



FIRE SAFETY REPORT

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FIRE RISK ASSESSMENTS ▶ TRAINING ▶ CLIENT DEFENCE ▶ DESIGN & PLANNING



Premises	
Premise's name	2020 House
Address	Skinner Lane Leeds LS7 1BB

Report Details	
Date of report	18 th November 2021
Amendment date	N/A
Requested by	John Marsden - Castles
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Report Sections
<ol style="list-style-type: none">1. General Description/Report Purpose2. Legislation and Guidance3. Building Façade and Balconies Review4. Interim Measures5. Remedial Actions6. Conclusion7. Photographs8. Further Information

1. General Description/Report Purpose

1.1. Scope of Works:

FirePrevent Ltd has been appointed by Castles to conduct a fire safety survey of the external façade and balconies at 2020 House, Leeds.

The purpose of this report is to evaluate the risk posed by the building façade and balconies in the event of a fire. This will be undertaken through an initial desktop study and a site visit to carry out a visual and intrusive inspection. Samples of the external fabric of the building will be removed where necessary by a third party sub-contractor.

A holistic approach will be taken. The report will not only take into account the materials that make up the external façade but the building fire strategy/fire risk assessment and management policies currently in place.

The findings of the report will establish whether the building conforms to the Building Regulations 2010, Regulatory Reform (fire safety) Order 2005 and Ministry of Housing, Communities and Local Government guidance.

1.2. Limitations of Works:

Information has been gathered by way of an on-site visual and intrusive inspection of the building cladding systems, which has been facilitated by Castles.

The latest health and safety/fire risk assessment dated 18th August 2021 has been inspected.

Details regarding the original building design are provided by brewsterbye architects. Details regarding a partial re-cladding of some areas of the building are provided by e + m architecture and PADD.

The drawings used are highlighted in Table 1 below:

Table 1: Drawing schedule

Drawing No.	Drawing Title	Revision	Date
00:02	Proposed Site Plan & Elevations	-	January 2015
00:03	Proposed Site Plan & Elevations	-	January 2015
00:04	Screen Details & Specification	-	January 2015
257/02(03)020 V	Elevation AA Block B	-	20-04-2005
257/02(03)021 P	Elevation BB Block B	-	20-04-2005
257/02(03)022 P	Elevation CC & DD Block B	-	April 2005
257/02(03)023 P	Block B Sectional Elevations	-	01-03-2006
DR-05	Existing and Proposed Vertical Cladding Section Details	-	May 2015

The sixth floor of the building has been intrusively surveyed separately by Wintech with a report produced dated 3rd August 2020, which has been reviewed.

A remedial requirements specification report was produced by Wintech dated 2nd November 2020 and the remediation works are currently underway by Ballymore group. The sixth floor of the building does not form part of the intrusive investigations completed by FirePrevent and Castles and therefore does not form part of this report.

No fire strategy could be located for the building and no further details of the building structure and external envelope make-up could be located for the building and all O&M files are missing.

1.3. Building Description:

2020 House is a detached seven storey purpose built building comprising predominantly of private residential apartments. The building was constructed around 2008 and is approximately 20 metres in height from the ground floor to the height of the top most occupied floor (6th floor). The building comprises of two blocks that vary from six to seven storeys high.

The building is provided with a secure external carpark at ground floor, which is accessed via Millwright Street at the rear of the building. The development is provided with an elevated garden area at the rear of the building, which is accessed from the residential carpark. The ground floor of the building is provided with two separate entrance foyers (block 1 and 2) along with plant areas and residential apartments that open directly onto the street across the building North elevation. The upper floors comprise of residential apartments only.

There is a total of 264 residential apartments from the ground floor up to the 6th floor with an occupation of 528 (assuming two occupants per apartment). The apartments are a mixture of 1 and 2 bedrooms over a single storey.

The means of escape from the ground floor residential apartments is via a final exit door direct to fresh air and ultimate safety.

The means of escape from the 1st floor up to the 5th floor is via four separate protected escape stairs leading down to the ground floor with a final exit to fresh air and ultimate safety.

The 6th floor is split between the two blocks and each block on the 6th floor has a single protected stair leading down to the ground floor with a final exit to fresh air and ultimate safety.

The fire evacuation strategy for the residential apartments is 'stay put' (only occupants of the apartment of fire origin evacuate) in accordance with the original fire strategy. This can be achieved due to the high level of compartmentation that should be present throughout the building.

2. Legislation and Guidance

2.1. Introduction:

2020 House has been designed, constructed and approved under the Building Regulations 2000. However, since the Grenfell Tower tragedy, building owners or their appointed competent professional advisor(s) have been advised by the government to check that the external wall systems on their building are safe.

2.2. Building Regulations 2000:

Under the Building Regulations Requirements at the time of construction;

B3: Internal fire spread (structure) is as follows –

"(4) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited."

B4: External fire spread is as follows –

"(1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building."

2.3. Supporting Guidance to the Building Regulations 2000:

2020 House was approved under the Building Regulations 2000 likely using Approved Document B 2000 Edition incorporating 2002 amendments. Although this document is no longer current, it sets out the guidelines that needed to be followed in order to prevent the spread of fire at the time of approval. It states the materials that can be used and the standards that these materials should conform to, to ensure that they provide the required level of protection. This document will be used as a benchmark when assessing the building in addition to the document below.

Approved Document B Volume 1: Dwellings 2019 edition incorporating 2020 amendments is the current guidance document that covers fire safety for all new dwellings including apartment buildings. This document will be used as a guide but will not necessarily be adhered to as the building was existing when this document was published.

2.4. Regulatory Reform (Fire Safety) Order 2005:

The Regulatory Reform (Fire Safety) Order 2005 (RRO) is the legislation applicable to existing buildings (not under construction) and places the responsibility for fire safety with the building owner (responsible person).

The responsible person has a duty to demonstrate that risk within the building is as low as is reasonably practicable, which is typically demonstrated through the creation and regular review of a fire risk assessment document. The responsible person also has a duty to ensure that the fire safety provisions are adequate, provide suitable management and maintain safety so long as the building is occupied.

Once an issue is identified it is a requirement of the RRO that the issue is assessed with respect to the risk posed to the building occupants, and that any remedial works required to mitigate the identified risk are carried out.

2.5. Supporting Guidance to the RRO:

The Ministry of Housing, Communities and Local Governments (MHCLG) have issued guidance for owners of premises providing sleeping accommodation. It provides guidance for the responsible person, to help them carry out a fire risk assessment in less complex premises. However, the guidance provided within this document does not include specific guidance on the use of cladding materials.

2.6. Post Grenfell Tragedy Guidance:

On 20th January 2020, the MHCLG issued the document - Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings. This is a consolidated single document that supersedes Advice Notes 1 to 22. In November 2020 a supplementary advice note was also issued. These documents represent the MHCLG expert panels position on the action that building owners should take to address the risk of fire spread from unsafe external wall systems on residential buildings.

The guidance is applied retrospectively and specifically states aluminium composite material cladding and other metal composite material cladding with an unmodified polyethylene filler (Category 3) presents a significant fire hazard on residential buildings of any height with any form of insulation and action to remediate unsafe wall systems and remove unsafe cladding should be taken.

It is noted that the guidance does not strictly prohibit all combustible materials in residential buildings; however, appointed competent professional advisor(s) should check that the external wall systems meet an acceptable standard of safety and do not contribute to the external spread of fire, irrespective of building height.

2.7. European Fire Classification Levels:

Until recently European Union countries had different methods for testing and classifying the Reaction to Fire performance of construction materials. The implementation of a single classification system across the EU member states has introduced a common method for comparing the reaction to fire performance of construction products.

Testing is standardised through the use of EN 13501-1: Fire classification of construction products and building elements.

There are 7 reaction to fire classification levels. This determines how much (if any) a material contributes to the spread of flame.

- ❖ A1 and A2 = Non-combustible materials;
- ❖ B, C and D = Range from very limited to medium contribution to fire;
- ❖ E and F = High contribution to fire.

The 's' part relates to total smoke propagation during the first ten minutes of exposure to fire. These determine a 'smoke' index:

- ❖ s1 = little or no smoke;
- ❖ s2 = quite a lot of smoke;
- ❖ s3 = substantial smoke.

The 'd' part relates to 'flaming droplets and particles' during the first ten minutes of exposure.

- ❖ d0 = none;
- ❖ d1 = some;
- ❖ d2 = quite a lot.

Table 2: European fire classification levels

Definition	Grade	Smoke Propagation		Flaming Droplets
Non-combustible materials	A1	-		
	A2	s1 and all variations	d0	
Combustible materials: Very limited contribution to fire	B	s1 and all variations	d0	
		s1 and all variations	d0	
Combustible materials: Limited contribution to fire	C	s1 and all variations	d0	
		s1 and all variations	d0	
Combustible materials: High contribution to fire	E	E-d2		
Combustible materials: Easily flammable	F			



3. Building Façade and Balconies Review

The review looks at the following aspects of the façade, balcony and building in general:

- 3.1. Summary of the types of external wall construction;
- 3.2. External facing materials used on the building façade;
- 3.3. Insulation materials used as part of the building façade system;
- 3.4. Balcony frame material and floor type;
- 3.5. Building frame type;
- 3.6. Cavity barriers;
- 3.7. Distance of adjacent buildings;
- 3.8. Position of car parking in relation to the building;
- 3.9. Lightning strike;
- 3.10. Position of waste storage;
- 3.11. Building security measures;
- 3.12. Building fire safety measures;
- 3.13. Management policy on balcony use.

3.1. Summary of the types of external wall construction:

The information available (specifically documentation) has been reviewed in conjunction with the intrusive investigations to establish the typical wall construction types below:

Timber cladding

The timber cladding system covers approximately 10% of the 2020 House external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the timber cladding system is as follows:

- ❖ Timber cladding panels;
- ❖ Breather membrane;
- ❖ Mineral wool insulation;
- ❖ Horizontal and vertical soft wood timber battens;
- ❖ Bituminous painted blockwork internal leaf with concrete mortar.

Brickwork

The brickwork system covers approximately 60% of the 2020 House external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the brickwork system is as follows:

- ❖ Outer face brickwork with concrete mortar;
- ❖ Cavity;
- ❖ Foil faced PIR insulation;
- ❖ Blockwork internal leaf with concrete mortar.

High pressure laminate (HPL) cladding

The HPL cladding system covers approximately 5% of the 2020 House external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the HPL cladding system is as follows:

- ❖ High pressure laminate cladding panels;
- ❖ Vertical soft wood timber battens;
- ❖ Breather membrane;
- ❖ Mineral wool insulation;
- ❖ Horizontal and vertical soft wood timber battens;
- ❖ Bituminous painted blockwork internal leaf with concrete mortar.



Soffit cladding

The soffit cladding system borders the building external wall façade at various lower levels of the building. On the basis of the limited documentation and visual/intrusive investigations the construction of the soffit cladding system is as follows:

- ❖ Unknown white faced cladding panel;
- ❖ Cavity;
- ❖ Aluminium support structure;
- ❖ Mineral wool insulation;
- ❖ Foil faced PIR insulation;
- ❖ Blockwork internal leaf wall with concrete mortar;
- ❖ Steel floor tray with concrete floor slab above.

Carpark soffit cladding

The soffit cladding system is present above the undercroft carparking areas at ground floor level. On the basis of the limited documentation and visual/intrusive investigations the construction of the carpark soffit cladding system is as follows:

- ❖ White faced cement particle board cladding panel;
- ❖ Rigid foam insulation;
- ❖ Aluminium support structure;
- ❖ Void;
- ❖ Steel floor tray with concrete floor slab above.

Render cladding

The render cladding system covers approximately 5% of the 2020 House external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the render cladding system is as follows:

- ❖ Unknown silicone or cementitious based render;
- ❖ Blockwork internal leaf with concrete mortar.

Grey metal cladding

The grey metal cladding panels form a small part of the curtain wall system at the front of the building and covers an insignificant area of the external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the grey metal cladding is as follows:

- ❖ Aluminium cladding panel;
- ❖ EPDM rubber membrane;
- ❖ Steel and concrete structure.

Glazed spandrel panel system at ground floor

The glazed spandrel panel system covers approximately 5% of the 2020 House external envelope. On the basis of the limited documentation and visual/intrusive investigations the construction of the glazed spandrel panel system is as follows:

- ❖ Double glazed panel with rubber gasket seal and a coloured blackout film on the rear of the panel;
- ❖ Aluminium curtain wall support frame;
- ❖ Large open void.

Glazed spandrel panel system on the upper floors

The glazed spandrel panels on the upper floors form a small part of the curtain wall system on some insignificant areas of the building external envelope. No intrusive investigation could be completed within the glazed spandrel panel system due to access restrictions.

Top floor cladding system

The cladding system on the building sixth floor cover approximately 15% of the 2020 House external envelope and does not fall under the scope of this report.

Table 3: Building external wall construction and colour used to designate in Figure 1

Construction	Brickwork	Timber/HPL cladding	Render cladding	Grey aluminium cladding	Glazing spandrel panels	6 th floor cladding
Colour	Blue	Red	Yellow	Purple	Green	Pink

Figure 1: 2020 House North elevation external wall construction



3.2. External facing materials used on the building façade:

Table 4: List of products used on the external face of the building façade

Material/Manufacturer	Use	European Classification under BS EN 13501-1:2007	Combustibility	Notes
17mm timber cladding	Cladding	D	Combustible materials: Medium contribution to fire	Non-compliant See Section 5 – Remedial Actions
Brickwork	Cladding	A1	Non-com combustible	Compliant
8mm Trespa Meteon cladding	Cladding	D-s2, d0	Combustible materials: Medium contribution to fire	Non-compliant See Section 5 – Remedial Actions
Unknown white cladding	Soffit cladding on the building border at the upper floor levels	Unknown	Unknown	Non-Compliant See Section 5 – Remedial Actions
White faced cement particle cladding	Soffit cladding above the building resident's carpark	Unknown	Unknown	Non-compliant See Section 5 – Remedial Actions
Silicone or cementitious based render	Cladding	Unknown – likely to be A2	Non-com combustible	Compliant
Grey aluminium cladding	Cladding to North elevation curtain wall system	A1	Non-com combustible	Compliant
Aluminium windows and doors	Windows and doors	N/A	N/A	Window and door frames are exempt under current guidance
Glazing	Windows and doors	N/A	N/A	Glazing is exempt under current guidance

3.3. Materials used as part of the building façade system:

Table 5: List of products used within the external façade system

Material/Manufacturer	Use	European Classification under BS EN 13501-1:2007	Combustibility	Notes
Unknown breather membrane	Breather membrane used within the timber and high pressure laminate cladding systems	Unknown – likely to be E	Combustible materials: High contribution to fire	Non-compliant See Section 5 – Remedial Actions
Mineral wool insulation	Insulation used within the timber, high pressure laminate and border soffit cladding systems	A1	Non-com combustible	Compliant
Soft wood timber battens	Supporting battens used within the timber and high pressure laminate cladding systems	D	Combustible materials: Medium contribution to fire	Non-compliant See Section 5 – Remedial Actions
Bituminous coating	Coating provided onto blockwork within the timber and high pressure laminate cladding systems	Unknown – likely to be E	Combustible materials: High contribution to fire	Compliant See Section 5 – Remedial Actions
Blockwork	Internal leaf of the building structure	A1	Non-com combustible	Compliant
Unknown foil faced PIR insulation	Insulation used within the brickwork system	Unknown – likely to be E	Combustible materials: High contribution to fire	Compliant See Section 5 – Remedial Actions
Unknown foil faced PIR insulation	Insulation used within the soffit cladding systems	Unknown – likely to be E	Combustible materials: High contribution to fire	Non-compliant See Section 5 – Remedial Actions
Aluminium support structure	Support system within the soffit cladding systems and glazed spandrel panel curtain wall	A1	Non-com combustible	Compliant
EPDM rubber membrane	Membrane within the aluminium curtain wall cladding system	Unknown – likely to be B	Combustible materials: Very limited contribution to fire	Compliant See Section 5 – Remedial Actions
Steel and concrete building structure	Structural frame of the building	A1	Non-com combustible	Compliant



3.4. Balcony frame material and floor type:

There are two different styles of balconies on 2020 House.

Attachment type balconies are present on the upper floors of the West and South elevations. The balconies are provided with a steel framed glass infill perimeter barrier. A steel outer frame floor is provided and is fitted with timber decking boards above the frame. These attachment balconies are vertically stacked on both building elevations. In addition to this the attachment type balconies on the West elevation have been provided with a timber outer casing.

Terrace type balconies are present on the sixth floor of some areas of the building. The terrace type balconies are set back from the building external elevations and form part of the building structure. The balconies have a stone flag finished floor.

3.5. Building frame type:

The building is pre-dominantly a steel frame construction with reinforced concrete floors.

3.6. Cavity Barriers:

A cavity was located present within the brickwork system and no cavity fire barriers could be located within the system horizontally at compartment floor level or vertically between compartment walls. This is acceptable as under the fire safety guidance at the time of construction a cladding system with a masonry inner and outer skin would not require cavity fire barriers as long as the system is closed at the top and cavity closers are provided around window and door openings. Based on the sample intrusive investigations in the brickwork system, cavity closers could not be located around window openings.

A cavity was found to be present in the soffit cladding systems during intrusive investigations. No cavity fire barriers could be located within the soffit cladding systems.

3.7. Distance of adjacent buildings:

The space separation of 2020 House from its relevant boundaries has not been assessed in relation to preventing external fire spread.

This report deals with resisting external fire spread over external walls only and does not deal with resisting fire spread from one building to another.

3.8. Position of car parking in relation to the building:

Skinner Lane on the building North elevation has parking restrictions. The East and West elevations cannot be accessed by vehicles.

Parking for the residents of the building is provided in an external secure carpark at the rear of the building, which is accessed from Millwright Street. There are carparking bays positioned close to the building South elevation and positioned under the rear leg of the building.

3.9. Lightning strike:

It is unclear whether a lightning protection system has been installed on 2020 House.

3.10. Position of waste storage:

Waste storage is in wheelie bins located in designated bin stores, which are in the secure resident's external car park positioned remotely from the building. The bins are regularly emptied by the local council.

The building is generally well managed with no unnecessary combustible materials located close to the development external elevations during the site visit.

3.11. Building security measures:

Access to the building is key fob controlled at each entrance and CCTV is provided externally around the building perimeter.

Electrically operated metal security gates are provided for vehicles entering the resident's car park at the rear of the building.

3.12. Building fire safety measures:

The latest fire risk assessment was completed 18th August 2021. This fire risk assessment is not suitable and sufficient and is lacking in detail in regards to numerous areas of fire safety for the building.

Based on a sample inspection of some apartments, they are provided with a domestic BS 5839-6 LD3 fire alarm system with a smoke alarm in the corridor.

A BS 5839-1 fire detection and alarm system is provided in the common areas of the building, which includes smoke detection in the stairs and corridors that are linked to the building smoke ventilation systems and sounders in the common areas only. This fire detection system is linked to a remote monitoring station.

Automatic smoke ventilation is provided in designated common corridors based on the fire safety strategy. Each of the building stair cores are provided with manually openable windows for ventilation.

A dry riser is provided for each block in the building.

3.13. Management policy on balcony use:

The building management prohibit smoking on residential balconies and have a policy in place.

The building management have a policy in place that does not allow the use of barbeques on balconies.

It is unclear whether the building management have a policy in place that does not allow patio heaters, fire pits and naked flames on balconies.

It is unclear whether the building management have a policy in place that ensures residents limit combustible storage and furniture on their balconies.

It is unclear whether management have a policy in place that does not allow fireworks on balconies or around the development.

4. Interim Measures

The attachment type balconies and parts of the external wall system on 2020 House do not meet an appropriate standard of safety for residents and fire-fighters.

Prior to any remedial works taking place as per Section 5, it is essential that interim measures are put in place to address the fire hazard and ensure the safety of residents.

The interim measures in this report are based on the National Fire Chiefs Council (NFCC) guidance to support a temporary change to a simultaneous evacuation strategy in purpose-built blocks of flats. Where there are deviations away from the guidance justification is provided.

4.1. Current provisions:

The following measures are currently in place to reduce the risk to residents and fire-fighters:

- 4.1.1. Automatic smoke control systems and an associated fire detection system is provided in designated residential common corridors.
- 4.1.2. The building fire detection and alarm system in the common areas is monitored by an external company.
- 4.1.3. The building is provided with four separate protected escape stairs, which can all be accessed from the 5th floor downwards.
- 4.1.4. The majority of the building external façade is brickwork, which is non-combustible on the external face and will not promote external fire spread.
- 4.1.5. Some management procedures are in place for balcony use by residents.
- 4.1.6. Two dry riser fire-fighting mains are provided for the upper floors of the building and sufficient access is provided for fire-fighters attending an incident.

4.2. Interim measures to be implemented:

- 4.2.1. West Yorkshire Fire Service should be informed of the issues with the attachment type balconies and external cladding systems so they can put in place their own interim measures.
- 4.2.2. The building management should ensure all remedial works relating to management issues as per Section 5 are carried out urgently.
- 4.2.3. The building management company should ensure that all individual smoke alarms provided in each residential apartment operate when tested. If it is found that a smoke alarm is not provided in each private residential apartment corridor or the smoke alarm does not sound when tested; a BS 5839-6 Grade D1 smoke alarm should be fitted in the corridor as a minimum.
- 4.2.4. All residents should be made aware of the issues surrounding the building balconies and external cladding systems and that the fire evacuation policy has now changed from a 'stay put' evacuation strategy to a simultaneous evacuation strategy until all remedial works have been completed. Residents should be made aware that if they see a fire anywhere in the building or hear a fire alarm in the building, they should evacuate immediately and telephone 999 for the fire service to attend. Residents should be informed not to use a lift during fire evacuation but to use the stairs in a calm fashion.

- 4.2.5. If disabled residents are present on the upper floors and would require assistance to evacuate from the upper floors without the use of a lift, a policy should be put in place to aid their evacuation from the building. Evacuation of disabled residents may require the support of West Yorkshire Fire Service. A Personal Emergency Evacuation Policy should be provided for any disabled residents and should be located in the building information box for use by the building management and the fire service.
- 4.2.6. A temporary fire alarm should be installed at the earliest opportunity. Heat detection should be provided in all rooms with a window or balcony doors in all residential apartments. The heat detector should be positioned close to the window or balcony doors. The principle behind the provision of heat detection is to provide early detection and warning of a fire spreading externally on the building. As the heat detector is positioned close to the window or balcony door it will provide early detection of external fire spread so that residents can exit to relative safety and ultimately to outside the building.
- 4.2.7. The NFCC guidance recommends the provision of a Waking Watch prior to the design and installation of a temporary commercial fire detection and alarm system to implement a simultaneous evacuation strategy where combustible cladding is found to be present on the external façade of a building. In the case of 2020 House this is not necessary. The justification for this is based on the building risk. The level of risk the building poses in relation to external fire spread does not require a Waking Watch based on the following:
- ❖ The internal means of escape routes within the building are of a good standard with solid compartment walls and correctly positioned fire doors;
 - ❖ There are four separate protected escape stairs within the building that are located remote from the combustible cladding systems;
 - ❖ The areas of the building containing combustible cladding or timber balconies are small relative to the size of the building;
 - ❖ Most areas of the building external façade is brickwork, which is non-combustible on the external face of the system;
 - ❖ The 6th floor combustible cladding system has either been removed and replaced with a non-combustible alternative or is in the process of being removed;
 - ❖ The overall management level of the building is of a good standard;
 - ❖ A temporary commercial fire detection and alarm system has been designed and is ready to be installed.

5. Remedial Actions

The following remedial solutions will reduce the risk of external fire spread at 2020 House. Once all actions have been carried out, the building will be compliant with the Building Regulations 2000, the Regulatory Reform (fire safety) Order 2005 and MHCLG *Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings*.

Where it states 'No further action required' in the Additional Control Measures section of Table 6; the building hazard has been accepted and justification is provided for that acceptance.

Table 6: Remedial solutions required for compliance

Significant Hazard	Additional Control Measures
<p>The residential apartment attachment type balconies are fitted with a timber decking floor and the balconies are stacked vertically.</p> <p>The timber boards are combustible with a European fire classification of D.</p> <p>In accordance with MHCLG <i>Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings</i>; balconies made with combustible materials are a potential source of rapid fire spread on residential buildings.</p> <p>This is supported by Photograph 60 and 61 in Section 7.</p>	<p>The timber decking boards on all residential apartment attachment balcony floors should be removed and replaced with materials that are of limited combustibility Class A2-s1, d0 or better.</p>
<p>The residential apartment attachment type balconies on the building West elevation are fitted with a timber enclosure around the outside of the balcony balustrade.</p> <p>The timber enclosure is combustible with a European fire classification of D.</p> <p>In accordance with MHCLG <i>Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings</i>; balconies made with combustible materials are a potential source of rapid fire spread on residential buildings.</p> <p>This is supported by Photograph 62 in Section 7.</p>	<p>The timber enclosure around the West elevation attachment type balconies should be removed.</p>
<p>Timber cladding panels are fitted in some areas of the building.</p> <p>Timber has a European fire classification of D and is combustible.</p> <p>This is supported by Photograph 20, 21 and 22 in Section 7.</p>	<p>The timber cladding panels on the building external façade should be removed and replaced with an external wall surface material that achieves class A2-s1, d0 or better.</p> <p>Any insulation product or filler material within the system should be class A2-s1, d0 or better.</p>

Significant Hazard	Additional Control Measures
<p>Trespa Meteon high pressure cladding panels are fitted in some areas of the building.</p> <p>Trespa Meteon has a European fire classification of D-s2, d0 and is combustible.</p> <p>This is supported by Photograph 28, 29, 30 and 31 in Section 7.</p>	<p>The Trespa Meteon high pressure laminate cladding panels on the building external façade should be removed and replaced with an external wall surface material that achieves class A2-s1, d0 or better.</p> <p>Any insulation product or filler material within the system should be class A2-s1, d0 or better.</p>
<p>An unknown breather membrane is present as part of both the timber and Trespa Meteon high pressure laminate cladding systems.</p> <p>This is supported by Photograph 23, 24 and 32 in Section 7.</p>	<p>The breather membrane positioned within the timber and Trespa Meteon high pressure laminate cladding systems should be replaced with one that achieves European fire class B-s3, d0 or better.</p>
<p>Soft wood timber battens are present within the timber and Trespa Meteon high pressure laminate cladding systems.</p> <p>Timber has a European fire classification of D and is combustible.</p> <p>This is supported by Photograph 24, 25, 32 and 33 in Section 7.</p>	<p>The soft wood timber battens should be removed from within the timber and Trespa Meteon high pressure laminate cladding systems and replaced with a product that achieves class A2-s1, d0 or better.</p> <p>An example replacement would be steel or aluminium support rails.</p>

Significant Hazard	Additional Control Measures
<p>The building brickwork system is positioned above and below the timber and Trespa Meteon high pressure laminate cladding systems.</p> <p>No cavity fire barriers were located within the cavity between the two separate systems.</p> <p>This is supported by Photograph 24, 26 and 36 in Section 7.</p>	<p>Cavity fire barriers should be installed horizontally above and below the replacement for the timber and Trespa Meteon high pressure laminate cladding systems where they meet the brickwork system.</p> <p>Where a cavity is present in the new cladding system to replace the timber and Trespa Meteon high pressure laminate cladding systems, a 'closed state' cavity fire barrier should be installed vertically where a compartment wall is present.</p> <p>The cavity fire barriers should provide a minimum fire resistance of 30 minutes integrity and 15 minutes insulation.</p> <p>The new horizontal cavity fire barriers should be correctly installed in accordance with the datasheet for the product.</p> <p>Where a cavity is present in the new cladding system to replace the timber and Trespa Meteon high pressure laminate cladding systems, a cavity fire barrier should be provided at any openings present in the system.</p> <p>The cavity fire barriers around openings can consist of any of the following:</p> <ul style="list-style-type: none"> ❖ Steel at least 0.5mm thick; ❖ Timber at least 38mm thick; ❖ Polythene sleeved mineral wool or mineral wool slab, in either case installed under compression when installed in the cavity; ❖ Calcium silicate, cement based or gypsum based boards at least 12mm thick; ❖ Any other material which provides the required fire resistance (30 minutes integrity and 15 minutes insulation).
<p>Unknown white faced cladding panels are fitted to the soffit bordering the building below the 2nd floor on the North and East elevation.</p> <p>The cladding panels may be timber based but this is unconfirmed.</p> <p>This is supported by Photograph 36, 40 and 41 in Section 7.</p>	<p>The unknown white faced soffit cladding panels bordering the building below the 2nd floor on the North and East elevations should be removed from the building and replaced with a surface material that achieves class A2-s1, d0 or better.</p>

Significant Hazard	Additional Control Measures
<p>White faced cement particle board cladding panels are fitted to the soffit bordering the building below the 1st floor and above the under croft resident carpark areas on the building South elevation.</p> <p>The combustibility of the cladding panels is unknown, and numerous panels were found to be damaged during the intrusive investigation.</p> <p>This is supported by Photograph 58 and 59 in Section 7.</p>	<p>The white faced cement particle board soffit cladding panels that border the building on the South elevation and rear leg should be removed from the building and replaced with a surface material that achieves class A2-s1, d0 or better.</p> <p>The soffit cladding panels do not need to be removed in all areas of the under croft resident carpark. They only need to be replaced where they border the building external walls.</p>
<p>An unknown foil faced PIR foam insulation is provided within the white faced soffit cladding systems bordering the building North, East and South elevations, including the under croft resident carpark.</p> <p>The insulation is likely to be combustible.</p> <p>This is supported by Photograph 43, 44, 58 and 59 in Section 7.</p>	<p>The foil faced PIR foam insulation should be removed from the white faced soffit cladding system bordering the building below the 2nd floor on the North and East elevation and replaced with a product that achieves class A2-s3, d2 or better.</p> <p>The foil faced PIR foam insulation should be removed from the white faced soffit cladding system bordering the building on the South elevation and rear leg and replaced with a product that achieves class A2-s3, d2 or better.</p> <p>The foil faced PIR foam insulation does not need to be removed in all areas of the under croft resident carpark. They only need to be replaced where they border the building external walls.</p>
<p>The white faced soffit cladding system positioned above the resident carpark at the rear of the building has a large open void that has not been separated.</p> <p>There is a risk of fire and smoke spreading from a car fire in the building carparking under croft areas that are remote from the building external walls to the external façade.</p>	<p>To prevent fire and smoke spread from a fire in the under croft resident carparking areas, the soffit cladding system that borders the building external façade should be separated from all other areas of the soffit cladding system under the building.</p> <p>This could be achieved by providing a fire resisting wall from the underside of the soffit cladding panels up to the underside of the 1st floor.</p>
<p>The white faced soffit cladding systems bordering the building external walls below the 1st and 2nd floors have large open voids.</p> <p>No cavity fire barriers have been provided based on the intrusive investigations.</p> <p>There is a risk of fire and smoke spreading laterally through the soffit cladding system void and bypassing compartment walls between apartments.</p>	<p>'Closed state' cavity fire barriers should be installed vertically within the white faced soffit cladding systems bordering the building external walls below the 1st and 2nd floors where a compartment wall is present above.</p> <p>The cavity fire barriers should provide a minimum fire resistance of 30 minutes integrity and 15 minutes insulation.</p> <p>The new vertical cavity fire barriers should be correctly installed in accordance with the datasheet for the product.</p>

Significant Hazard	Additional Control Measures
<p>No intrusive investigation could be completed behind the glazed spandrel panels provided within the curtain wall systems at the ends of some common corridors.</p> <p>This is supported by Photograph 56 in Section 7.</p>	<p>During remedial works intrusive investigations should be carried out within the glazed spandrel panel system to ensure no combustible materials are present and where there is a cavity a suitable cavity fire barrier has been installed horizontally between compartment floors.</p>
<p>No cavity closers could be located around window openings in the brickwork system during intrusive investigations.</p> <p>Under the Building Regulations at the time of construction the building brickwork system would have been deemed acceptable to contain combustible insulation in the cavity and have no cavity fire barriers. The conditions of this were that the system be closed at the top and openings be provided with cavity closers to keep the brickwork cavity air tight.</p> <p>This is supported by Photograph 12, 13 and 18 in Section 7.</p>	<p>The lack of cavity closers around openings in the brickwork system can be accepted with the provision of a BS 8629 type system throughout the building.</p> <p>The BS 5839-1 fire detection and alarm system that is to be installed temporarily as an interim measure until the remedial works have been completed can be altered to become a BS 8629 type system in the long term.</p> <p>This system provides the fire service with the benefit of being able to evacuate residents from their apartments from a control panel in the building entrance foyer. The evacuation can be floor by floor or a full simultaneous evacuation.</p> <p>The provision of this system in place of cavity closers around openings in the brickwork system would act as a compensatory feature when it is considered that:</p> <ul style="list-style-type: none"> ❖ Although fire and smoke may spread into the brickwork cavity, fire and smoke would not easily spread into other apartments via the external wall cavity; ❖ The building is located in the centre of Leeds where fire service cover is good and response times to an emergency would be within 5 minutes of the first 999 call; ❖ Based on the fire service officer in charge assessment, all apartments in the building could potentially be evacuated remotely upon arrival of the first fire appliances; ❖ There are numerous protected escape stair cores for occupants to use in the event of a fire evacuation.

Significant Hazard	Additional Control Measures
<p>The latest fire risk assessment dated 18th August 2021 is not suitable and sufficient and is lacking in detail.</p>	<p>The building management should ensure that a new fire risk assessment is completed for 2020 House.</p> <p>The fire risk assessment should take the findings of this report into account.</p> <p>The fire risk assessment should be completed by a competent person, preferably this should be a fire risk assessor that is registered with the Institution of Fire Engineers.</p> <p>Management to ensure that any deficiencies highlighted in the fire risk assessment are actioned at the earliest opportunity.</p>
<p>No lightning protection system could be located on 2020 House.</p>	<p>Although there is no legal requirement to provide lightning protection, it may be prudent to fit a lightning protection system to the building as an additional protection measure for the prevention of external fire spread.</p>
<p>There is a risk combustible furniture and storage items are present on apartment balconies.</p> <p>Combustible furniture and storage items can contribute to external fire spread on balconies.</p>	<p>The building management should ensure they have a policy in place that limits the amount of combustible furniture and storage items on balconies, management to issue letters to all residents giving them information on the dangers of having combustible furniture/storage on their balconies.</p> <p>The building management should display a notice in the common areas giving residents information on the dangers of having combustible furniture/storage on their balconies.</p>
<p>There is a risk that barbeques are used on apartment balconies.</p> <p>The use of barbeques can lead to ignition and external fire spread on balconies.</p>	<p>Management have a policy in place that does not allow the use of barbeques on balconies.</p> <p>Management to issue reminder letters to all residents giving them information on the dangers of using barbeques on their balconies.</p>
<p>There is a risk that fire pits, patio heaters and other naked flames are used on apartment balconies.</p> <p>The use of fire pits, patio heaters and other naked flames can lead to ignition and external fire spread on balconies.</p>	<p>The building management should ensure they have a policy in place that does not allow the use of fire pits, patio heaters or other naked flames on balconies, management to issue letters to all residents giving them information on the dangers of using these items on their balconies.</p> <p>The building management should display a notice in the common areas giving residents information on the dangers of using fire pits, patio heaters and other naked flames on their balconies.</p>

Significant Hazard	Additional Control Measures
<p>The use of fireworks on balconies and around the outside of the development can present an unacceptable risk of fire spread.</p>	<p>The building management should have a policy in place that prohibits the use of fireworks anywhere on the development.</p> <p>The management should issue a notice to all private residents giving them information on the dangers of using fireworks.</p> <p>A notice should be displayed in the common areas giving residents information on the dangers of using fireworks.</p>
<p>It is not permitted for residents to smoke on their balconies.</p> <p>There is a risk of smoking materials being carelessly used and leading to ignition and external fire spread on balconies.</p>	<p>The building management should issue a reminder notice to all residents.</p>
<p>An unknown foil faced PIR foam insulation is provided within the brickwork system cavity.</p> <p>The insulation is likely to be combustible.</p> <p>This is supported by Photograph 11, 12, 17 and 26 in Section 7.</p>	<p>No further action required.</p> <p>In accordance with Approved Document B and Building Regulations at the time of construction restrictions on the European fire classification of insulation products or filler materials does not apply to those materials within a masonry cavity wall.</p>
<p>A bituminous coating has been provided on the blockwork internal leaf of the timber and high pressure laminate cladding systems.</p> <p>The bituminous coating is likely to be combustible and could lead to fire spread on the surface of the blockwork internal leaf of the systems.</p> <p>This is supported by Photograph 25 and 34 in Section 7.</p>	<p>No further action required.</p> <p>Although the bituminous coating on the blockwork internal leaf will remain in situ this is acceptable when it is considered that:</p> <ul style="list-style-type: none"> ❖ The bituminous coating is present at the rear of the system and a thick layer of non-combustible insulation material is going to be covering the coating, which will prevent fire and heat contacting the blockwork surface; ❖ The new cladding system that will replace the timber and high pressure laminate cladding systems will have cavity fire barriers present around the out side of the system where necessary; ❖ The bituminous coating is a thin layer and would not significantly contribute to fire spread within the cladding system.

Significant Hazard	Additional Control Measures
<p>An EPDM rubber membrane is provided within the aluminium curtain wall cladding system on the building North elevation.</p> <p>The EPDM rubber membrane is combustible.</p> <p>This is supported by Photograph 50 in Section 7.</p>	<p>No further action required.</p> <p>Although the EPDM rubber membrane is combustible it will remain in situ within the aluminium curtain wall cladding system, this is acceptable when it is considered that:</p> <ul style="list-style-type: none"> ❖ The EPDM rubber membrane is present within a small area of aluminium cladding, which is only present as part of the entrance foyer of each building block on the North elevation; ❖ The cladding system only extends up to the 1st floor of the building; ❖ The system is not positioned close to any ignition sources.

6. Conclusion

The results of this assessment show that some materials used on the face of the building external façade system are non-compliant and will require attention to comply with the functional requirements of Part B of the Building Regulations, the Regulatory Reform (fire safety) Order 2005 and MHCLG *Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings*.

Some of the non-facing materials used as part of the external façade systems are non-compliant and will require attention to be compliant with Part B of the Building Regulations, the Regulatory Reform (fire safety) Order 2005 and MHCLG *Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings*.

The timber decking boards and timber enclosures on the attachment type balconies are not suitable and should be replaced.

Some investigation work is required in the glazed spandrel curtain wall system between floors to ensure compliance.

The 6th floor cladding system has been intrusively investigated and remediated by a separate organisation and does not form part of this assessment.

The overall management of the building is good however, a new fire risk assessment should be completed for the building and any remedial actions completed at the earliest opportunity.

Some interim measures are in place and additional measures are to be put in place prior to all remedial works having been completed.

Overall, the external fire spread risk for 2020 House is Medium.

7. Photographs

Table 7: Photographic evidence of the structure

Description	Photograph 1
North elevation of the building	
Description	Photograph 2
North elevation of the building	

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Description	Photograph 3
West elevation of the building	
West elevation of the building	

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Description	Photograph 5
East elevation of the building	
Description	Photograph 6
East elevation of the building rear leg	

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Description	Photograph 7
South elevation of the building rear leg	
South elevation of the building	

Description	Photograph 9
An intrusive investigation took place in the building East elevation at 1 st floor in the brickwork system close to the corner apartment window	
A brick was removed from the system near the corner apartment window	

Description	Photograph 11
The brickwork system was found to contain a cavity and foil faced insulation	
Description	Photograph 12
<p>The foil faced insulation was found to be of a foam PIR type with a blockwork internal leaf at the rear of the system</p> <p>No cavity closer was located around the apartment window opening</p>	

Description	Photograph 13
A borescope was used within the brickwork system and no cavity closer could be located around the window opening	 <p>2020-11-13 09:47:38</p>
Description	Photograph 14
A borescope was used within the brickwork system and no cavity fire barriers vertically or horizontally could be located	 <p>2020-11-13 09:47:54</p>

Description	Photograph 15
An intrusive investigation took place in the building East elevation at 1 st floor in the brickwork system close to the common corridor window	
Description	Photograph 16
A brick was removed from the system Mineral wool insulation was located within the system to provide protection to the structural steel work	

Description	Photograph 17
The brickwork system was found to contain a cavity and foil faced insulation	
A borescope was used within the brickwork system and no cavity closer could be located around the window opening	 2020-11-13 08:13:16

<p>Description</p> <p>A borescope was used within the brickwork system and no cavity fire barriers vertically or horizontally could be located</p>	<p>Photograph 19</p>  <p>2020-11-13 08:16:39</p>
<p>Description</p> <p>An intrusive investigation was carried out on the timber cladding system on the building South elevation at 1st floor</p>	<p>Photograph 20</p> 



Description	Photograph 21
The timber cladding panels were removed from the system	
The timber cladding panels were removed from the system	

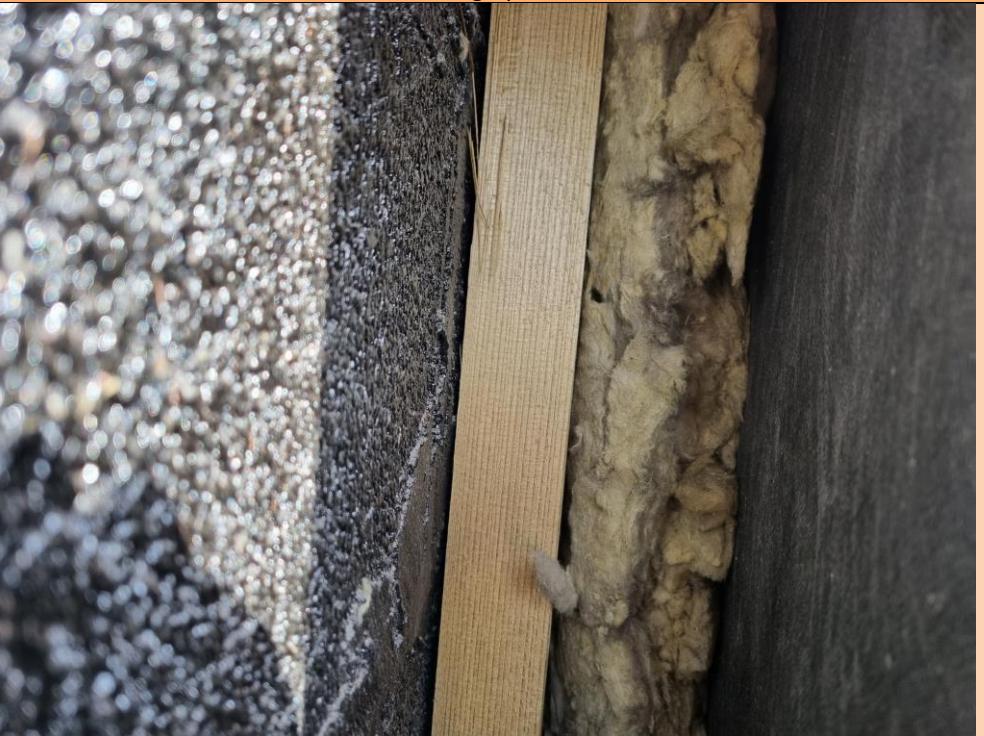
Description A breather membrane was revealed behind the timber cladding panels	<p style="text-align: center;">Photograph 23</p> 
Description Beyond the breather membrane were horizontal and vertical soft wood timber battens with full fill mineral wool insulation in between	<p style="text-align: center;">Photograph 24</p> 

Description	Photograph 25
<p>Inner leaf blockwork was located at the rear of the system</p> <p>The blockwork had been painted with a bituminous coating</p>	
<p>The foil faced PIR foam insulation was located above the timber cladding system as it meets the brickwork</p>	

Description	<p style="text-align: center;">Photograph 27</p>  2020-11-02 06:18:59
Description	<p style="text-align: center;">Photograph 28</p> 

Description	Photograph 29
A timber effect high pressure laminate cladding panel was removed	
Description	Photograph 30
The high pressure laminate cladding panel was found to be a Trespa Meteon panel	

Description	Photograph 31
The high pressure laminate cladding panel was found to be a Trespa Meteon panel	
Description	Photograph 32
<p>A small cavity was located behind the high pressure laminate cladding panel with soft wood timber battens positioned vertically</p> <p>A breather membrane was located beyond the soft wood timber battens</p>	

Description	Photograph 33
The breather membrane was cut away to reveal horizontal and vertical soft wood timber battens with full fill mineral wool insulation in between	
Description	Photograph 34
Inner leaf blockwork was located at the rear of the system The blockwork had been painted with a bituminous coating	

Description	Photograph 35
Mineral wool insulation was located above the high pressure laminate cladding system into the cavity of the brickwork system above	
Description	Photograph 36
Soffit cladding panels are provided on the upper floor levels of the building These panels are positioned close to the building external wall façade and in some instances window openings	

<p>Description</p> <p>An intrusive investigation was completed in the soffit of the building North elevation below the 2nd floor</p>	<p>Photograph 37</p> 
<p>Description</p> <p>A soffit cladding panel was removed to reveal an aluminium support structure and a large void above</p> <p>A blockwork internal wall was visible in the soffit void</p>	<p>Photograph 38</p> 

Description	Photograph 39
A uPVC extract duct from the 1 st floor apartment below was located in the soffit void	
The soffit cladding panel material is unknown in this location and could possibly be a form of timber	

Description	Photograph 41
The soffit cladding panel material is unknown in this location and could possibly be a form of timber	
The soffit void appears to run the entire length of the building North elevation	

Description	Photograph 43
<p>Mineral wool insulation was found to be provided in some areas of the soffit void</p> <p>Foil faced PIR insulation was located at the top of the soffit void and beyond this insulation was steel floor tray with the concrete floor slab of the 2nd floor above</p>	
<p>Foil faced PIR insulation was located at the top of the soffit void</p>	

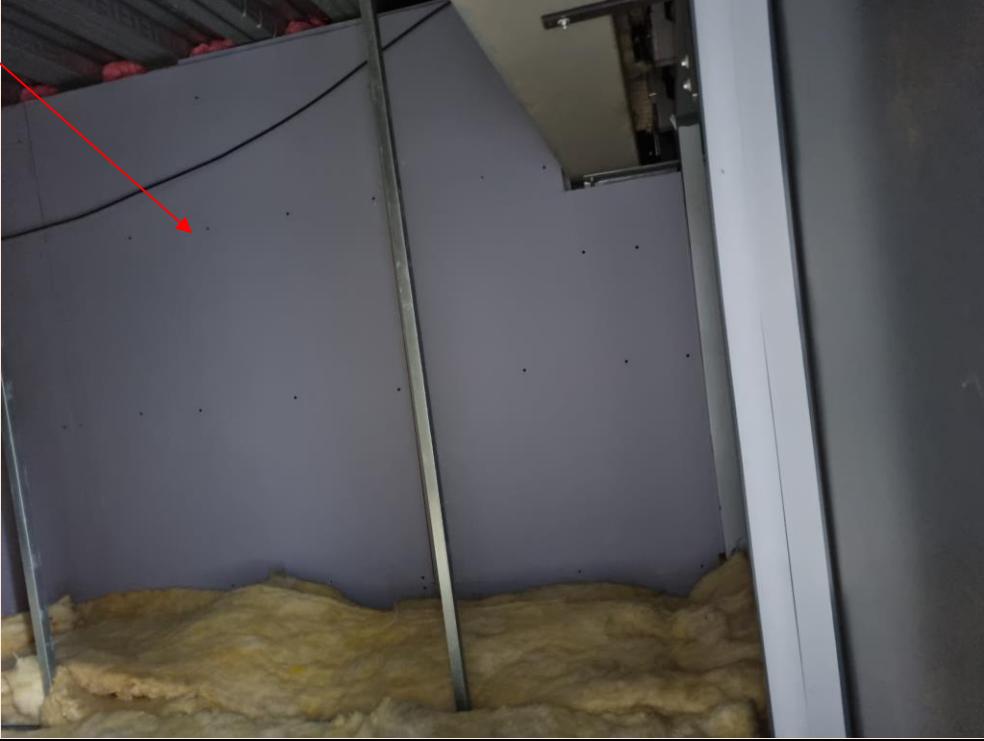
<p>Description</p> <p>A render cladding system is provided on the North elevation of the building and runs the length of the elevation on the 1st floor</p>	<p>Photograph 45</p> 
<p>Description</p> <p>A core sample was taken in the render cladding system and it was found that the render had been applied direct to the building internal leaf blockwork</p>	<p>Photograph 46</p> 

Description	Photograph 47
The render had been applied direct to the building internal leaf blockwork	
An intrusive investigation was completed in the building North elevation ground floor metal cladding panels that form part of the curtain wall system at the entrance foyer/stair core of each block	<p>Photograph 48</p> 

Description	Photograph 49
The cladding panel was removed and was found to be aluminium fixed to an aluminium support structure	
Description	Photograph 50
Beyond the aluminium cladding panel was a EPDM type rubber material with a concrete and steel structure beyond this	

Description	Photograph 51
An intrusive investigation was completed within the glazed spandrel panel system on the building North elevation above the ground floor apartments	
Description	Photograph 52
A glazed panel was removed from the system to reveal a double glazed unit with a gasket seal between	

Description	Photograph 53
The glazed panel had a coloured black out backing on the inside glass	
Description	Photograph 54
Beyond the glazed spandrel panel was a large void above the ground floor apartment A steel floor tray was present above the void for the concrete floor on the 1 st floor above	

<p>Description</p> <p>A plasterboard wall was located at the compartment wall positioned between the ground floor apartments</p>	<p>Photograph 55</p> 
<p>Description</p> <p>Glazed spandrel panels are provided between floors within the curtain wall system in some small areas of the building external façade</p> <p>No intrusive investigation was completed in this area</p>	<p>Photograph 56</p> 

Description	Photograph 57
There is a soffit cladding system provided below the building 1 st floor level in the resident's carpark and above carparking spaces	
An intrusive investigation was completed in the soffit above the resident's carpark by removing some of the soffit cladding panels	

Description	Photograph 59
<p>The soffit intrusive investigation revealed cement particle board cladding panels attached to an aluminium support structure with a rigid foam insulation provided above</p> <p>Above the rigid foam insulation was a void with a steel floor tray and concrete floor slab for the 1st floor above</p>	
Description	Photograph 60
<p>The building is provided with attachment type balconies on the West and South elevations</p> <p>The attachment type balconies are vertically stacked and are fitted with a timber decking floor</p>	

Description	Photograph 61
The timber decking floor on the attachment type balconies is fitted to a steel frame structure	
Description	<p>The attachment type balconies on the building West elevation were found to be provided with a timber outer wall</p> 

Description	Photograph 63
<p>There is an elevated garden area at the rear of the building, which is positioned at 1st floor level and accessed from the resident's carpark</p> <p>The resident's carpark is secured with metal electric gates</p>	
<p>The elevated garden area is fitted with a timber decking floor</p>	



Description	Photograph 65
The elevated garden area is positioned above some resident carparking spaces	

8. Further Information

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