal finishes within flats is not provided but a plasterboard finish is assumed to the internal aspect

Neutral

PAS Standard Benchmark

L1 Benchmark

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

Masonry (brickwork, blockwork, reinforced concrete)

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

L2 Benchmark

Plasterboard

The core material of plasterboard is non-combustible, but the paper linings are not. Plasterboard is fire-resisting, with the specific period of fire resistance dependent upon the grade and thickness of plasterboard used, the frame to which it is fixed and the manner of its fixing. Where product markings are not visible, it is generally difficult to identify plasterboard without expert knowledge. In the absence of specific information, it is reasonable to assume plasterboard to be of standard grade.

Notwithstanding the above, plasterboard can be regarded as providing an adequate cavity barrier within wall or floor construction provided it is at least 12 mm thick. Where partitions are formed of stud construction and plasterboard at least 12 mm thick on both faces, the partition is likely to be capable of providing 30 min fire resistance, provided it is well built.

L3 Benchmark

Thermoplastic insulation

- EPS foam
- XPS foam
- “Multifoil insulation” (e.g. layers of reflective foil and thermoplastic fibre wadding or bubble-wrap type material)
- Importance of cavities being formed on heating

Thermoplastic insulation typically offers poor fire performance and so is reliant upon encapsulation to achieve safe external wall construction.

Thermoplastic insulation will, by definition, melt on heating, so any space which is occupied by a thermoplastic insulation needs to be assumed as becoming a cavity lined with combustible residue once involved in fire. Encapsulation of thermoplastic insulation therefore needs to retain its integrity and likely needs to retain its shape when exposed to fire; it cannot be reliant upon the thermoplastic insulation to do this.

It is generally accepted that thermoplastic insulation will be installed below damp-proof course (DPC) level in buildings, given the need to mitigate against damp.

This is unlikely to have a significant impact on fire risk.

L4 Benchmark

Differentiating cavity barriers, fire stopping and fire barriers -

Cavity barriers are often confused with fire stopping and fire barriers.

Cavity barriers subdivide cavities. In general, any structure within external wall construction that subdivides cavities could be a cavity barrier (subject to whether its construction is capable of providing the function of a cavity barrier). ADB ([8], [9]) recommends that cavity barriers provide 30 min fire-resisting integrity and 15 min insulation unless they are in a stud wall or partition, or around an opening, and constructed from one of the following “deemed to satisfy” materials:

- steel 0.5 mm thick;
- timber 38 mm thick;
- mineral wool provided it is in slab form or sleeved in polythene; and
- calcium silicate, cement-based or gypsum-based (plaster) board at least 12 mm thick.

Cavity barriers need to be fixed in such a way which offers at least as much fire resistance as the cavity barrier itself, so as to avoid failure of the fixing causing premature failure of the cavity barrier. Construction formed of concrete, masonry or any of the “deemed to satisfy” cavity barrier constructions (i.e. stud wall construction lined with minimum 12.5 mm standard plasterboard) can be considered sufficient for this purpose.

Fire barriers are generally used to subdivide sections of combustible construction (usually combustible insulation) that does not have a cavity. Their individual performance is not defined, although they generally need to have been incorporated into a system which has been successfully tested to the relevant part of BS 8414 and classified to BR 135 [15].

Fire stopping is used to complete discontinuities in fire-resisting construction; it needs to provide the same period of fire resistance as the element it is completing. In the context of external wall construction, anything that connects compartment floors onto the inside face of the external walls is fire stopping. Once within the thickness of the external wall, only cavity barriers or fire barriers are required; however, any discontinuities in these might also require fire stopping.

L5 Benchmark

SPANDREL / IN-FILL PANELS

The terms “spandrel panel” and “infill panel” are used interchangeably throughout the industry to refer to panels which are normally fitted in lieu of glazing in either window fenestration systems or curtain wall units. The edges of these panels usually expose the insulating core and are normally only protected by the frame into which they are installed. They are sometimes protected with aluminium foil tape but this cannot be assumed. Spandrel and infill panels are typically some form of composite, such as:

- metal skins with an insulating core;

- metal skins with an insulating and timber (typically plywood) core;
- metal external face with insulating core and timber (typically plywood) internal face;
- HPL skins with an insulating core; and
- solid HPL.

Their performance needs to be assessed in light of the materials involved in their construction (as described in this annex) and the manner in which they interact with compartmentation.

- Panels which are installed in such a way as to cross compartment lines (e.g. to conceal the edges of floor slabs) need to be considered in light of the potential route they provide for fire to spread from one compartment to another.
- Panels which are installed entirely within the confines of a compartment (as it meets the external wall) are unlikely to have a significant impact on fire spread, unless their performance is such that they are likely to contribute to substantial flame extension.

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.

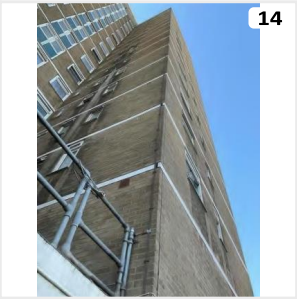
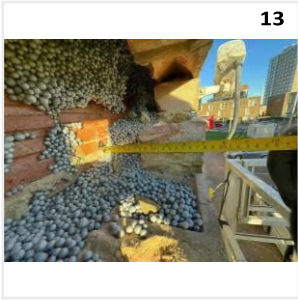
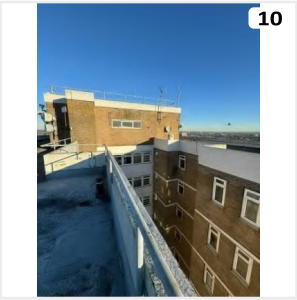
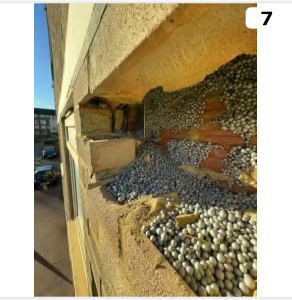
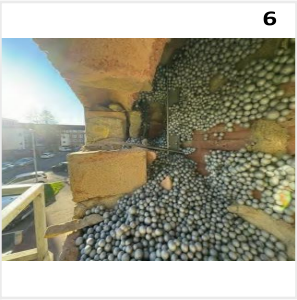
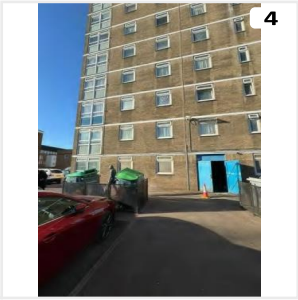
- Each leaf of the wall, provided it is formed of masonry/concrete at least 75 mm thick and is generally well constructed, is likely to provide at least 30 min fire resistance.
- The masonry/concrete is likely to be of limited combustibility or better.

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.

Photos



Wall Construction: Render

Construction Reference
E7VRE9

This wall construction was identified by wall inspections 9CZ778 and VK54AF. The build-up, cavity barrier, and floor slab information is taken directly from inspection 9CZ778. See the Inspections section of this report for full inspection details.

Construction

Effect

Risk

Render (E7VRE9)

Positive

Low

Cavity Barriers

None

Fire Performance

K.1 General

The rendered area was inspected visually during the site inspection, therefore limited information relating to the wall make up is provided. Consequently, the make up observed to the neighbouring block has been assumed for assessment - 20mm render, 20mm reinforced concrete

Positive

K.2 External Surfaces

Render assumed Euroclass A1 (cement render)

Positive

K.3 Facings/Cladding Panels

Solid masonry / cement render Euroclass A1, Low HRR

Positive

K.4 Panel Construction

Not applicable to this wall type

K.5 Cavities

No cavity identified, solid masonry.

Positive

K.6 Insulation

None observed

Positive

K.7 Substrate

Masonry > 75mm in thickness

Positive

K.8 Sheathing Boards

Not applicable to this wall type

K.9 Insulated Core Panels

Not applicable to this wall type

K.10 ETICS

Not applicable to this wall type

K.11 Infill / Spandrel Panels

Not applicable to this wall type

K.12 Internal Finishes

Information relating to the internal finishes within flats is not provided but a plasterboard finish is assumed to the internal aspect

Neutral

PAS Standard Benchmark

L1 Benchmark

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

Masonry (brickwork, blockwork, reinforced concrete)

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

L2 Benchmark

Plasterboard

The core material of plasterboard is non-combustible, but the paper linings are not. Plasterboard is fire-resisting, with the specific period of fire resistance dependent upon the grade and thickness of plasterboard used, the frame to which it is fixed and the manner of its fixing. Where product markings are not visible, it is generally difficult to identify plasterboard without expert knowledge. In the absence of specific information, it is reasonable to assume plasterboard to be of standard grade.

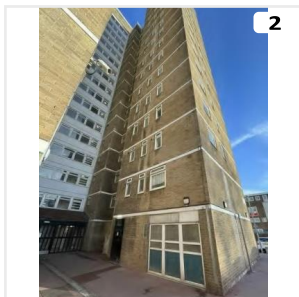
Notwithstanding the above, plasterboard can be regarded as providing an adequate cavity barrier within wall or floor construction provided it is at least 12 mm thick. Where partitions are formed of stud construction and plasterboard at least 12 mm thick on both faces, the partition is likely to be capable of providing 30 min fire resistance, provided it is well built.

L5 Benchmark

FRAMES -

The frames of windows and doors can, subject to the materials used in their construction, provide the function of cavity barriers or cavity closers around these openings. Typically, timber and steel frame windows offer the cavity barrier function whereas aluminium and uPVC do not. However, it is advisable to check uPVC frames with a magnet, as steel can be incorporated within the frame, particularly where the doors are required to provide a level of security.

Photos



Façade Configuration: L5XUDB

Items in Façade

3 Items	Effect	Risk
Wall Construction Masonry Face Brick (GS4V55)	Positive	Low
External Door Single Leaf Block Entrance Door and Double Leaf Access Doors to Refuse Store and Plant Rooms (MK1LKQ)	Neutral	Low
External Window Top, Mid, Side Hung Casements (GSC1VD)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

Ground plus sixteen upper floors	Negative
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N.2 Height of Base of Cladding (Above Ground)

<2m	Negative
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N.3 Extent of Cladding

Wall type covers approximately 80% of the buildings external wall	Neutral
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N.4 Cavities & Openings

Cavity observed to be divided by floor slab and around window apertures by brick construction. However, cavity barriers are not required where a cavity wall comprises two leaves of masonry at least 75mm in thickness.	Positive
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N.5 Infill / Spandrel Panels

Infill panels comprising steel outer skins with XPS insulation are present to window openings installed to the each elevation. Window apertures were observed to be closed by the brick wall construction and cavities were observed to be divided by the concrete floor slab during the intrusive investigation. Consequently the panels are not considered to present a risk of excessive fire spread across compartments as the combustible core is considered to be fully encapsulated.

Neutral

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not applicable to this wall type

N.7 Overhangs & Projections

Not applicable to this wall type

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

Horizontally and vertically aligned to window openings. Non combustible nature of brick and steel façade materials is such that fire and smoke spread into the building causing secondary fires as a result of direct flame impingement is unlikely

Neutral

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

Vents pass through the cavity wall type. An intrusive inspection was not completed to confirm the presence of cavity closers. However, the wall comprises two leaves of masonry at least 75mm in thickness. Consequently the materials present would not support combustion and thus generally accepted to accommodate combustible materials within the cavity irrespective of height.

Neutral

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

The façade type is adjacent to windows and openings onto escape route. Non combustible nature of façade materials is such that excessive fire and smoke spread obstructing escape routes is unlikely

Negative

N.11 Attachments

Not applicable to this wall type

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

The Western façade type adjoins a neighbouring residential building with an enclosed car park.
Non combustible nature of façade materials is such that excessive fire and smoke spread from one building to another is unlikely

Negative

Risk Factor Analysis

- 1) **Impact of Risk from Fire Performance:** The external wall is of traditional brick / masonry cavity wall construction. The brick outer leaf is greater than 75mm thick. The masonry inner leaf is assumed to be greater than 75mm thick. A 80mm cavity is present between the inner and outer leaf's that is loose filled with a combustible XPDS insulation. Both the inner and outer leaves have a reaction to fire classification A1: non combustible. Consequently the materials present would not support combustion and thus generally accepted to accommodate combustible materials within the cavity irrespective of height.
- 2) **Impact of Risk from Façade Configuration:** The masonry face brick wall type is installed to approximately 80% of the buildings external wall area. The inner and outer walls are non combustible. A cavity is present between the masonry leaves that is loose filled with combustible insulation. Vertically aligned windows and ventilation penetrations are present on brick each elevation. The cavity was observed to be closed around window openings by the brick construction and and compartment floor level by the concrete slab. The risk presented by combustible insulation is not considered to present an excessive risk as the main components within the wall make up will not support combustion and the cavity is limited in extent.
- 3) **Impact of Risk from Fire Strategy / Fire Hazards:** The majority of the fire safety features provided to the block are in line with expectations for a general needs block of this size.

Conclusion: The assessment concludes with Low risk for the masonry face brick wall type, therefore no remediation is recommended as the risk is at a tolerable level.



Façade Configuration: DLPVH3

Items in Façade

3 Items	Effect	Risk
Wall Construction Render (E7VRE9)	Positive	Low
External Door Single Leaf Entrance Doors (XYLY1T)	Neutral	Low
External Window Top, Mid, Side Hung Casements (9KG3TC)	Neutral	Low

Façade Configuration Risk Factors

N.1 Building Height/Cladding Height

Ground plus sixteen upper floors

Negative

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

2m to 5m

Neutral

N.3 Extent of Cladding

Wall type covers approximately 20% of the buildings external wall

Positive

N.4 Cavities & Openings

Solid masonry inner wall

Positive

N.5 Infill / Spandrel Panels

Not applicable to this wall type

N.6 Setbacks - Combustible Cladding Setback from Wall Edge

Not applicable to this wall type

N.7 Overhangs & Projections

Not applicable to this wall type

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

Horizontally and vertically aligned to window openings. Non combustible nature of façade materials is such that fire and smoke spread into the building causing secondary fires as a result of direct flame impingement is unlikely

Neutral

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

Not applicable to this wall type

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

The façade type is adjacent to windows and openings onto escape route. Non combustible nature of façade materials is such that excessive fire and smoke spread obstructing escape routes is unlikely

Negative

N.11 Attachments

Not applicable to this wall type

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

Not applicable to this wall type

Risk Factor Analysis

- 1) **Impact of Risk from Fire Performance:** The outer facing render coat is adhered to a reinforced concrete substrate. The materials present have a reaction to fire classification A1: non combustible.
- 2) **Impact of Risk from Façade Configuration:** The render wall type is installed to approximately 20% of the buildings external wall area to the stairway and areas of the uprights enclosing the parapet roof. The wall is constructed of cement render over reinforced concrete and as such non combustible. Vertically aligned windows are present to the wall type. The excessive risk of fire spread presented by the openings is mitigated as the main components within the wall make up will not support combustion.

3) **Impact of Risk from Fire Strategy / Fire Hazards:** The majority of the fire safety features provided to the block are in line with expectations for a general needs block of this size.

Conclusion: The assessment concludes with Low risk for the masonry face brick wall type, therefore no remediation is recommended as the risk is at a tolerable level.



APPENDIX

Appendix

Aerial Perspective: Laburnham House



Elevations

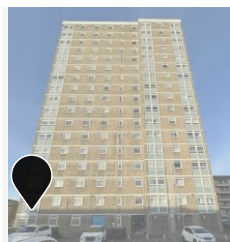
Photo	Name	No. of Storeys	Features
	EAST	17 Storeys	• Bin Stores
	SOUTH	17 Storeys	• Escape Route Exit

Inspections

Elevation Location

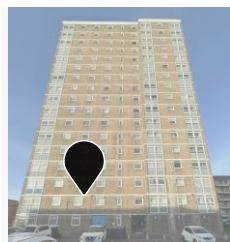
Inspection

Elements



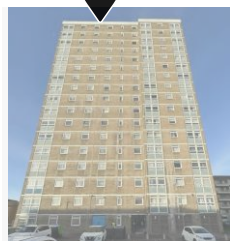
Inspection: THXLJQ
EAST
Window infill panel

- Surface Finish (Sheet Metal)
- Insulation (XPS Insulation)
- Inner Leaf (Sheet Metal)



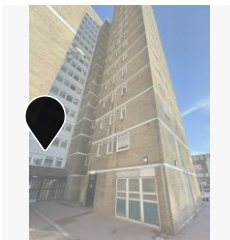
Inspection: XBR6V1
EAST
Below compartmentation floor slab,
adjacent to window opening

- Surface Finish (Brickwork)
- Cavity
- Insulation (XPS Insulation)
- Inner Leaf (Brickwork)



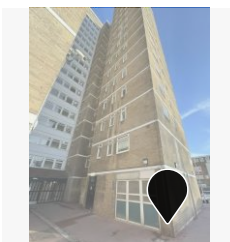
Inspection: VK54AF
EAST
Parapet cladding at roof level

- Surface Finish (Reinforced concrete)



Inspection: 9CZ778
SOUTH
Floor zone

No elements identified



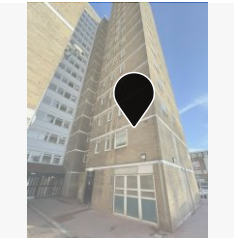
Inspection: VKCB7Q
SOUTH
Window infill panel

- Surface Finish (Sheet Metal)
- Insulation (XPS Insulation)
- Inner Leaf (Sheet Metal)

Elevation Location

Inspection

Elements



Inspection: NF82QT
SOUTH
Below compartmentation floor slab,
adjacent to window opening

No elements identified

Inspections

Inspection: THXLJQ

Elevation • Location
EAST • Window infill panel



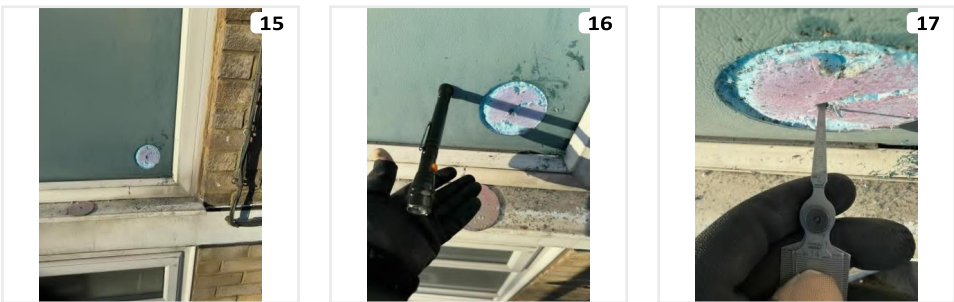
Build-Up

3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	1mm	Sheet Metal	15, 16	A1 - Non-Combustible
Insulation	30mm	XPS Insulation	17	E - Highly Combustible
Expanded polystyrene board				
Inner Leaf	1mm	Sheet Metal		A1 - Non-Combustible

Cavity Barriers

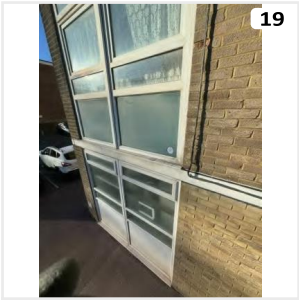
None

Build-up Photos



Inspection: THXLJQ

Inspection Photos



Inspection: XBR6V1

Elevation • Location

EAST • Below compartmentation floor slab, adjacent to window opening



Build-Up

4 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	102mm	Brickwork	5, 20	A1 - Non-Combustible
Cavity	80mm		11	
Insulation	80mm	XPS Insulation	12	E - Highly Combustible
Blown expanded polystyrene beads				
Inner Leaf		Brickwork	13	A1 - Non-Combustible

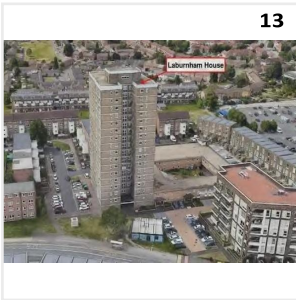
Cavity Barriers

2 Cavity Barriers	Material	Photo Ref.
Window Aperture	Brick	6, 7
Cavity closed by brick wall		
Horizontal Cavity Barrier	Concrete	8, 9
Cavity closed by concrete		

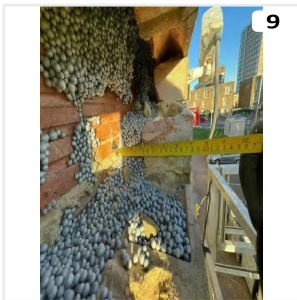
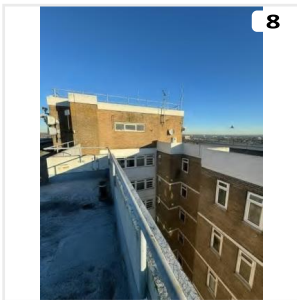
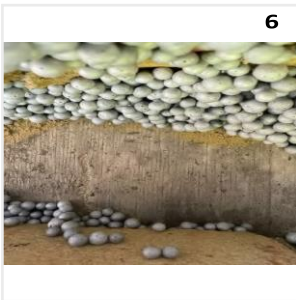
Floor Slab

Outside and backing walls sit on the floor slab

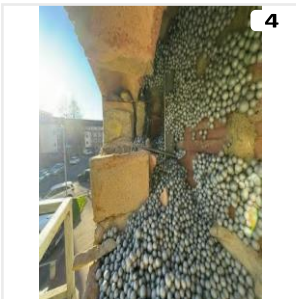
Build-up Photos



Cavity Barrier Photos



Inspection Photos



Inspection: VK54AF



Elevation • Location
EAST • Parapet cladding at roof level

Build-Up

1 Element	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Surface Finish	180mm	Reinforced concrete	21, 22, 23, 24, 25, 26, 27	A1 - Non-Combustible

Reinforced concrete upstand

Cavity Barriers

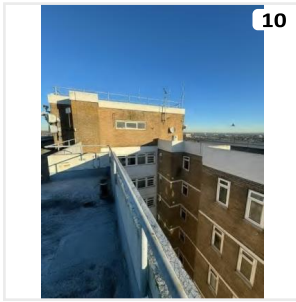
None

Build-up Photos

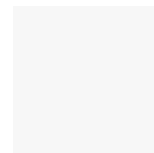


Inspection: VK54AF

Inspection Photos



Inspection: VK54AF



Inspection: 9CZ778

Elevation • Location
SOUTH • Floor zone

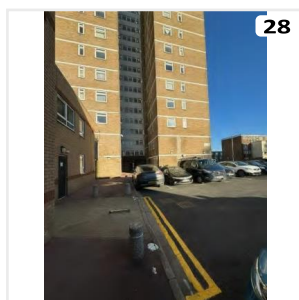
Cavity Barriers

None

Description

Unable to carry out inspection due to no exclusion zone available for the works

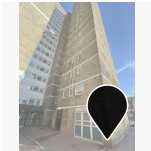
Inspection Photos



Inspection: 9CZ778

Inspection: VKCB7Q

Elevation • Location
SOUTH • Window infill panel



Build-Up

Surface Finish	1mm	Sheet Metal	29	A1 - Non-Combustible
Insulation	30mm	XPS Insulation	30	E - Highly Combustible
3 Elements	Thickness/Depth	Material	Photo Ref.	Rating (BS EN13501)
Expanded polystyrene board				
Inner Leaf	1mm	Sheet Metal		A1 - Non-Combustible

Cavity Barriers

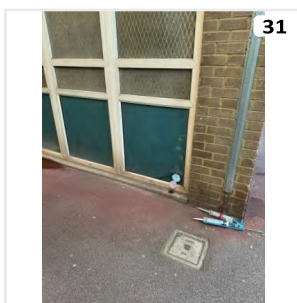
None

Build-up Photos



Inspection: VKCB7Q

Inspection Photos

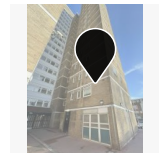


Inspection: VKCB7Q

Inspection: NF82QT

Elevation • Location

SOUTH • Below compartmentation floor slab, adjacent to window opening



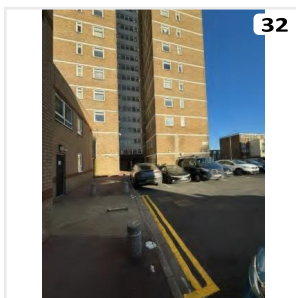
Cavity Barriers

None

Description

Unable to carry out inspection due to no exclusion zone available for the works

Inspection Photos



External Windows

Photo

External Window



Top, Mid, Side Hung Casements (GSC1VD)



Top, Mid, Side Hung Casements (9KG3TC)

External Window: Top, Mid, Side Hung Casements

External Window Reference GSC1VD

Surface Material

Other

Frame Material

Steel

Details

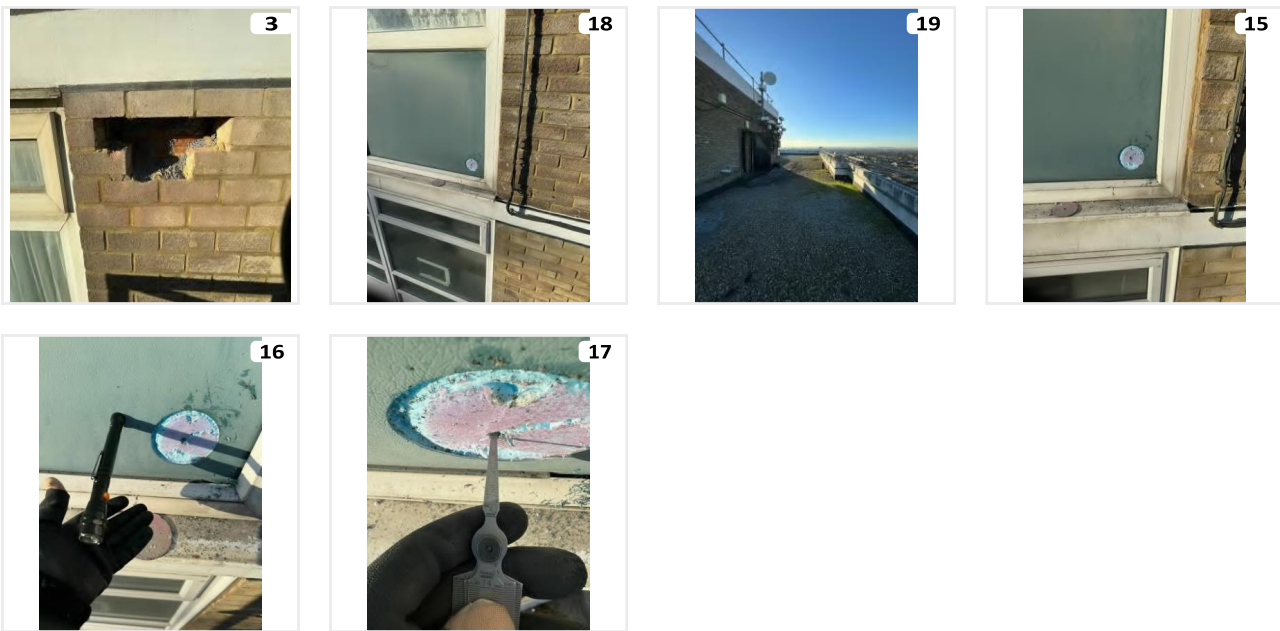
Infill / Panel Material

Toughened Glass

Details

Information on window configuration is not provided with the exception of infill panels. Therefore the frames are assumed to be of steel construction in line with infill panels

Photos



External Window: Top, Mid, Side Hung Casements

External Window Reference 9KG3TC

Surface Material

Other

Frame Material

Steel

Details

Infill / Panel Material

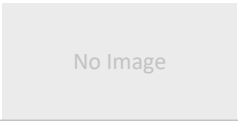
Toughened Glass

Details

Information on window configuration is not provided with the exception of infill panels. Therefore the frames are assumed to be of steel construction in line with other areas of the block



External Doors



PhotoExternal Door



Single Leaf Block Entrance Door and Double Leaf Access Doors to Refuse Store and Plant Rooms (MK1LKQ)

Single Leaf Entrance Doors (XYLY1T)



External Doors



External Door: Single Leaf Block Entrance Door and Double Leaf Access Doors to Refuse Store and Plant Rooms

External Door Reference
MK1LKQ

Details

Surface Material

Timber

Frame Material

Timber

Infill / Panel Material

Toughened Glass

Details

Single Leaf Block Entrance Door and Double Leaf Access Doors to Refuse Store and Plant Rooms

Photos



External Door: Single Leaf Entrance Doors

External Door Reference XYLY1T

Details

Surface Material

Timber

Frame Material

Timber

Infill / Panel Material

Toughened Glass

Details

Exit door to southern elevation



External Door: Single Leaf Entrance Doors (XYLY1T)

Plan: EAST



Plan: EAST

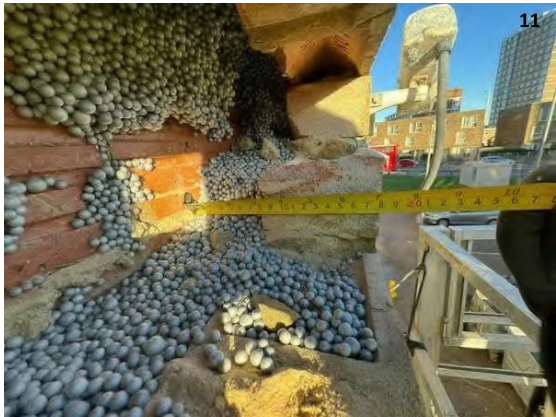
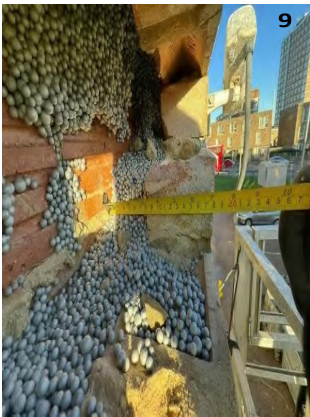
Plan: SOUTH



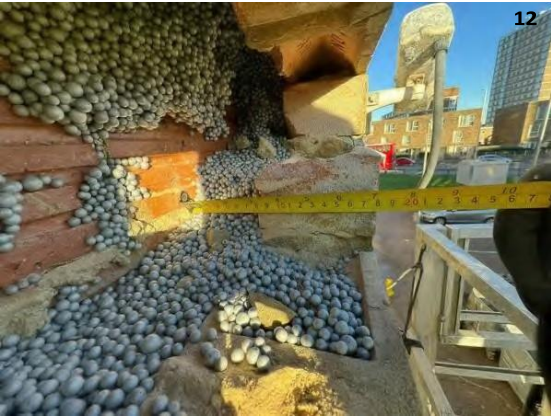
Plan: SOUTH



Photos



Photos Continued...



Photos Continued...



24



25



26



27



28



29



30



31



32

33





FIRNTEC

BUILDING COMPLIANCE