



FIRE RISK ASSESSMENT OF THE EXTERNAL WALLS

at

Flats 1-135 The Habitat,
Woolpack Lane,
Nottingham,
NG1 1GH / NG1 1GJ / NG1 1GU



ON BEHALF OF

Clermont Management Limited
Unit 105, Cawley House
1 Hanley Street
Nottingham
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NG1 5BL

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REPORT INSPECTION, ASSESSMENT & VALIDATION

REPORT INSPECTION, ASSESSMENT & VALIDATION

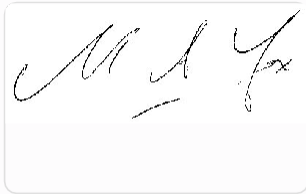
Inspector

Signed

MICHAEL A FOX
10th May, 2021 3:55 PM BST

Risk Assessor

Signed



MICHAEL A FOX
28th May, 2021 3:55 PM BST

Validator

Signed

Draft Report Date:

28th May, 2021

First Report Date:

8th May, 2021

Revised Report Date:

DISCLAIMER

This report has been prepared by Michael A Fox of Michael A Fox Associates Ltd. This report is the property of Michael A Fox Associates Ltd and is confidential to the client listed as the instructing party. The instructing party is free to show the report to whomever they choose. However, without the written consent of Michael A Fox Associates Ltd the contents of this report may not be utilised by any third party. Without such consent, Michael A Fox Associates Ltd accepts no responsibility to any third party.

This report has been prepared post completion of the building it concerns. It is therefore impossible for Michael A Fox Associates to have fully confirmed the installation of the façade products. However, sample areas have been drilled/removed to reveal the façade build up. This assessment is reliant on the information obtained from our invasive inspection. Michael A Fox Associates Ltd certify that they have carried out the work contained herein with due care and diligence to their best belief and knowledge based on the time and information available.

This report is prepared on behalf of Michael A Fox Associates Ltd. By receiving it and acting on it, the instructing party – or any third party relying on it – accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

1.0 - INSTRUCTION & LIMITATIONS

Michael A Fox Associates Ltd have been instructed to carry out a fire risk assessment of the façade at:

The Habitat, Woolpack Lane, Nottingham, NG1 1GJ

Instructing party

Clermont

Client Instruction

Michael A Fox Associates Ltd have been instructed to identify whether the construction of the External Wall and all its components comply with the Mandatory Requirement B4(1) of the Building Regulations that were applicable at the time of construction. We will comment on the quality of workmanship of the external wall system installation and will provide recommendations of remedial works to bring any items of non-compliance in line with the Mandatory Requirement B4(1) of the Building Regulations applicable at the time of construction as well as current Building Regulations and Government (MHCLG) Advice Notes.

In January 2020, the MHCLG published a consolidated advice note that brings the Expert Panel's advice together in a single document and supersedes the existing Advice Notes 1 to 22. The advice on the assessment of non-ACM external wall systems (previously Advice Note 14) has been updated and incorporated, and some of the advice within the previous published notes has been condensed to make it clearer. In November 2020, MHCLG was further clarified, and this report will take into account this update to guidance.

Limitations of inspection

The data obtained in the investigation is limited to the findings in each precise location of inspection and cannot be used to confirm absolute consistency of the façade in its entirety. All findings and comments are subject to any Building Control applications and approvals that have not been disclosed to MAF at the time of this report. The inspection was limited to the external wall only as described in the Approved Document B of the Building Regulations 2006. Product manufacturers cannot be confirmed with absolute certainty unless the sampled materials viewed show evidence of product branding. Where product branding is absent or ambiguous.

MAF will refer to as built drawings and specification contained in the O&M manuals, but this does not constitute confirmation of the brand of the products used in construction. Where the product's branding is absent MAF will state the expected combustibility-rating based on the known characteristics of the materials in use. MAF will endeavour to review sample areas from various elevations and levels, however, the ability to do so may be impeded by factors out of our control, such as weather conditions. Such issues will be quantified in this report. The supporting evidence provided in this report has been selected to substantiate the statements made within its content. Additional photographs and endoscope video footage is available upon request.

2.0 - INTRODUCTION

The Grenfell Tower fire in June 2017 highlighted the need to inspect the building façade. In the aftermath of the disaster, there has been a focus on inspecting the façade of multi-occupancy buildings, particularly those deemed to be high rise. The Government convened the Expert Panel to review the building regulations. The Expert Panel has subsequently issued advice notes through the Ministry of Housing Communities and Local Government (MHCLG) giving guidance on how the building regulations should be interpreted. This has retrospectively impacted many buildings built before the advice notes were issued.

Since the consolidated guidance was published by the MHCLG, there has been focus on height, particularly where there are attachments to the façade. Previously, the advice was interpreted to apply to high rise buildings. However, now this distinction is less clear. As a result, often lenders will look for a fire risk assessment of the façade to have been completed even on smaller buildings.

This fire risk assessment is intended to assess the risk to life safety posed by the façade at the referenced building. As a result of this assessment, the façade will be reviewed against the consolidated MHCLG guidance issued in January 2020. If there are areas of non-compliance, remedial measures will be recommended.

Assessor Experience, Qualifications & Memberships

The risk assessment inspection was carried out by qualified façade inspectors directly employed by MAF Associates Ltd. The risk assessment was undertaken by Michael A Fox Director of MAF Associates. Michael has a wealth of experience as an approved insurance auditor / loss adjuster working for UK, European and Scandinavian insurers. Michael offers expertise in the inspection and investigation phases of Expert Witness reporting. Michael is a highly qualified and competent risk assessor with specialities in the external fabric of buildings. Recognised as one of the major commercial roofing and cladding experts in the UK.

Michael has attended and gained certification in the following with the Fire Protection Association:

- FPA - Applied Fire Risk Assessment
- FPA - Advanced Fire Risk Assessment
- FPA - Fire Safety Design of Buildings

Michael holds membership or associated membership of the following organisations:

- Member Institute of Clerks of Works – Fire Safety (MICWCI)
- Member Institute Fire Safety Managers (MIFSM)
- Member Institute Fire Prevention Officers (AMIFPO)
- Associate Royal Institution of Chartered Surveyors – (AssocRICS)
- Member Institute of Roofing – (MIoR)
- Member Fire Protection Association – (FPA)
- Member UK Fire Association – (UKFA)
- Member National Fire Protection Association – (NFPA)

Michael A Fox as a Clerk of Works is defined in Advice Note 1 - DCLG/BSP/Information Note/01/111217 as a Professional Advisor for Façade Fire Safety

Michael A Fox is an Institute of Fire Safety Managers TFRAR Tier 3 Risk Assessor and is registered on the Fire Sector Federation's National Listing of Fire Risk Assessors

Validator Experience, Qualifications & Memberships

The report validation was carried out by Tom Whittaker, Chartered Fire Engineer who is directly employed by MAF Associates. Tom has over 18 years of experience in Technical Safety, Safety Systems, Loss Prevention, Health & Safety, and managing HSE.

Tom has attended and gained certification in the following with the Fire Protection Association:

- FPA - Fire Risk Management In Residential Properties

Tom holds membership or associated membership of the following organisations:

- Institution of Engineering Technology (CEng MIET)

- The Institution of Fire Engineers (MIFE)

3.0 - EXECUTIVE SUMMARY

External Walls

Compliant

Compliant

Remediation required

No

Balconies

Compliant

Non-compliant

Risk assessed

At Risk

Remediation required

Yes

Spandrel panels

Compliant

Non-Compliant

Remediation required

Yes

4.0 - RISK ASSESSMENT METHODOLOGY

The methodology of this Fire Risk Assessment is adapted from EFFECT: External Façade Fire Evaluation and Comparison Tool (February 2018). The effect tool is the NFPA's online tool based on methodology developed by Arup.

Assumptions

The scope of the FRA tool is for high rise buildings comprising residential or business occupancies or a mix of both. Where the building is a mix of residential and business, it should be treated as a residential building due to the greater life safety risk associated with sleeping occupants.

High rise buildings are over 18m in height, measured from lowest point of the fire service access level to the floor level of the topmost occupied floor. The FRA tool has been adapted by Michael A Fox Associates to also be applicable to buildings that are not deemed to be high rise.

It is assumed that there will be ignition risks throughout the building interior, possibly within the facade system cavities and possibly on the exterior of the building (parked vehicles, cabling, electrics, lights, PV panels, balconies, BBQs, adjacent buildings etc.).

The likelihood of a fire considers ignition sources within the vicinity of the exterior combustible façade system, within the façade system itself and from a fire breaking out from the interior of the building.

The tool is intended to have global applicability with minor geographical variations. The tool is not a compliance check, however, it is based on the first principles of fire safety to, as far as practicable, comply with life safety codes.

Michael A Fox Associates have adapted this report to make comment on compliance to various applicable building regulations and advice.

Limitations of Assessment

The FRA tool is intended to be used to assess concrete/steel framed buildings. The risk associated with a timber framed building can be greater than that associated with a concrete framed building. Therefore, the basic principles of this assessment have been utilised, and the methodology has been adapted to allow the assessment of timber framed buildings in this report.

The risk rankings produced by the tool are intended to err on the side of caution. As the building is complete, it would be impossible to confirm that all the required cavity barriers are in place and installed correctly. Building Regulations state that cavity barriers must be installed, however confirming that all the cavity barriers have been installed compliantly after construction is not achievable.

The tool cannot address all possible combinations of façade system and building characteristics. The complexity of the building, façade patterns or difficulties in identifying the façade systems/materials/components may sometimes require a more detailed fire risk assessment by a qualified engineering team of façade and fire engineers.

The FRA tool addresses life safety only. The building owner or their insurer may have further objectives around business continuity or property protection that are not addressed in the FRA. Issues such as business continuity, property protection, loss of belongings and loss of a place to stay are secondary. Whilst important, they are not addressed by this FRA tool.

The life safety of fire fighters is not explicitly addressed. Mitigation measures for the life safety of the occupants can also be expected to reduce the risk to fire fighters. It is assumed that the Commanding Officer would risk assess the building's access and egress routes as well as the structural stability of the building before entering the structure for prolonged periods of time.

There is limited statistical data on fires involving the exterior façade system. Test data is largely proprietary and, excluding test data explicitly cited in this report, is not available to inform this study.

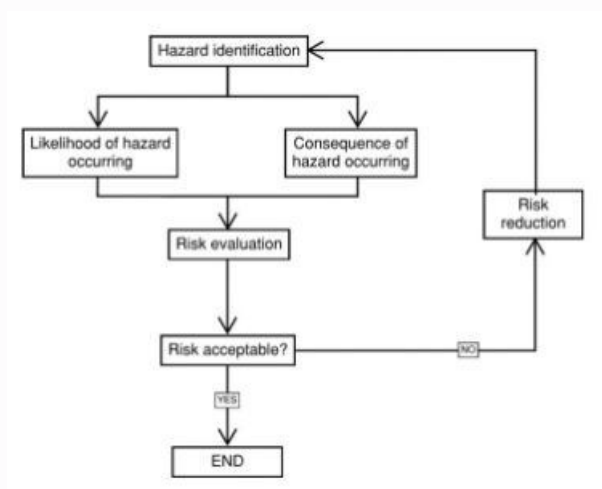
There is limited statistical data on fires involving the exterior façade system. Test data is largely proprietary and, excluding test data explicitly cited in this report, is not available to inform this study.

The tool assesses buildings in their completed state. It therefore does not assess “temporary risks” that arise from construction work or partially occupied buildings. There are clear guidelines and tools available to assess those. Where necessary, temporary risks have been accounted for in this report.

As the FRA tool itself concludes, their guide is not exhaustive and variations on the information presented may exist on specific buildings. This report therefore applies the principles of the FRA tool and adapts the methodology to apply to the buildings we assess.

Risk Assessment Process

Risk is a function of the likelihood of a fire hazard and the consequence of that fire hazard occurring. The process of risk assessment is to identify the hazard(s) and then assess the likelihood and consequence of the hazard occurring as illustrated.



The FRA tool is qualitative in nature and builds upon the concepts in Publically Available Specification (PAS) 79 in the context of a fire spreading over multiple stories of a building via a combustible façade system.

PAS 79:2020, Fire risk assessment, guidance and recommended methodology, British Standards Institution and C.S. Todd & Associates Ltd.



Annex B of PAS 79 suggests actions and timescales linked to the risk level (see table opposite). PAS 79 was developed in the UK for fire risk assessments and is published by the British Standards Institution (BSi).

Potential consequences of fire hazard	Likelihood of fire hazard		
	Low	Medium	High
Slight harm	Trivial risk	Tolerable risk	Moderate risk
Moderate harm	Tolerable risk	Moderate risk	Substantial risk
Extreme harm	Moderate risk	Substantial risk	Intolerable risk

Risk level	Action and timescale
Trivial	No action is required and no detailed records need to be kept.
Tolerable	No major additional fire precautions required. However, there might be a need for reasonably practicable improvements that involve minor or limited cost.
Moderate	It is essential that efforts are made to reduce the risk. Risk reduction measures, which should take cost into account, should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measure.
Substantial	Considerable resources might have to be allocated to reduce the risk. If the premises are unoccupied, it should not be occupied until the risk has been reduced. If the premises are occupied, urgent action should be taken.
Intolerable	Premises (or relevant area) should not be occupied until the risk is reduced.

Risk Assessment Tools

Risk is defined as likelihood x consequence.

The process of risk assessment is to identify the hazard(s) and then assess the likelihood(likelihood) and consequence of the hazard occurring.

The likelihood of a fire occurring is linked to the hazards that may cause ignition combined with the presence of fuel and oxygen. Larger buildings, whether they are taller or have greater footprint have a greater risk of fire occurrence as there are more potential ignitions sources. The likelihood of a large fire is linked to the fire load available to burn, including construction materials used.

In the context of buildings with combustible façade systems, there are no active fire protection systems to contain the fire from spreading over the facade system beyond firefighter hose streams. If the fire breaks into the building, then sprinklers may control a fire from spreading further inside the building but if a fire breaks into multiple floors the sprinkler system is likely to become overwhelmed as it would not have been designed for multiple fires on multiple floors simultaneously. There may be passive systems within the design of the façade assembly such as cavity barriers which may delay fire spread through a cavity or insulation layer but these do not act as fire breaks on the exterior face of decorative cladding systems.

Likelihood of Fire Hazard

The tool considers three different occupancy types:

1. Sleeping risk and “all out” evacuation strategy (which may occur in phases)
 2. Sleeping risk and “stay put” (defend in place) evacuation strategy
 3. No sleeping risk, i.e. Office premises and “all out” evacuation strategy (which may occur in phases)
- Specific risk matrices have been developed for Process A and Process B for each of the occupancy types and evacuation strategies addressed by this FRA tool.
-

5.0 - BUILDING REGULATIONS & ADVICES

BUILDING ACT 1984

The Building Regulations established standards that had to be achieved in the construction of buildings. The 'approved documents' provide guidance for how the building regulations can be satisfied in common building situations. They are given legal status by the Building Act 1984.

Compliance or non-compliance with approved documents

(1) A failure on the part of a person to comply with an approved document does not of itself render him liable to any civil or criminal proceedings; but if, in any proceedings whether civil or criminal, it is alleged that a person has at any time contravened a provision of building regulations—

(a) a failure to comply with a document that at that time was approved for the purposes of that provision may be relied upon as tending to establish liability, and

(b) proof of compliance with such a document may be relied on as tending to negative liability.

(2) In any proceedings, whether civil or criminal—

(a) a document purporting to be a notice issued as mentioned in section 6(3) above shall be taken to be such a notice unless the contrary is proved, and

(b) a document that appears to the court to be the approved document to which such a notice refers shall be taken to be that approved document unless the contrary is proved.

The Building Regulation relevant to cladding is B4(1). This provides the following legal obligation that has been in place since 2000: “the external walls of a building shall adequately resist the spread of the fire over the walls and from one building to another having regard to the height, use and position of the building.”

The Approved Documents provide guidance for how building regulations can be satisfied in common building situations. They are given legal status by the Building Act 1984. There is no obligation to adopt the solutions presented in the approved documents.

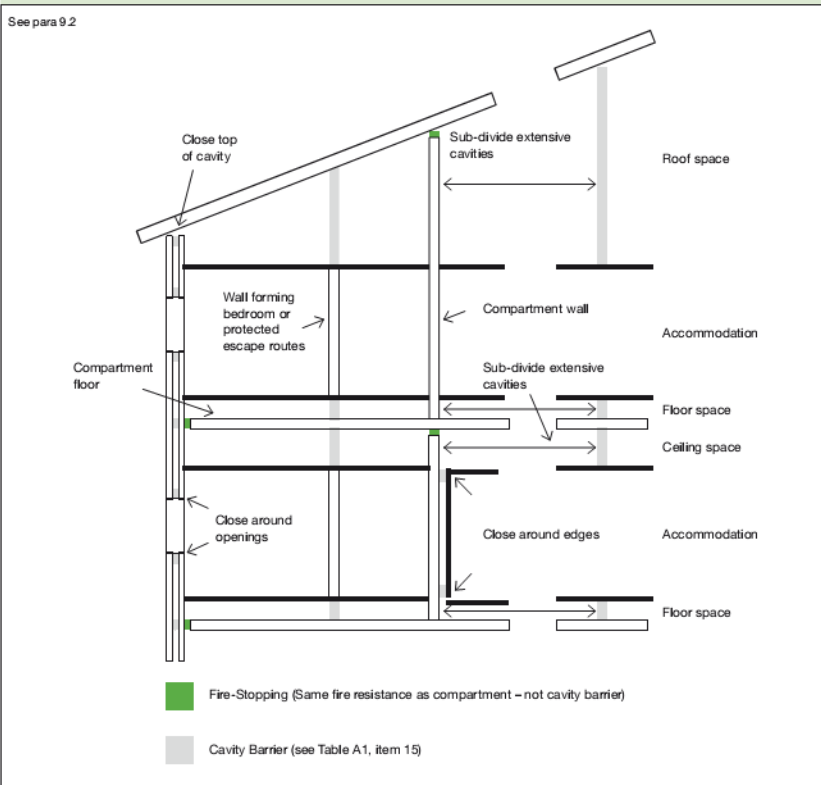
Approved Document B - Sections Relevant to Cladding

Part B3: Internal Fire Spread (Structure)

Compartmentation

All walls and floors between flats should be compartmentalised. The compartmentation of these floors and walls should be maintained at junctions with external walls and other compartment walls and floors (ADB paragraph 9.6 and 9.15) and cavity barriers (ADB Table 13 - ADB diagram 33)

Diagram 33 Provisions for cavity barriers

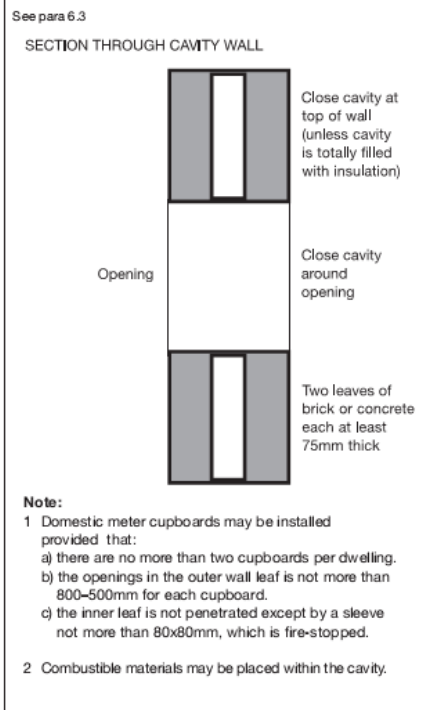


The external wall should have the appropriate fire resistance given in Appendix A, Table A1, unless they form an unprotected area (ADB paragraph 13.3) as they are an element of structure.

Concealed Spaces (Cavities)

Cavity barriers are required at junctions between external walls and every compartment wall and floor (except where the construction complies with ADB diagram 32) and at the edges of cavities including around openings (ADB Table 13).

Diagram 13 Cavity walls excluded from provisions for cavity barriers



Cavity Barrier Construction

Cavity barriers should achieve 30EI (ADB paragraph 10.6).

Cavity barriers in a stud wall or partition may be formed of steel at least 0.5mm thick, timber at least 38mm thick, polythene sleeved mineral wool or mineral wool slab, in either case under compression when installed in the cavity or certain boards at least 12mm thick (ADB paragraph 10.6).

The note to ADB paragraph 10.6 states that cavity barriers around openings may be formed by the window or door frame. It is ambiguous as to whether this means that the cavity barrier can be formed by the window or door frame provide it achieves a 30-minute standard, or whether it means that the frame is adequate regardless of whether it achieves a 30-minute standard.

The note to ADB paragraph 10.6 states that cavity barriers around openings may be formed by the window or door frame. It is ambiguous as to whether this means that the cavity barrier can be formed by the window or door frame provided it achieves a 30-minute standard, or whether it means that the frame is adequate regardless of whether it achieves a 30-minute standard.

The junctions between external walls and compartment floors and compartment walls should be adequately protected such that the external wall construction does not provide a medium for spread of fire around the compartmentation.

ADB diagram 31 provides one option for achieving this requirement, as summarised below:

- **Compartmentation:** Compartment floors and walls must be continuous up to the inside face of the external wall construction.

- **Internal Components:** Whilst not specified in ADB, it must be inferred that the internal components of the external wall must achieve an adequate fire performance (otherwise fire spread could occur via the internal components bypassing the fire stopping and cavity barrier).

- **Opening Protection:** Any openings in the internal components of the external wall must be adequately protected.

- **Cavity Barriers:** Cavity barriers must be provided between the internal components of the external wall and the outermost components.

- An alternative to the ADB provisions that would meet the intent of ADB would be to continue the fire resistance of the compartmentation through the external wall construction to the outside of the building (i.e. forming a continuous line of fire resistance to the outside of the building).

Part B4: Spread of Fire over Walls External Surfaces

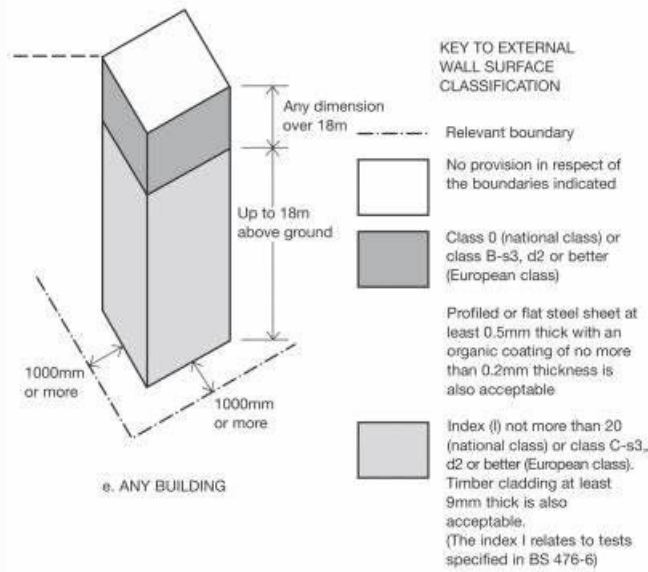
The external surfaces should be national class 0 for parts of the building more than 18m above ground and all other parts should achieve an index (I) of not more than 20 (national class).

External Wall Construction

The first clause of ADB paragraph 13.7 requires that the external envelop should not provide a medium of fire spread if it is likely to be a risk to health or safety. The second requires that in buildings with a storey height of 18m or more, insulation material used in a ventilated cavity should be of limited combustibility. The third references BR 135 1988 for advice on the use of thermal insulation materials.

All three clauses of paragraph 13.7 are relevant. This interpretation means that it is not only ventilated cavities in buildings with a storey more than 18m or more above ground where measures might be required to comply with paragraph 13.7 (i.e. paragraph 13.7 explicitly restricts the use of combustible materials in ventilated cavities in buildings more than 18m tall, but it does not state that combustible materials can be used in other situations regardless of specifics).

Diagram 40



Fire Testing Option

ADB: 2000 referred to BR 135: 1998, but it did not include fire testing as a route for compliance. ADB: 2006 and subsequent editions included fire testing as an option. Therefore, in MAF's opinion, an external wall that has been shown to meet the BR 135 performance criteria using BS 8414 test data would have achieved an adequate standard for compliance with ADB: 2000.

FIRE SAFETY ACT 2021

An Act to make provision about the application of the Regulatory Reform (Fire Safety) Order 2005 where a building contains two or more sets of domestic premises; and to confer power to amend that order in future for the purposes of changing the premises to which it applies.

1. Premises to which the Fire Safety Order applies

In article 6 of the Regulatory Reform (Fire Safety) Order 2005 (S.I. 2005/1541) (application to premises)–

- (a) in paragraph (1)(a) (excluded premises), after “except to the extent mentioned in” insert “paragraph (1A) or”;
- (b) after paragraph (1) insert–

“(1A) Where a building contains two or more sets of domestic premises, the things to which this order applies include–

- (a) the building's structure and external walls and any common parts;
- (b) all doors between the domestic premises and common parts (so far as not falling within sub-paragraph (a)).

(1B) The reference to external walls includes–

- (a) doors or windows in those walls, and
- (b) anything attached to the exterior of those walls (including balconies).”;
- (c) in paragraph (2), for “paragraph” substitute “provisions”.

6.0 - MHCLG- CONSOLIDATED ADVICE

In 2017, the Ministry of Housing, Communities and Local Government (MHCLG) established the Building Safety Programme to cover high-rise residential buildings over 18 metres, including hotels, to make sure that residents of high-rise buildings are safe.

On 20 January 2020, the Government published an Advice Note “Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings” that supersedes and updates the advice contained in Advice Notes 1-22. The new Advice Note has been issued in advance of a new Fire Safety Bill which is likely to come into force this summer, and changes to Building Regulations, which are anticipated to come into force in February. The advice was further updated in November 2020.

The main focus of the Advice Note is to ensure that building owners of all multi-storey and multi-occupied residential buildings undertake investigations into the external wall systems and fire doors, in order to determine whether they represent a risk to the health and safety of residents. Where the external wall systems or fire doors are considered to give rise to a risk, then advice should be taken on the remediation or mitigation measures required. Such investigations will be necessary not only in residential buildings, but also in hospitals, hostels and other buildings where overnight accommodation is offered. The height of the building is immaterial, and the focus of Advice Note 14 on buildings only over 18 metres no longer applies.

The Advice Note sets out the immediate actions that building owners should take now to address the risk of fire spread from unsafe external wall systems in order to protect the health and safety of residents. Whereas Advice Note 14 focused on the need to take general fire precautions under the Regulatory Reform (Fire Safety) Order 2005 (RRFO) and the new Fire Safety Act 2021 the Advice Note takes as its central focus Regulation B4(1) of the Building Regulations, which provides as follows:

“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.”

7.0 - RICS - EWS1 FORMS

The EWS1 form is designed to be used for residential properties such as blocks of flats (including those owned by housing associations and social housing providers as well as privately owned), student accommodation, dormitories, assisted living, care homes and Houses in Multiple Occupation (HMOs).

The EWS1 form is not specifically designed for use of short-term accommodation such as hotels. EWS1 does, however, apply to an entire building or block so where required, may also be relevant to mixed use.

The EWS process, and resulting form, is a set way for a building owner to confirm that an external wall system on residential buildings has been assessed for safety by a suitable expert, in line with government guidance.

The EWS1 process delivers assurance for lenders, valuers, residents, buyers and sellers. The process was developed through extensive consultation with a wide range of stakeholders including fire engineers, lenders, insurers, valuers, and other cross industry representatives.

The process itself involves a "qualified professional" conducting a fire-risk assessment on the external wall system, before signing an EWS1 form, which is valid for the entire building for five years. MAF Associates have suitable qualified inspectors, risk assessors and Chartered Engineers who are qualified to sign section B of the EWS1 form. This ensures that the inspection, assessment and validation is carried out by members who hold professional memberships of the relevant organisations. MAF Associates also hold specific Professional Indemnity Insurance to undertake external wall inspections and complete both sections of the EWS1 form.

The form was originally designed following Government advice regarding external wall systems on buildings above 18m and was created to ensure residential buildings over 18m tall could be assessed for safety to allow lenders to offer mortgages. Changes in Government advice in January 2020, brought all residential buildings potentially within scope.

However not every building will require an EWS1 form. RICS has published guidance for valuers on 8 March 2021 and will be working with UK government and other stakeholders to ensure the guidance is implemented by 5 April 2021 and this guidance includes criteria that will be used to help decide whether a particular building should need an EWS1 form. Valuers will always need to follow instructions given by their lender clients.

The criteria considers the height of the building, the type of cladding and (in some circumstances) how much of it there is on the building. There are also criteria relating to balconies and combustible material. You should always have a rationale to justify the request for the EWS1 form.

8.0 - INSPECTION DETAILS

Limitations to inspection

The majority of the invasive inspection was carried out within the higher risk area of the enclosed courtyard. A low level inspection was carried out of the outer walls one the Maiden Lane and Denmark Place elevations.

Inspection type	Type 6 - Visual inspection with scrutiny of the buildings operating and maintenance manuals. Various areas within the facade will be opened
Inspection date	10th May, 2021 8:00 AM BST
Weather conditions	Overcast
Conditions safe to carry out inspection	Yes
Risk & method statements signed	Yes
Covid risk assessment undertaken	Yes
MEWP risk assessment undertaken	N/a
Rope access risk assessment undertaken	Yes
Inspection personnel	Mike Fox - Senior Inspector / Technicians
Areas inspected	Externally
Access to external walls	Rope Access - IRATA Certificated
Inspection equipment used	Date Stamp Camera Date Stamped 90 Degree Cavity Camera Calibrated Disto Lazer Measure Calibrated Depth Vernier

9.0 - BUILDING DETAILS

INTRODUCTION

The Habitat is a multi occupancy building constructed over 8 floors. There is a car parking within the footprint of the building at ground floor level, which is accessed on the Woolpack Lane elevation. The building has an uppermost occupied floor above 18m as such the fire resistance of the external walls is more onerous.

Site plan

Building location - Roads / Junctions

The Habitat is located on Woolpack Lane with elevations on Maiden Lane and Denmark Place.

Number of buildings / blocks

One building / One block

Purpose group	Residential (dwellings) 1(a) Flat
Building designation	Purpose built block of flats
Building use	Residential - Multi Occupancy - Above 18m
Occupancy type	Sleeping Risk
Persons at risk	Owners, renters and their visitors. Allowance for trades, cleaners and building managers. Any others legally allowed to be in the building

Number of dwellings

130 dwellings

Number of occupants

260 assuming 2 occupants per dwelling

Year of construction

TBC

Number of floors

8 floors including the ground floor

Building fire safety height is measured to the floor of the floor of the upper most storey from the lowest ground point where firefighting or rescue can be undertaken

Building fire safety height

19.2m calculated at 2.7m per storey (7 storeys) with an allowance of 300mm for the floor slab of the 8th floor

Building height

21.6m

Commercial / Retail within building	No
Cooking within commercial unit	No
Vehicle loading bays within 5m of building	No

10.0 - EXTERNAL WALL MATERIAL TYPES - RISK

External Material 1

Material type

Masonry, Brick, Block, Tile

Material image



Photo 1

Risk of surface fire spread

Low

External Material 2

Material type

Factory insulated composite panel

Material image



Photo 2

Risk of surface fire spread

Med

11.0 - INTERNAL FIRE SAFETY

11.0 - INTERNAL FIRE SAFETY

Building evacuation strategy	Stay Put/Defend in Place - Occupant of fire affected flat would only be alerted to evacuate. All other occupants remain in building until advised by FRS
Fire alarm / detection System	In apartment only
Smoking within building	No smoking signs at the entrance the building, smoking is not allowed within the communal areas but is allowed within the private dwelling
Smoke evacuation system	Detector Operated AOV in Stairwell
Sprinklers system installed in building	Sprinklers in apartments
Number of stairs	
One	
Number of exits	
Two	
Escape stairs on external wall?	No
External wall fire exposure to internal stairs - windows?	No
External wall debris falling to ground above exit discharge?	No
Separate risks within building	Balconies Car parking within the footprint of the building
Access for fire fighters	Restricted external wall access Internal firefighting - Dry Riser Street Hydrants
Is there car parking within the footprint of the building	Yes
Fire loss experience	
Non declared prior to the inspection.	

12.0 - EXTERNAL WALL INSPECTION - GENERAL COMMENTS

12.0 - EXTERNAL WALL INSPECTION - GENERAL COMMENTS

Structural frame type

SFS infill panels on concrete floors

Brief description of external walls

The external walls are predominantly clad with brick with vertical band of insulated panels with the window system.

EXTERNAL WALL CONDITION

Condition

Good

Comment

From our inspection we would determine the façade to be in good condition and there is evidence that the façade has been inspected and maintained on a regular basis.

QUALITY OF INSTALLATION

Condition

Good

Comment

From our inspection it would be our opinion that the products installed have been installed in accordance with the manufacturer's recommendations and good working practices

DAMAGE OR DEFECTS NOTED ON EXTERNAL WALL

Condition

Good

Comment

From our inspection there were no visible defects or damage which would compromise the façade in the event of fire

DETAILING AND ROBUSTNESS AT THE BASE OF THE EXTERNAL WALLS

Condition

Good

Comment

From our inspection we would conclude that the base of the building is robust with little or no chance of a fire entering the cavity of the external wall void

DETAILING AROUND WINDOWS AND DOORS

Condition

Good

Comment

Where inspected the windows appeared to be installed correctly and appeared to be sealed. The external detailing around the window is robust and in good condition

WASTE IN CLOSE PROXIMITY TO THE BUILDING

Condition

Good

Comment

The external areas around the building
and clean and clear of rubbish

13.0 - ELEVATION DETAILS

ELEVATION 1

Elevation position

Front elevation situated on Woolpack Lane.

Fire safety height of elevation

Above 18m

Distance from boundary to another building

More than 1m

Elevation images



Photo 3



Photo 4



Photo 5

Inspection images

Details of inspection

The elevation was invasively inspected at low level.

Balconies attached

Yes

Balcony image



Photo 6

Balcony construction

Private balcony being wholly non-combustible – including the decking, edge protection, privacy screens etc

ELEVATION 2

Elevation position

Rear elevation is situated within the enclosed courtyard.

Fire safety height of elevation

Above 18m

Distance from boundary to another building

More than 1m

Elevation images

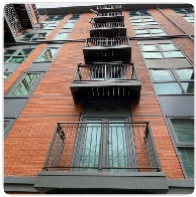


Photo 7

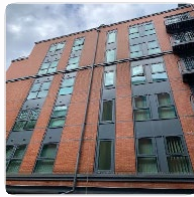


Photo 8



Photo 9

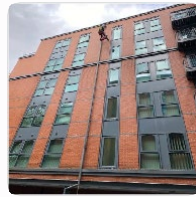


Photo 10



Photo 11

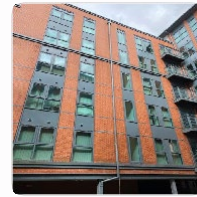


Photo 12

Inspection images



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18

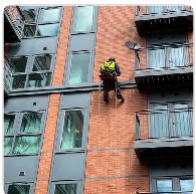


Photo 19



Photo 20



Photo 21

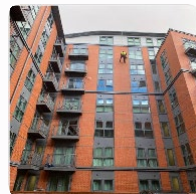


Photo 22

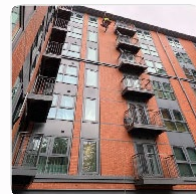


Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28

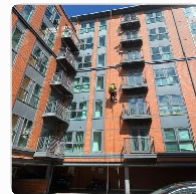


Photo 29

Details of inspection

The rear elevation was invasively inspected by IRATA rope access technicians in 12 places. The invasive inspection was undertaken by drilling the external brickwork and inspecting the cavity using a borescope cavity camera.

Balconies attached

Yes

Balcony image

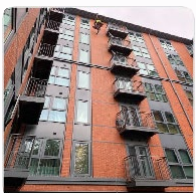


Photo 30

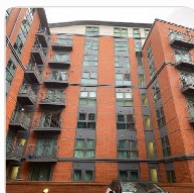


Photo 31

Balcony construction

Private balcony having combustible features e.g.: timber decking, timber edge protection/barriers (in whole or in part), timber privacy screens

ELEVATION 3

Elevation position

The left hand elevation is situated on Maiden Way.

Fire safety height of elevation

Above 18m

Distance from boundary to another building

More than 1m

Elevation images



Photo 32



Photo 33

Inspection images

Details of inspection

The elevation was invasively inspected at low level.

Balconies attached

Yes

Balcony image



Photo 34

Balcony construction

Private balcony with partial combustible features e.g.: timber decking, non-combustible edge protection e.g.: steel/glass etc, non-combustible privacy screens (metalworketc)

ELEVATION 4

Elevation position

Right hand elevation is situated on Denmark Place.

Fire safety height of elevation

Above 18m

Distance from boundary to another building

More than 1m

Elevation images



Photo 35



Photo 36

Inspection images



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42

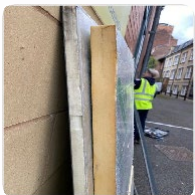


Photo 43



Photo 44

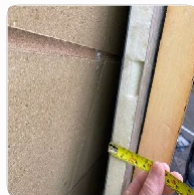


Photo 45

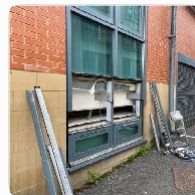


Photo 46



Photo 47

Details of inspection

The elevation was invasively inspected at low level. Spandrel panel was removed, the brickwork was also invasively drilled

Balconies attached

Yes

Balcony image



Photo 48

Balcony construction

Private balcony being wholly non-combustible – including the decking, edge protection, privacy screens etc

Spandrel panels attached

Yes

Spandrel panel image



Photo 49



Photo 50

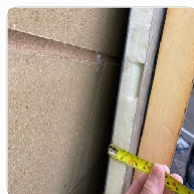


Photo 51

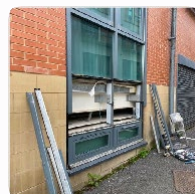


Photo 52



Photo 53

Spandrel panel construction

The spandrel panels are constructed from two skins of aluminium with a

14.0 - EXTERNAL IGNITION RISK SOURCES

14.0 - EXTERNAL IGNITION RISK SOURCES

Perimeter of building publically accessed	Yes
Security of building	Good
Security control measures	The building has electronic keypad door access control and has monitored CCTV. The fire exit doors have automatic door release.
Storage of waste	Good
Where is waste stored	Waste is stored within the building footprint in dedicated bin stores. Waste is stored appropriately with no excessive buildup of waste material.
Balconies	Yes
Any BBQ / Fire pits / Flame heaters noted during the inspection	No
Vehicles parked within 5m of building	Yes
On the external elevations.	
Electrical sub station	No

15.0 - CAR PARKING ARRANGEMENTS

Is there car parking within the footprint of the building or where a vehicle fire could impinge on the cladding?	Yes
Car parking arrangements	Car parking is within the footprint of the building at ground floor level
Does the car park have fire detection	Car park has fire detection and sounders
Slab penetrations fire stopped compliantly	Compliant
Sprinkler system installed	No
Perimeter timber screening	No
Personal storage in car park	No
Car park ventilation method	Natural ventilation through external wall
Does the car park interact with the external walls	No

16.0 - EXTERNAL WALL MATERIAL TYPES

WALL MATERIAL TYPE 1

Material type

Masonry, Brick, Block, Tile

Material image



Photo 54

Material manufacturer/supplier

Generic facebrick

Percentage installed

80%

OUTER FACING MATERIAL

Outer facing material

Brick

Outer fire classification

A1 - Non Combustible - Mineral Wool, Glass Wool, Masonry, Concrete, Steel Plain Mill Aluminium

INSULATION

Insulation type

PIR - Rigid Foam Board Insulation

Insulation manufacturer

Kingspan or similar

Insulation fire classification

D-s3,d2 (or better) - Combustible - Some Grades of ACM, HPL, Timber PIR Foam insulation

Method of fixing to wall

Mechanically Fixed

INNER STRUCTURE

Inner wall type

SFS Infill Wall System

SUPPORT SYSTEM

Support frame type

Non installed



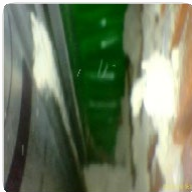

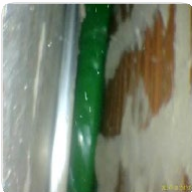

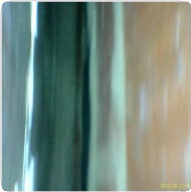
Support bracket type

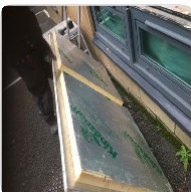
Non Installed

MEMBRANES

Breather membrane

No

Vapour control layer	No
DEPTH OF WALL CONSTRUCTION	
Outer material thickness	100mm
Void between inner and outer walls	50mm
Insulation thickness	50mm
Total wall depth	150mm
CAVITY BARRIERS	
Floor levels	Yes
     	
	
Photo 55	Photo 56
Photo 57	Photo 58
Photo 59	Photo 60
Photo 61	
Party walls	Cavity Barriers Not Required
Not required due to configuration of the walls.	
Windows / doors	Yes
Service entry points / Vents	Cavity Barriers Not Required
Flues penetrating compartment wall	The flue walls appear to be constructed from non-combustible construction
EXTERNAL WALL FIRE SPREAD RISK	
Insulation	High
Cladding	Low
Ignition sources	Low
Likelihood of a fire over multiple stories (cladding not vertically connected)	Low
Reason	Some ignitions sources and fuel from insulation
Likelihood of a fire over multiple stories (cladding vertically connected)	Low

Reason	No fuel so vertical connection is irrelevant
PAS 79 Outcome Ranking	Tolerable - No immediate action is required
VALIDATION OF EXTERNAL WALL SYSTEM	
Does the wall system comply with the Approved Document in force at the time of construction?	Yes
Part B - Section 3 - Hidden Cavities	Cavity barriers were installed at the appropriate positions where inspected. No comment can be made on their ability to restrict smoke of fire.
Part B - Section 4 - External Fire Spread	The external wall of the elevation is likely to adequately resist the spread of fire over the wall and from one building to another, having taken into consideration the height, use and position of the building
Does the wall system have a BS8414-1/2 with a BR 135 Classification?	N/a
Classification Document Details	
N/A	
MHCLG COMPLIANCE	
Does the external wall system comply with the Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings - January 2020, Supplementary note to advice dated November 2020	Yes
WALL MATERIAL TYPE 2	
Material type	Factory insulated composite panel
Material image	
	
Photo 62	
Material manufacturer/supplier	Not known
Percentage installed	20%
OUTER FACING MATERIAL	
Outer facing material	Aluminium
Outer fire classification	A2 - Limited Combustibility - Coated Aluminium, Plastisol Coated Metal

INSULATION	
Insulation type	PIR - Rigid Foam Board Insulation
Insulation manufacturer	Kingspan
Insulation fire classification	D-s3,d2 (or better) - Combustible - Some Grades of ACM, HPL, Timber PIR Foam insulation
Method of fixing to wall	Adhered
INNER STRUCTURE	
Inner wall type	SFS Infill Wall System
SUPPORT SYSTEM	
Support frame type	Aluminium support system
Support bracket type	Aluminium Bracket
MEMBRANES	
Breather membrane	No
Vapour control layer	No
DEPTH OF WALL CONSTRUCTION	
Outer material thickness	1mm
Void between inner and outer walls	100mm
Insulation thickness	50mm
Total wall depth	150mm
CAVITY BARRIERS	
Floor levels	No
Party walls	Cavity Barriers Not Required
Windows / doors	No
Service entry points / Vents	Cavity Barriers Not Required
Flues penetrating compartment wall	N/a
EXTERNAL WALL FIRE SPREAD RISK	
Insulation	High
Cladding	High
Ignition sources	Med

Likelihood of a fire over multiple stories (cladding not vertically connected)	Med
Reason	Some ignitions sources and fuel from insulation
Likelihood of a fire over multiple stories (cladding vertically connected)	Med
Reason	Vertical connections increase fuel and connects it over building height
PAS 79 Outcome Ranking	Substantial - Action is required

VALIDATION OF EXTERNAL WALL SYSTEM

Does the wall system comply with the Approved Document in force at the time of construction?	No
Part B - Section 3 - Hidden Cavities	Cavity barriers were not installed at all of the appropriate positions where inspected.
Part B - Section 4 - External Fire Spread	The external wall of the elevation is unlikely to adequately resist the spread of fire over the wall and from one building to another, having taken into consideration the height, use and position of the building
Does the wall system have a BS8414-1/2 with a BR 135 Classification?	N/a

Classification Document Details

N/A

MHCLG COMPLIANCE

Does the external wall system comply with the Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings - January 2020, Supplementary note to advice dated November 2020	No
Reason for failure to comply with advice	
The use of metal composite panel and the adhered rigid foam board behind the insulation. The lack of detailing behind the panel.	

17.0 - ASSESSOR OPINION - ADB COMPLIANCE

BUILDING REGULATIONS - APPROVED DOCUMENT B

The Building Regulations established standards that had to be achieved in the construction of buildings. The 'approved documents' provide guidance for how the building regulations can be satisfied in common building situations. They are given legal status by the Building Act 1984.

The Building Regulation relevant to cladding is B4(1). This provides the following legal obligation that has been in place since 2000: "the external walls of a building shall adequately resist the spread of the fire over the walls and from one building to another having regard to the height, use and position of the building."

The Approved Documents provide guidance for how the building regulations can be satisfied in common building situations. They are given legal status by the Building Act 1984. There is no obligation to adopt the solutions presented in the approved documents.

The external walls of the building will be assessed against the Approved Document in force at the time of construction. Comment will be made elsewhere in this assessment against the compliance to the current Approved Document

ADB - SECTION B4 - EXTERNAL FIRE SPREAD

Edition of Approved Document (ADB) applicable at the time of construction

Approved Document - 2010 Edition -
Volume 2 buildings other than
dwellinghouses

Height to the uppermost occupied floor level from the lowest point of the ground.

Above 18m

Do the external walls (i.e. Outermost Surface Material) of the external walls on the relevant building comply with the functional Requirement B4 of Schedule 1 of the Building Regulations.

Yes

Is the external wall compliant with Section B4 - External Fire Spread

Yes

Remedial action recommended - See Section 23 Actions to be taken

No

As an alternative method of meeting ADB, it might be possible to show through testing in accordance with BS 8414 that the construction meets the BR 135 performance criteria without the need, or with reduced need, for remediation.

Is there an alternative route to compliance?

No

Certification details

SECTION B3 - INTERNAL FIRE SPREAD (STRUCTURE)

All floors should be compartment floors and walls between flats should be compartment walls. The compartmentation of these floors and walls should be maintained at junctions with external walls and other compartment walls and floors (ADB paragraph 9.6 and 9.15) and cavity barriers (ADB Table 13).

Comment can only be made on the locations inspected. No guarantee can be given that cavity barriers have all been installed correctly or compliantly. Full scale removal of the external wall would need to be undertaken to prove the installation and quality of the cavity barriers. The inspection and notification of cavity barriers with then facade systems does not imply that the cavity barriers would prevent fire or smoke spread in the event of a fire.

Are cavity barriers Installed at the correct positions and to the specification where inspected?

Cavity barriers were installed at the appropriate positions where inspected. No comment can be made on their ability to restrict smoke of fire.

18.0 - ASSESSOR OPINION - MHCLG GUIDANCE

MHCLG ADVICE FOR BUILDING OWNERS OF MULTI-STOREY, MULTI OCCUPIED RESIDENTIAL BUILDINGS

Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings - January 2020, Supplementary note to advice updated November 2020

The advice does not need to be used if the building, of any height, meets all the functional requirements of the relevant Building Regulations in force at the time of construction (or refurbishment of external walls or balconies).

The advice allows for professional judgement to be made regarding the safety of a building's external wall system. If some combustible materials have been used, replacement may not necessarily be required. This will depend on risks and mitigations present. That should be for professional judgement on a building-by building basis, taking into account the guidance in the advice note, other relevant guidance, and recent experience from fires both in the UK and overseas.

Do the external walls meet all the functional requirements of the relevant Building Regulations in force at the time of construction, if the answer is yes then there is no requirement to review the MHCLG Consolidated Advice

No

SECTION 3 - REVIEWING THE SAFETY OF THE EXTERNAL WALL SYSTEMS

Do materials present in the external wall systems prevent the risk of fire spread (i.e. they will achieve Class A2-s3,d2 or better)?

No

Does the insulation material achieve a fire classification of A2- s3, d2 or better?

No

Where cladding panels achieve B-s3,d2, does the filler material within the products and any insulation achieve a fire classification of A2- s3,d2 or better?

No

Is the design and detailing correct and construction of the cavity barriers and fire stopping compliant?

Yes

SECTION 4 - Aluminium Composite Material Panels

It is the Expert Panel's view that ACM cladding (and other metal composite material cladding) with unmodified polyethylene filler (category 3 in screening tests) presents a significant fire hazard on residential buildings at any height with any form of insulation. Action to remediate these unsafe external wall systems and remove this unsafe cladding should be taken as soon as possible.

Are ACM cladding materials installed on the external walls?

No

SECTION 5 - High Pressure Laminate Panels

The Expert Panel has received no evidence to-date that there is a public safety risk arising from adequately installed (including the installation, extent and arrangement of adequate cavity barriers and fire stopping) and maintained systems involving Class B-s1,d0 HPL panels and stone wool insulation.

The Expert Panel's advice is that an external wall system using Class C-s3,d2 or D-s3,d2 HPL panels on residential buildings of 18m or more to the height of the top occupied storey would not have met the functional requirements of the Building Regulations, or associated advice. Any such system presents a notable fire hazard on these buildings. Where these materials are identified, building owners should take immediate measures to remediate their system, in line with the advice in section 3 above.

Are HPL laminate panels installed on the external walls?	No
--	----

SECTIONS 6 - SPANDREL PANELS

Are the spandrel panels (including window panels, infill panels, etc.) compliant with the principles set out in section 3 (above)? Spandrel Panels on a building with an uppermost floor height below 18m are not assessed

Are Spandrel Panels installed?	Yes
Are Spandrel Panels insulated?	Yes
Is the insulation combustible?	Yes
Type of insulation?	PIR - Rigid Foam Board Insulation
Do the Spandrel Panels link floor levels?	Yes

SECTION 7 - BALCONIES

Balconies of any height should have been constructed from non-combustible materials (A2 or better). This includes, decking, privacy screens and balustrading, which includes laminated glass.

Are balconies attached to the building?	Yes
MHCLG Fire Classification of A2 s1-d0	No
Construction of balconies (Decking / Balustrade / Walls)	Private balcony having combustible features e.g.: timber decking, timber edge protection/barriers (in whole or in part), timber privacy screens

Detail any screening material, additions to balcony areas, large amount personal materials stored on balcony areas

Would the balconies installed on the building assist fire spread along the external wall?	Yes
Are the balconies stacked?	Yes
Do the balconies have solid soffits?	No
Have the balconies been risk assessed?	Yes

19.0 - ASSESSOR COMMENTS

The external walls are predominantly constructed from masonry, which is installed over a lightweight Metsec type SFS system. In general terms, the external walls of the building comply with the functional requirements of Section 3 and 4 of the Approved Document which was in force at the time of construction. The functional requirements state that the external walls of building should not assist fire spread, when considering the brick it is unlikely that the brick will assist fire on the external walls. A question raised within the FRC report dated 27th May 2020 were cavity barriers installed at the appropriate positions. From our inspection on the higher risk areas i.e. the rear elevations it was noted during our inspection that where inspected cavity barriers were recorded. As such Section 3 - Hidden Cavities is satisfied.

As suggested within the FRC report we undertook an inspection of the wall to confirm that the inner wall was a lightweight construction. The drill and camera inspection confirmed that the inner wall has been constructed from a Metsec type infill system. As such, the FRC report is correct that on first presumption the external brickwork walls are not compliant with the requirements of the Approved Document which was in force at the time of construction. However, I would suggest that the Metsec system which incorporates combustible material in the external is not necessarily non-compliant. The route to compliance also allows the use of BS8414 fire tests as a route and as such this should be investigated. I am aware that Kingspan and Metsec have undertaken fire testing of an external wall with an outer leaf of brickwork and an inner wall of lightweight construction - <https://www.kingspan.com/gb/en-gb/products/insulation/resources/testing/bs-8414-2-p112065-1000>

It does state that any system installed must be representative of the fire test published. However, the fire test data states that the cavity barriers must be installed at floor, party wall and around windows and doors, although ADB 2000 states that the window frame is a suitable closer. The FRC report suggests that cavity barriers are not installed in the required locations as such this would need to be reviewed. The inspection carried out by MAF Associates on the 10th May 2021 recorded cavity barriers at floor levels, as such it would be our opinion Section B3 is satisfied and that with the information from Metsec and Kingspan that the external walls would provide the required fire resistance.

The Metsec system provides fire resistance data from inside the property:

All fire test data in this infill walling section is to BS EN 1364-

1: 1999 and the fire performance shown equally applies to BS 476 Part 22: 1987. All test data is based on unique UKAS accredited tests and UKAS accredited scope of testing. The tests are carried out in UKAS accredited furnaces measuring 3m square. The results of our fire tests are the lower of insulation and or integrity failure rounded down to the nearest 30 minutes i.e. measured as 30, 60, 90 or 120 minutes.

One of the most beneficial mitigating factors is the sprinkler system within the apartments. As such any fire is likely to be kept within a single apartment and is unlikely to spread or to break through the external wall.

However, the makeup of the external wall also includes a spandrel panel within the window system that runs vertically and joins floors. The spandrel panel has been constructed from two skins of aluminium with 30mm of PIR insulation sandwiched between, these are commonly called factory insulated panels, when inspecting the composite panels we also noted that a further board of PIR insulation had been glued to the back of the panel. The use of this type of panel is not compliant on a building of this height. In general terms the material used on a building with an occupied uppermost floor should be Material Class B or better, in this case the PIR insulation likely to be Material Class D at best as such the materials are not compliant and remediation will be required. We also noted behind the spandrel a large void with no closure into the ceiling void. As part of any remediation this void should be fully closed off. Within the rear elevation the rear elevation walls have outboard balconies attached which have a combustible materials installed.

The balconies have open timber decking which is not compliant with the Consolidated Advice that was published by the MHCLG in January 2020 and updated in November 2020. The balconies are stacked and open soffits as such the balconies are not compliant with the Consolidated Advice and remediation is required to reduce the risk to the occupants of the building.

20.0 - REPORT VALIDATION GUIDANCE

The report is to be validated by a qualified fire engineer before submittance to building owner.

Michael A Fox Associates Ltd has undertaken an external wall inspection to identify the external walls and their build up, MAF have also reviewed documentation were supplied by the MAF Associates client. The validator has reviewed the inspection report and information contained within the Operating & Maintenance Manual (where supplied) to determine whether the external walls adequately resist spread of fire for the purposes of health and safety of occupants.

BUILDING REGULATIONS - APPROVED DOCUMENT B

The validation review does not take into account insurer requirements or any other reason. The validator has used Approved Document B (ADB) as the basis of the assessment of adequacy because ADB:2006 is the basis of MHCLG Consolidated Advice, which was published in January 2020 with supplementary advice published in November 2020.

ADB is government approved guidance for compliance with Part B; ADB contains the guidance at the time of construction and references for external wall systems. As with all inspections, the assessment and validation is based upon the information known at the time, further information may become available at a later date and such this should be forwarded to MAF Associates for inclusion into the assessment report.

MHCLG ADVICE FOR BUILDING OWNERS OF MULTI-STOREY, MULTI OCCUPIED RESIDENTIAL BUILDINGS

The advice note is not Government regulations or statutory guidance, nor does it replace or supersede such guidance, or have the effect of applying current legislation retrospectively. It should not be considered as a guide for valuation or insurance purposes.

It should only be used to ensure adequate levels of life safety for residents, people in the proximity of the building, and fire fighters, for all buildings irrespective of height.

The advice does not need to be used if the building, of any height, meets all the functional requirements of the relevant Building Regulations in force at the time of construction (or refurbishment of external walls or balconies). Particular attention needs to be given to Requirement B4 of Schedule 1 to the Building Regulations, relating to external walls, which applies to all buildings irrespective of height.

The advice allows for professional judgement to be made regarding the safety of a building's external wall system. If some combustible materials have been used, replacement may not necessarily be required. This will depend on risks and mitigations present. That should be for professional judgement on a building-by building basis, taking into account the guidance in the advice note, other relevant guidance, and recent experience from fires both in the UK and overseas.

21.0 - VALIDATOR OPINION

The validation of this assessment has been carried by a Chartered Fire Engineer with due regard to current regulatory requirements, Approved Document B - Fire Safety, Fire Safety Act 2021 and guidance from the MHCLG. The mitigation of risks is relevant to maintaining the safety of occupants, as well as the need to review of the external assessment against the internal FRA.

EXTERNAL WALL RISK RATING

Substantial - Action is required

Reason for risk rating

Combustible insulation within the spandrel panel and timber within the balcony construction.

EWS1 RATING

B2

Reason for EWS1 rating

Combustible insulation within the spandrel panel and timber within the balcony construction.

22.0 - VALIDATOR COMMENTS

This assessment of the Habitat Building has been carried out with due regard to current regulatory requirements, namely MHCLG advice and approved Document B for buildings over 18m. The mitigation of risks is relevant to maintaining the safety of occupants, as well as the need to review of the external assessment against the internal FRA. It is in view of this EWS1 assessment that a rating of B2 is recommended.

Wall Systems:

Section 16 of the survey report describes the Façade materials that have been used on the building. The main external walls consist of Masonry Brick, Factory insulated composite panel, particular attention is given to the Factory Insulated Composite Panel.

Masonry Brick Wall System:

Attention is drawn to 19.0 - Assessor Comments which concludes 'The inspection carried out by MAF Associates on the 10th of May 2021 recorded cavity barriers at floor levels, as such it would be our opinion Section B3 is satisfied and that with the information from Metsec and Kingspan that the external walls would provide the required fire resistance.'

Factory Insulated Composite Panel:

The Factory Insulated Composite Panel has been constructed from two skins of aluminium with 30mm of PIR insulation sandwiched between, the survey recorded that a further board of PIR insulation had been adhered to the back of the panel.

The Factory Insulated Composite Panel is not compliant on a building of this height, the material used on a building with an occupied uppermost floor should be Material Class B or better, in this case the PIR insulation likely to be Material Class D, therefore it is concluded remediation of the Factory Insulated Composite Panel is required.

The survey also recorded that behind the spandrel there is a large void with no closure into the ceiling void and as part of any remedial work this void should be fully closed off.

Balconies:

Attention is drawn to page 42, section 7 which summarises MHCLG advice with regard to balconies. The survey noted that there are stacked outboard balconies with combustible features and have a galvanised steel frame and a timber decking and therefore the balconies are non-compliant with The MHCLG advice.

The clearest inherently safe way to prevent the risk of external fire spread from the balconies is to remove and replace any combustible material with one that is non-combustible. The risk of rapid-fire spread is also increased as the balconies are vertically stacked for the full height of the building.

Car Parking:

It is recommended that smoke / heat detectors should be placed in rooms that have windows that face outwards towards and are within 5m of the cars that are parked around the perimeter of the building.

Remediation:

Remediation actions to be taken are given in section 23.0, a cost benefit appraisal should be conducted to help determine the most appropriate measures to keep the risk to occupants as low as reasonably practicable. The remediation measures are likely to require further assessment and design and residents should be consulted and informed of any remediation actions.

23.0 - ACTIONS TO BE TAKEN

ACTIONS REQUIRED 1

It is considered that the following recommendations should be implemented in order to reduce the fire risk to as low as reasonably practicable:

External wall risk rating without mitigation measures	Substantial - Action is required
Measures recommended	Yes
Action to be taken	Remove the rigid foam insulation board that is adhered to the reverse of the spandrel panel. Complete the detailing to the void behind the spandrel panel and close of the ceiling void. Install Rockwool non-combustible insulation into the void behind the spandrel panel.
Timescale	Six Months
Risk	Medium
External wall risk rating with mitigation measures	Tolerable - No immediate action is required

ACTIONS REQUIRED 2

It is considered that the following recommendations should be implemented in order to reduce the fire risk to as low as reasonably practicable:

External wall risk rating without mitigation measures	Moderate - Action is required in the medium term
Measures recommended	Yes
Action to be taken	Remove timber decking from the balconies.
Timescale	Six Months
Risk	Medium
External wall risk rating with mitigation measures	Tolerable - No immediate action is required

REVIEW DATES / RISK ASSESSOR / VALIDATOR

This fire risk assessment should be reviewed by a competent person by the date indicated or at such earlier time as there is reason to suspect that it is no longer valid, or if there has been a significant change in the condition of the building. The risk assessments should be reviewed, the requirement to re-assess will be made once the assessment has been undertaken.

Internal Risk Assessment Review	1st Jul, 2021
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External Risk Assessment Review	1st Jul, 2022
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External Wall Risk Assessor

Michael A Fox - MICWCI MIFSM AMIFPO AssocRICS SIIRSM MIO R FSIDip

External Wall Validator

Tom Whittaker - CEng MIET MIFE

Michael A Fox Associates Ltd

BLG House 86a High Street Whetstone Leicester LE8 6LQ

Tel: 0116 497 9327

[Email:office@maf-associates.co.uk](mailto:office@maf-associates.co.uk)

ASSESSOR / VALIDATOR QUALIFICATIONS

RISK ASSESSOR: Michael A Fox

QUALIFICATIONS: IFSM TFRAR TIER 3 Risk Assessor

MEMBERSHIPS: MICWCI IFSM AMIFPO AssocRICS SIIRSM MIoR

VALIDATOR: Tom Whittaker

QUALIFICATIONS: [M.sc](#) (Eng) B.Eng (Hons)

MEMBERSHIPS: MIET, MIFE

APPENDIX 1 - INSPECTION METHODOLOGY

INSPECTION METHODOLOGY

The majority of the invasive inspection was carried out within the higher risk area of the enclosed courtyard. A low level inspection was carried out of the outer walls on the Maiden Lane and Denmark Place elevations.

APPENDIX 2 - LIST OF DOCUMENTS SUPPLIED BY CLIENT

APPENDIX 2 - LIST OF DOCUMENTS SUPPLIED BY CLIENT

LIST OF DOCUMENTS SUPPLIED BY CLIENT

Drawing documents
External Façade Review

APPENDIX 3 - DETAILS OF LITERATURE

APPENDIX 3 - DETAILS OF LITERATURE

DETAILS OF REFERENCE LITERATURE

<https://www.kingspan.com/gb/en-gb/products/insulation/resources/testing/bs-8414-2-p112065-1000>

APPENDIX 4 - RELEVANT REGULATIONS & GUIDANCE

APPENDIX 4 - RELEVANT REGULATIONS & GUIDANCE

RELEVANT REGULATIONS & GUIDANCE

APPROVED DOCUMENTS

HM Government, The Building Regulations 2000, Approved Document B (Fire Safety), Volume 2 – Building other than dwellinghouses, 2006

HM Government, The Building Regulations 2000, Approved Document B (Fire Safety), Volume 2 – Building other than dwellinghouses, 2006 edition amended 2007

HM Government, The Building Regulations 2010, Approved Document B (Fire Safety), Volume 2 – Building other than dwelling houses, 2006 edition incorporating 2007, 2010 and 2013 amendments

The Fire Safety Act 2021

MHCLG GUIDANCE

Consolidated Advice - Published in January 2020 - Building safety advice for building owners, including fire doors

PAS 79-1/2: 2020

Fire risk assessment Parts 1/2 Code of practice

Appendix



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

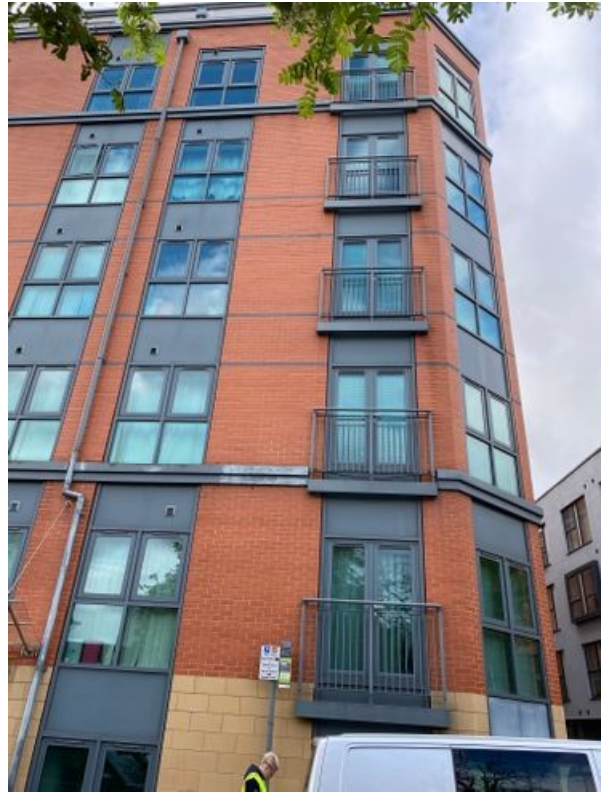


Photo 6



Photo 7

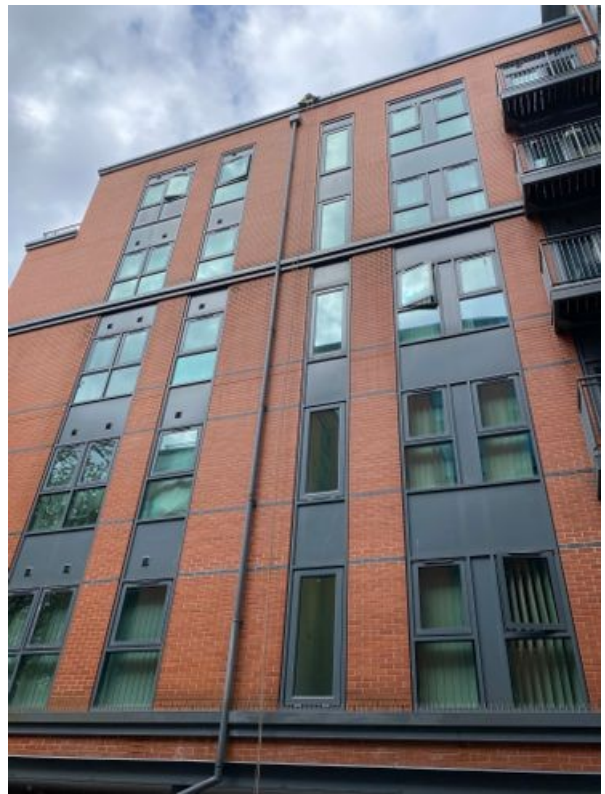


Photo 8



Photo 9

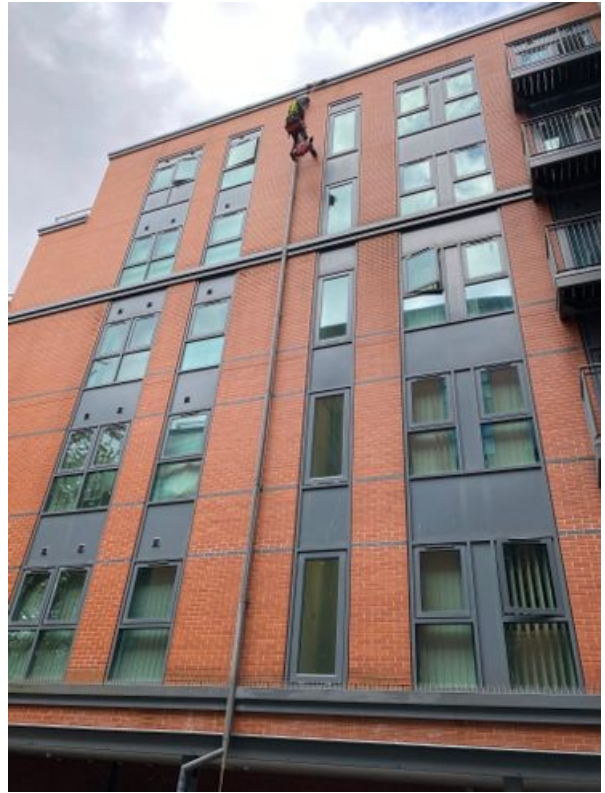


Photo 10



Photo 11

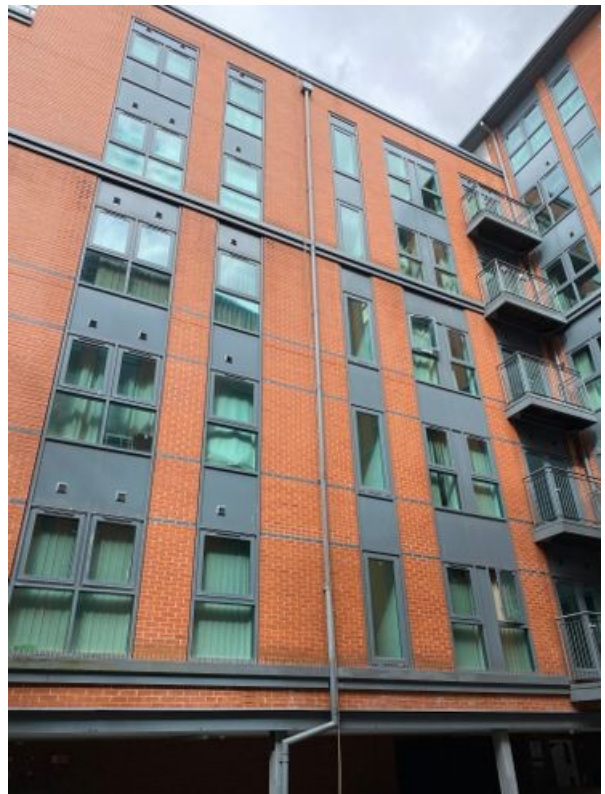


Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21

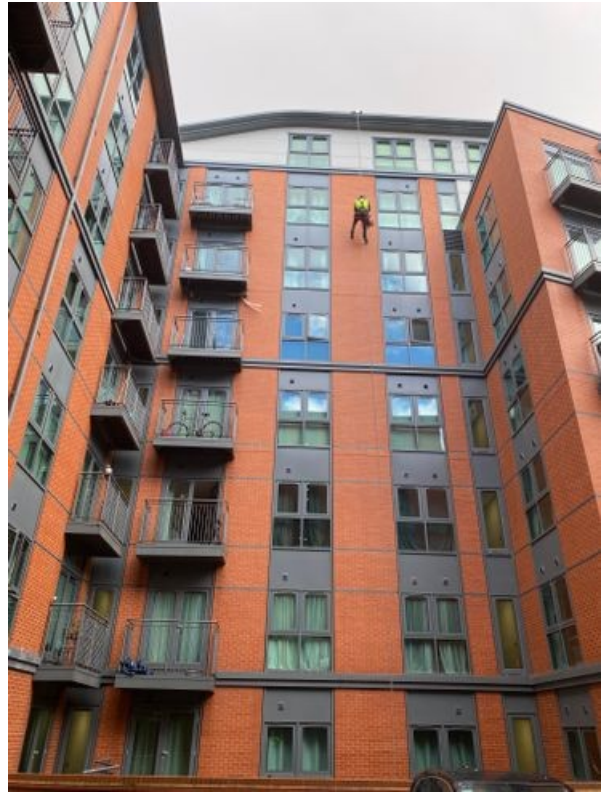


Photo 22



Photo 23

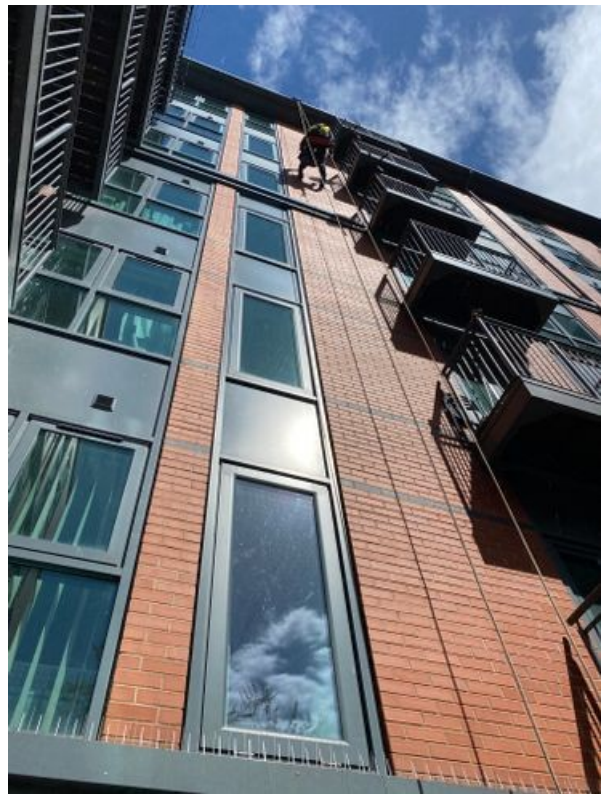


Photo 24



Photo 25

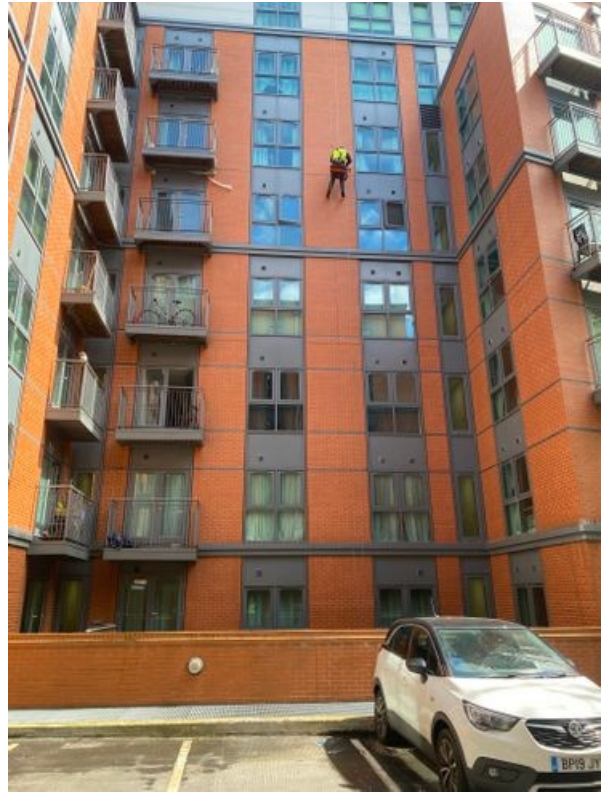


Photo 26



Photo 27



Photo 28



Photo 29

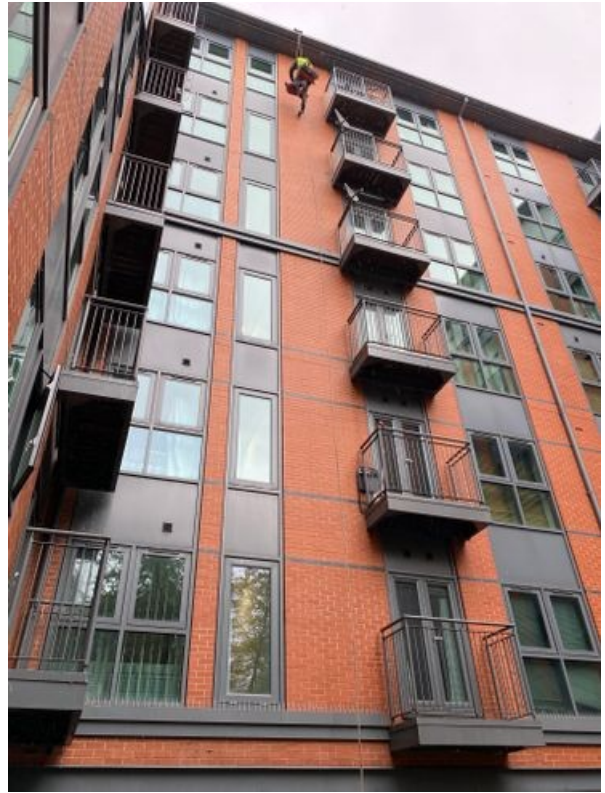


Photo 30



Photo 31



Photo 32



Photo 33

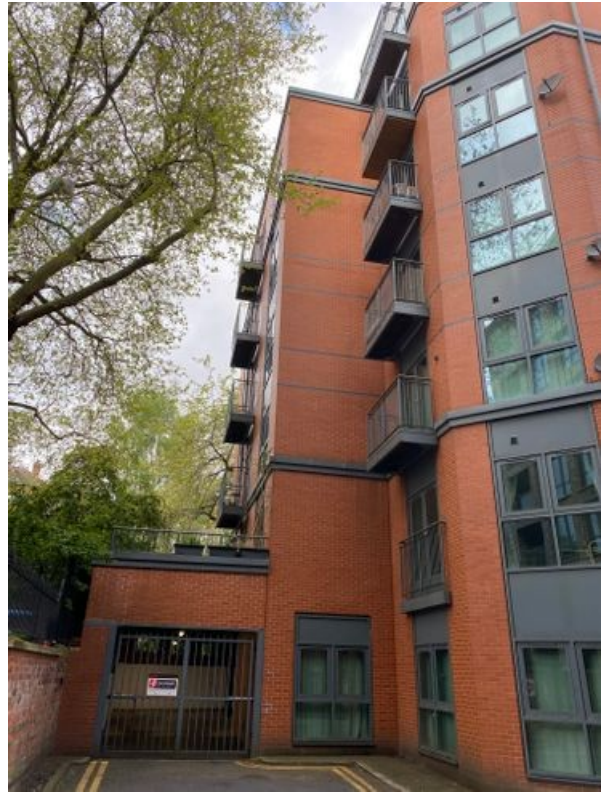


Photo 34



Photo 35



Photo 36



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42



Photo 43



Photo 44



Photo 45

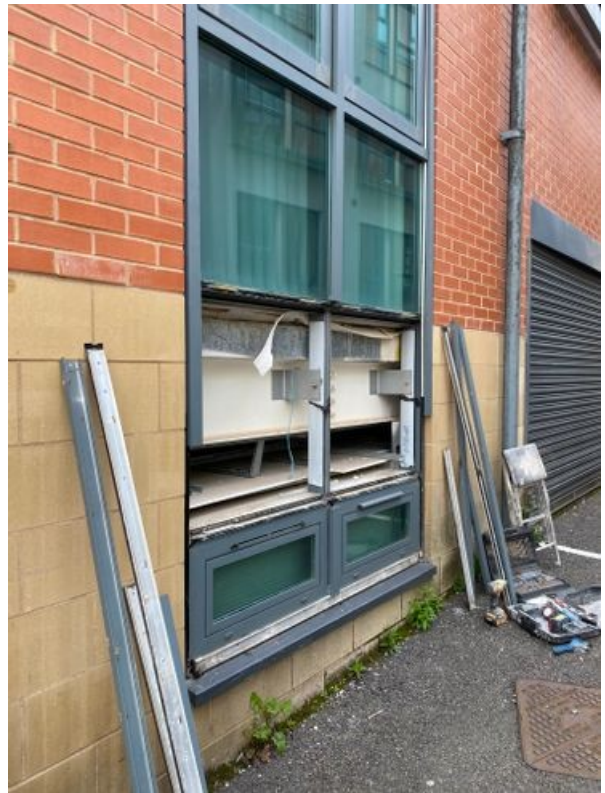


Photo 46



Photo 47



Photo 48



Photo 49



Photo 50

Photo 51



Photo 53



Photo 55



Photo 57

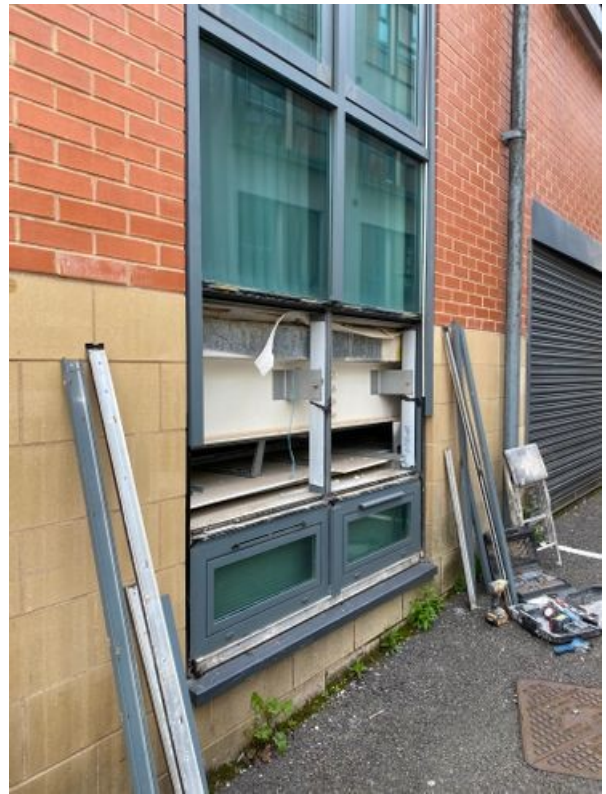


Photo 52



Photo 54



Photo 56



Photo 59



Photo 58



Photo 61



Photo 60



Photo 62