FRAIGNEUX

External Wall
Fire Safety Assessment

Ingram, Wilmer & Sandall Houses | Daling Way, Bow, London

For Clarion Housing Group | 14 January 2022

Contents

Revisions

Version	Date	Description	Authors
1	14 January 2022	Initial issue	Ian Taylor & Mark Kelly

Glossary of Terms

ACM	Aluminium Composite Material
ADB	Approved Document B
BBA	British Board of Agrément
BCA	Building Control Alliance
BRE	Building Research Establishment
BS	British Standard
Cavity	A space enclosed by elements of a building (included suspended ceiling) or contained within an element, but that is not a room, cupboard, circulation space, protected shaft, or space within a flue, chute, duct, pipe or conduit.
Cavity barrier	A construction within a cavity, other than a smoke curtain, to perform either of the following functions: • Close a cavity to stop smoke or flame entering • Restrict movement of smoke or flame within a cavity
DPC	Damp Proof Course
EPDM	Ethylene Propylene Diene Monomer
EPS	Expanded Polystyrene
EWI	External Wall Insulation
Fire barrier	A separating element that exhibits fire integrity, fire stability or thermal insulation, or a combination thereof, for a period of time under specified conditions.
Form EWS1	A set way for a building owner to confirm to valuers and lenders that an external wall system or attachments, such as a balcony, on buildings containing flats has been assessed by a suitable expert. The form can be downloaded here (link valid at the time of writing): https://www.rics.org/globalassets/rics-website/media/news/news--opinion/fire-safety/ews1-form-5.3.21_final_clean2.pdf
GRC	Glass Reinforced Concrete
HPL	High Pressure Laminate
IGU	Insulated Glass Unit
Limited combustibility	A measure of the combustibility of a material as defined by Form EWS1
MCM	Metal Composite Material
MHCLG	Ministry of Housing, Communities and Local Government
O & M	Operations and Maintenance
OSB	Oriented Strand Board
PAS	Publicly Available Specification
PIR	Polyisocyanurate
Primary material	A term referenced by Form EWS1 but not defined by Form EWS1. For the purposes of our assessment, this includes any significant component of a typical wall section, e.g., cladding, insulation, plasterboard, but excludes ancillary materials or materials which are present in insignificant quantities, e.g., cavity trays, membranes, fixings, and sealants.
PUR	Polyurethane rigid foam
RC	Reinforced concrete
SFS	Steel Framing System

Introduction

Instruction

Ingram House, Sandall House and Wilmer House are three detached, purpose-built residential tower blocks in Bow, London.

Fraigneux have been instructed by Clarion Housing Group Ltd to assess the risk of external fire spread on the buildings, taking into account published design guidance current at the time of construction and at the time of assessment. The purpose of this assessment is to establish if the external walls of the buildings, including attachments, are likely to afford a reasonable level of safety for people in and around the buildings in the event of fire. This report presents the significant findings of our assessment. Where the level of fire risk is not sufficiently low, this report will identify what interim and remedial measures should be taken to reduce the level of risk to a tolerable level.

Building Description

General

Each building is a twenty-two storey residential tower block with 82 self-contained flats, believed to have been constructed in the late 1960s.

There is a single staircase located centrally that discharges at ground floor level direct to the outside or back through the main entrance lobby. The staircase is protected by a lobby on each upper floor, with an additional lift lobby affording access to flats on all upper floors except the 21st (topmost) floor. There are two lifts which serve alternate floors, each provided with a fire service override control.

The topmost storey is set back from the main storey and is accessed by staircase only. This floor contains two flats and lift motor rooms.

Building Heights

The structural heights of the buildings are the same, although Wilmer House is elevated above ground level; Ingram and Sandall Houses have a topmost storey height of approximately 57m and an overall building height of approximately 62m, whereas Wilmer House has a topmost storey height of approximately 58m and an overall building height of approximately 63m.

Evacuation Strategy

Each building has a stay put strategy, which is typical of purpose-built blocks of flats.

Summary

Addresses	Ingram House, Daling Way, London, E3 5NJ & E3 5NL Sandall House, Daling Way, London, E3 5NB & E3 5ND Wilmer House, Daling Way, London, E3 5NN & E3 5NW
No. flats	Ingram House: 82 Sandall House: 82 Wilmer House: 82
No. flats with independent access	0
No. flats with internal access	Ingram House: 82 Sandall House: 82 Wilmer House: 82
No. flats with balcony/deck access	0
No. escape stairs	1
Building uppermost storey 18m or more	Yes
Building height more than 18m	Yes
Boundaries within 1m	None
Year of construction	Late 1960s

Information Sources

This report is based on the following information:

Site Visits

- Site familiarisation visit by Fraigneux on 29 July 2021
- Invasive site inspections by Fraigneux on 10 and 11 January 2022

Product Data Information

- None provided

Drawings

- None provided

Limitations

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party. We accept no liability whatsoever for the accuracy of information supplied by third parties.

At the time of writing, PAS 9980 *Fire risk appraisal of external wall construction and cladding of existing blocks of flats – Code of practice*, has recently been published (12 January 2022), which sets out a methodology to conduct and record fire risk appraisals of external walls; prior to this there was no publicly available specification or framework regarding how an external wall fire safety assessment should be completed.

We are currently reviewing the contents of this document, to determine whether we need to modify our assessment and reporting methodology in the future. However, based on a review of the draft version of the document, we do not expect that it will lead to any significant changes to our inspection process, or the conclusions drawn in our assessments. In the meantime, we have used our professional judgement to complete our assessment. All services are subject to our terms at fraigneux.com/terms.

The external wall fire safety assessment addresses life safety only, and only in relation to the external walls of the building. The assessment is not aimed at confirming compliance with building regulations, either at the time of construction, or at the time of writing.

An external wall fire safety assessment cannot provide certainty and is inherently subjective in its assessment and in the conclusions drawn. The assessment can only be based on available knowledge at the time and more definitive information on the fire performance of the external walls might come to light subsequently.

External Wall Summary

A summary of the primary external wall types present is given below. Wall types which are not significant, either due to their extent or their location, e.g., below DPC level, are not included. Some of these wall types include materials which are not expected to be of limited combustibility or better.

Wall Type	Description	Limited Combustibility
1	Masonry cavity wall	No
2	Solid masonry wall	Yes
3	Insulated window infill panels	No
4	Masonry backing wall with precast concrete panels	Yes
5	Solid plastic window infill panels	No

Additionally, the buildings feature stacked private recessed open balconies.

Assessment Methodology

Requirement

The level of fire risk is assessed to determine if there is a reasonable standard of health and safety for those in and around the building. In determining what is reasonable, it should be considered that these are existing buildings, and it is reasonable to expect that the design and construction of the external walls was deemed to be compliant with the relevant requirements at the time of construction by the enforcing authority.

Application of Benchmark Standards

Our assessment of fire risk takes account of regulations and published design guidance which were current at the time of construction, as well as those which are current at the time of assessment. This concept of benchmark standards mirrors that in the *Fire Safety in Purpose-Built Blocks of Flats* guidance published by the Local Government Group (now Local Government Association, LGA) in July 2011, which discusses the importance of comparing the standard found in a particular block of flats against appropriate benchmarks, such as standards which were in place when the block was built. This guidance also emphasises that it is normally inappropriate to retrospectively upgrade existing blocks to meet current standards, without justification on the basis of fire risk; original fire safety measures should generally only be upgraded if the departure from current standards creates a significant risk.

Any measures taken to improve the level of fire safety will therefore fall into one of two categories:

1. Measures required to rectify shortcomings against the original standard, e.g., due to incorrect original installation, or due to alterations which have since been made to the building
2. Measures required to upgrade the original standard, in the event that the departures from current Risk Assessment

The fire risk can be assessed from the product of the likelihood and consequence of fire, each of which can be subjectively determined.

Likelihood of Fire

The overall likelihood of fire can be defined as:

Low	Unusually low likelihood of fire as a result of negligible potential sources of ignition.
Medium	Normal fire hazards for this type of occupancy, with fire hazards generally subject to appropriate controls.
High	Lack of adequate controls applied to one or more significant fire hazards.

Fires involving combustible materials on external walls are low frequency events, which can be initiated in two main ways (a fire is very unlikely to start within the walls themselves):

1. A fire external to the building, for example a waste skip or barbecue.
2. A fire internal to the building, often characterised in the later post-flashover phase by flames emerging from an opening following failure of the glazing or through an open window.

This latter event generally results in a thermal exposure that is more severe and is the basis for the large-scale fire tests in the BS 8414 series.

Consequence of Fire

The consequence of fire can be defined as:

Slight harm	Outbreak of fire unlikely to result in serious injury or death of any occupant.
Moderate harm	Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants but is unlikely to involve multiple fatalities.
Extreme harm	Significant potential for serious injury or death of one or more occupants.

The consequence of fire will primarily depend on the materials used in the construction of the external walls, any measures provided to restrict the spread of fire across the external walls, any measures to restrict the fire from re-entering the building in a different location, and any measures to support the means of escape from a flat once a fire does spread to it.

These measures are typically controlled via building regulations and associated design guidance, and it follows that the consequence of fire can be deemed to be acceptable if a building has been constructed in accordance with these requirements.

Overall Risk

The overall risk can be determined from a risk matrix:

Likelihood of Fire	Consequence of Fire		
	Slight Harm	Moderate Harm	Extreme Harm
Low	Trivial	Tolerable	Moderate
Medium	Tolerable	Moderate	Substantial
High	Moderate	Substantial	Intolerable

Form EWS1 gives no clear guidance on what is considered an acceptable level of risk, with three different acceptable levels of risk given on the form:

- Option B1 – The fire risk should be 'sufficiently low'
- Note 9 – The fire risk should ensure a 'reasonable standard of health and safety'
- Flow chart – The risk should be 'low'

In the absence of any clear guidance, it is our interpretation that a risk level of trivial or tolerable will meet the requirements of option B1 of Form EWS1.

Relevant Regulation and Guidance

The buildings are believed to slightly post-date the introduction of the Building Regulations in 1965 and as such the fire safety measures required at the time of construction would have been determined by a mix of national Building Regulations, Codes of Practice and local acts such as the London Building Acts. Whilst it is possible to compare the buildings against these requirements, this would require accurate knowledge of the timeline of the buildings' design and construction and knowledge of the decisions made at this time. A pragmatic alternative is to compare the buildings against more recent regulations; since legislation and guidance tends to become more restrictive over time, this approach is generally more conservative. For this purpose, we have compared the buildings against the Building Regulations 1985 and associated guidance, as these are the basis of the present-day fire safety framework for new buildings.

On this basis, the following regulations and design guidance are relevant for this assessment:

REGULATION	
Time of construction	Part B of Schedule 1 to the Building Regulations 1985
Time of assessment	Part B of Schedule 1 to the Building Regulations 2010 (as amended)

GUIDANCE	
Time of construction	Approved Document B, 1985 *Hereafter referred to as the "1985 guidance"*
Time of assessment	Approved Document B, Volume 1, 2019 edition incorporating 2020 amendments *Hereinafter referred to as the "2019 guidance"*

It should be noted that there is no obligation to follow design guidance; a building may be deemed to meet regulatory requirements by taking other approaches, such as fire engineering.

Regulation

The main regulatory requirements applicable to the fire safety of external walls, which have not changed between the time of construction and the time of assessment are:

- The building shall be designed and constructed so that unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited
- 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

Additionally, in 2018 the Building Regulations were amended to the effect that combustible elements of the external wall construction would no longer be acceptable on a new building of this use and height.

A further notable change is with the definition of an 'external wall' itself. Prior to 2018, there was no universal definition of 'external wall' and it was often not clear at what point door and window frames, including spandrel panels, should be considered as walls. This issue was discussed by the NHBC in their *Technical Extra 06* document of February 2012, which concludes that coupled door and window assemblies (including spandrel panels) that are contained between a structural floor and ceiling within a single storey can be considered as doors, windows and glazing. The 2018 amendments to the Building Regulations also included a new definition of 'external wall', which includes:

- Anything located within any space forming part of the wall
- Any decoration or other finish applied to any external surface forming part of the wall
- Any windows and doors in the wall

This change now confirms that elements such as window infill panels are to be treated as external walls, whereas previously there was no clear requirement to do so.

In 2019 another important change occurred with the interpretation of the regulations. Prior to this, it was the Secretary of State's view, as published in Approved Document B, that regulation B4 only required fire safety measures to be provided in order to limit the risk of fire spread between two *different* buildings, on different sides of a boundary. Whilst BR 135 discussed fire spread to different parts of the same building via the external walls, the Secretary of State's view was not updated to reflect this. In 2019, the Secretary of State's view of regulation B4 was omitted and replaced with a new interpretation which now includes consideration of fire spread, over external walls, between different parts of the *same* building.

Guidance

The guidance with respect to the construction of external walls on new buildings is contained within the relevant Approved Documents (the 1985 and 2019 guidance). These Approved Documents are not intended to be applied retrospectively to existing buildings.

Materials

The 1985 guidance required that, for a building of this use, height and distance from the boundary, the materials used in the construction of external walls should be of limited combustibility. Notwithstanding, combustible external cladding was permissible if it was not being relied upon to contribute to the fire resistance of the wall, with the exception that the external surfaces of the walls should be:

- Up to 15m – any material with an index (I) not more than 20 (or timber at least 9mm thick)
- 15m or more – Class 0

Combustible insulation was only permitted in cavity walls formed of two leaves of brick or block (or concrete) at least 75mm, with a cavity not more than 100mm wide.

The 2019 guidance contains updated guidance, which reflects the amendment made to the Building Regulations for buildings of this use and height. These changes require that the majority of materials (not just insulation) used in the construction of external walls are of Class A2-s1, d0 or A1 (this standard is more restrictive than the previous limit of being of limited combustibility).

Cavity Barriers

There have not been any significant changes with respect to the provision of cavity barriers in external cavity walls; both the 1985 and 2019 guidance advises that cavity barriers should be provided within external cavity walls at various locations, including at the edges of cavities and at junctions with compartment walls and compartment floors.

Cavity barriers should be installed so that their performance is unlikely to be made ineffective by:

- Movement of the building
- Collapse of services penetrating the cavity barrier during fire
- Failure of the cavity barrier fixings during fire
- Failure of any material or construction to which the cavity barriers abut during fire

Both the 1985 and 2019 guidance make specific relaxations for the provision of cavity barriers in external walls which are formed of two leaves of brick or concrete. For this type of construction, most cavity barriers can be omitted, subject to certain conditions. Prior to 2019, the recommendations for openings in masonry walls could be seen as being contradictory, however this issue is clarified in the 2019 guidance, which confirms that fire resisting cavity closers are not required.

Balconies

The 1985 guidance placed no limits on the materials which could be used in balcony construction, which is evidenced by the high number of buildings which have been constructed with timber balcony components. This interpretation is supported by the BRE in their 2016 report *Fire safety issues with balconies*, which states "there are no specific statutory requirements in respect of external fire spread for the incorporation of balconies to a structure". Whilst the BRE report includes examples of fire spread involving balconies, all of the examples given involved either combustible insulating panels or timber panelling in the immediate vicinity of the balconies. Moreover, at the time of writing their report, the BRE were not aware of any reported deaths caused by fire spread of a fire on a balcony and we are not aware of any which have occurred since. A further indication that balconies have not been considered to be relevant with respect to external fire spread is that BR 187 allows the plane of reference (used when assessing the risk of fire spread between buildings) to pass *through* balconies and other external features.

BS 8579, published on 27 August 2020, recommends that components of stacked balconies should be constructed of materials which are of limited combustibility. This is not statutory guidance and does not have to be applied retrospectively.

Window Infill Panels

The lack of specific controls with respect to the fire performance of window infill panels prior to 2018 has been discussed. As a consequence, many window infill panels on existing buildings constructed prior to 2018 contain combustible insulation, regardless of building height.

External Wall Details

Wall Type 1

Description

Masonry cavity wall.

Locations

This is the predominate external wall type and is present to all elevations and upper floors.

Primary Materials

The primary materials present are listed below, including whether we expect the materials to be of limited combustibility or better:

Layer	Description	Product / Material	Limited Combustibility
1	Brick	Stock brick – 100mm	Yes
		Cavity – total depth 55 to 75mm	
2	Insulation	EPS beads – full fill	No
3	Block	Concrete block – at least 75mm	Yes
4	Internal plaster / render finish		

Breather Membrane

No breather membrane was present.

Variations

A variation to this wall type exists where the backing wall is a concrete column or a concrete floor slab. In the case of columns, there is a small cavity of approximately 10mm between the front of the column and the brick.

A further variation was noted to the walls of the flats on the topmost floor. In this location, the outer wall is blockwork finished with a cementitious render, and the cavity is uninsulated.

In some cases, the backing wall is stock brick.

Cavities and Barriers

A cavity of approximately 55 to 75mm is present between the two leaves of masonry, which is filled with EPS bead insulation.

The cavity is closed at each floor level by virtue of the concrete floor slab extending to the outside face of the wall. The presence of concrete columns, which almost fully close the cavity, provide a high degree of lateral sub-division. Openings around windows are closed with masonry.

Discussion

This wall type comprises a masonry cavity wall and the general make-up is inherently low risk. The inner blockwork leaf was measured and confirmed as being at least 75mm thick.

Given the relaxations which exist in design guidance for this type of construction, the presence of combustible insulation within the cavity is not a significant fire risk.

In our opinion, this wall type is expected to provide a reasonable standard of health and safety in the event of fire and the level of fire risk is sufficiently low such that no remedial measures are required.

General build-up with blockwork backing wall and EPS insulation

Concrete column and brick window return

Floor slab closing cavity.

Wall Type 2

Description

Solid masonry wall.

Locations

This wall type is present to the ground floor and some plant areas on the roof.

Primary Materials

The primary materials present are listed below, including whether we expect the materials to be of limited combustibility or better:

Layer	Description	Product / Material	Limited Combustibility
1	Render	Cementitious render – 10mm	Yes
2	Masonry	Blockwork or concrete – various depths between 120 & 180mm	Yes
3	Render	Cementitious render – 10mm	Yes

Variations

In some locations on the ground floor, this wall type is finished externally with ceramic tiles.

Cavities

No continuous cavities are present in this wall type.

Discussion

This wall type comprises a solid masonry wall and the general make-up is inherently low risk.

In our opinion, this wall type is expected to provide a reasonable standard of health and safety in the event of fire and the level of fire risk is sufficiently low such that no remedial measures are required.

Solid wall build-up

Internal finish

Lift motor room

Wall Type 3

Description

Insulated window infill panels.

Locations

Window infill panels are present to each flat, on both the main elevation and also on the recessed backing wall of the balconies. The panels are also present to the staircase of Wilmer House and Sandall House.

Primary Materials

Layer	Description	Product / Material	Limited Combustibility
1	Infill panel	Panel comprising 2 x 1mm steel sheets with a 25mm PIR core.	No

Cavities

No continuous cavities are present in this wall type.

Discussion

These panels are not original; the date at which they were installed is not known, nor is the nature of the original panels. It does appear that the panels significantly predate the recent amendments to Building Regulations, and thus the use of combustible materials within the panels was likely not restricted at the time of their installation.

Further, it should be noted that the quantity of insulation present is low, and the steel faces of the panels can be expected to provide more protection than aluminium or plastic.

When considering the risk presented by the infill panels onto the staircases, we are of the opinion that in most cases the likelihood of fire in these areas is sufficiently remote that the overall risk of fire spread is tolerable; indeed, this premise forms the basis of Building Regulations guidance for blocks of flats. However, at lower levels there is a slightly increased risk of ignition from an external fire and therefore we recommend that in the least, the panels should be replaced with non-combustible alternative to the first-floor level. If this recommendation is carried out the level of risk is considered to be sufficiently low such that no remedial measures are required.

When considering the risk presented by infill panels onto the recessed balconies, the concrete balconies can be expected to provide a high degree of protection to the panels above. The panels themselves are thus unlikely to provide a mechanism for rapid fire spread (the rate of fire spread is likely to be no greater than for other acceptable scenarios, for example full height stacked glazing). The level of risk presented by the panels in these locations is therefore considered to be sufficiently low such that no remedial measures are required.

In the case where the panels are not located at recessed balconies, i.e., flush with the building facade, there is a non-combustible brick spandrel that wraps around each building in a continuous horizontal band of approximately 1.1m in height separating the panels. This will provide a barrier to limit the rate of fire spread, although the effect of this cannot be quantified without engineering analysis, likely requiring data from relevant full-scale tests. It is also noted that the panels are not vertically aligned with any window openings, and that the rooms where they are present are bedrooms, which typically have a lower likelihood of fire than kitchens and lounges. We have also considered that there is currently a programme in place to install automatic fire detection within flats to achieve category LD1 coverage. We are therefore of the opinion that the fire risk presented by the panels in this instance is certainly lower than with other window infill panels in different circumstances. Nonetheless, we are mindful that the fire safety industry is currently adopting a risk-averse attitude towards such panels, and that they have been, and are likely to be, subject to much interest from enforcing authorities. On balance, we recommended that a programme is put in place to replace the infill panels in this location with panels which achieve class A2-s1, d0 or better. Mindful of various other higher risk (and thus higher priority issues) which exist across the built environment, it is our opinion that a reasonable timescale to replace these panels is five years.

Panel to back wall of recessed balcony

Panel detail

Interior view of panel to bedroom

Wall Type 4

Description

Masonry backing wall with precast concrete panels.

Locations

This wall type is present to areas of the ground floor.

Primary Materials

Layer	Description	Product / Material	Limited Combustibility
1	Concrete panel	Concrete – 55mm	Yes
		Cavity – 40mm	
2	Masonry	Stock brick / concrete block – 200mm	Yes
3	Render	Cementitious render – 10 to 15mm	Yes

Cavities

A cavity of approximately 40mm is present between the concrete panel and the masonry backing wall. This cavity is not closed at edges, e.g., around ventilation openings, but the wall type itself is closed by the concrete floor slab above.

Discussion

The materials used in this wall type are inherently low risk, and the lack of cavity barriers is not a significant issue given the materials present and the location of the wall type beneath the first-floor slab.

In our opinion, this wall type is expected to provide a reasonable standard of health and safety in the event of fire and the level of fire risk is sufficiently low such that no remedial measures are required.

Exterior view

Concrete panel, cavity and masonry backing wall

Wall Type 5

Description

Solid plastic window infill panels.

Locations

These small panels are present between laterally adjacent windows on the upper floors.

Primary Materials

Layer	Description	Product / Material	Limited Combustibility
1	Infill panel	UPVC – 10mm	No
		Cavity – 70 to 80mm	
2	Party wall / column	Concrete - continuous	Yes

Cavities

There is a cavity of approximately 70 to 80mm behind the UPVC panels, which is framed by the plastic window frames to the sides and masonry / concrete construction to the top and bottom. In the areas we inspected, the cavity was filled with densely packed mineral wool insulation. The window frames are fixed to the front face of the internal party wall / column.

Discussion

These panels are not original; the date at which they were installed is not known, nor is the nature of the original panels. It does appear that the panels significantly predate the recent amendments to Building Regulations, and thus the use of combustible materials within the panels was likely not restricted at the time of their installation.

In assessing the fire risk presented by the panels, we have considered that the quantity of combustible material is very low. Indeed, the panels do not result in a significantly higher fire load than the window frames themselves and it is arguable if the panels should be considered as forming part of the window frame, rather than part of the external wall. Further, the cavity was filled with mineral wool insulation, and the panels are separated vertically by a 1.1m brick spandrel.

In our opinion, this wall type is expected to provide a reasonable standard of health and safety in the event of fire and the level of fire risk, in terms of external fire spread, is sufficiently low such that no remedial measures are required.

Location and size of panels

Mineral wool insulation

Mineral wool insulation partially removed for inspection

Balconies

The buildings feature stacked private recessed open balconies. These are of concrete construction, with protection from falling provided by masonry and concrete balustrades, with small timber handrails. None of the balconies inspected had timber decking.

Based on our inspections, combustible materials are not of such quantities as to be a mechanism for rapid fire spread and overall, the fire risk presented by the balconies is sufficiently low such that no remedial measures are required. Nonetheless, we recommend that residents are reminded of the importance of keeping balconies free from ignition sources, e.g., barbecues and smoking materials, and also that balconies should not be used for excessive storage of combustible items.

Risk Score

Having considered the risk presented by each relevant external wall type and attachments, the overall risk is assessed as:

Likelihood of Fire	Consequence of Fire		
	Slight Harm	Moderate Harm	Extreme Harm
Low	Trivial	Tolerable	Moderate
Medium	**Tolerable**	Moderate	Substantial
High	Moderate	Substantial	Intolerable

Accordingly, no remedial measures are required in the immediate future. We do nonetheless repeat our previous recommendation that the window infill panels to flat bedrooms are replaced within the next five years.

Conclusion

Parts of the external walls of the buildings contain primary materials which are not of limited combustibility.

The fire risk has been assessed to determine if there is a reasonable standard of health and safety for those in and around the buildings. This assessment has been completed by taking account of regulations and published design guidance which were current at the time of construction, as well as those which are current at the time of assessment.

The assessment has concluded that, to the best of our knowledge, the overall fire risk presented by the external walls and attachments of the buildings is tolerable and that no remedial measures are required in the immediate future. We do, however, recommend that the window infill panels to flat bedrooms are replaced within the next 5 years.