EXTERNAL WALL FIRE RISK ASSESSMENT

Chloe Court / 19 Feb 2020 / MAF/020/012

Complete

Inspection score	Failed items	Created actions
71.43%	7	0

Property	Chloe Court
Assessment Carried out on:	19th Feb, 2020 10:38 AM GMT
Report Reference:	MAF/020/012
Risk Assessment by:	Michael Fox

Failed items

7 Failed

EXECUTIVE SUMMARY / Assessment

Does the façade comply with the latest MHCLG guidance?	No

BUILDING FAÇADE ASSESSMENT

REPORT

Does the facade comply with Approved Document B – Fire Safety?	Non-Compliant

— Notes

Although the render system may have been compliant at the time of construction, we identified that fire stopping around windows / doors and floor levels has not been installed. Most externally insulated render systems have been fire-tested and all have fire stopping as part of the tested system. As such, the render system does not comply with the functional requirements of the Approved Document.

Is the insulation non-combustible? (i.e. A1 or A2-s1,d0 etc)	Non-Compliant

— Notes

From the core samples and trail holes conducted at the East elevation and East stairwell area of the property, we have been unable to identify any installed fire barriers within the EPS insulated external render system. This includes areas at floor slab, party wall and window surrounds.

We have identified heat damaged EPS insulation above the low-level flat roof at the east elevation. We advise further investigations are conducted in the affected area and all damaged insulation is removed and replaced with new material.

Are cavity barriers installed at the correct positions and to the specification where inspected?	No

— Notes

Further visit to inspect the façade. Cavity barriers are required at floor levels, party wall positions and at windows and doors. Cavity barriers were not recorded during the inspection on the 3rd of March 2020.

Arson / Waste	Poor

— Notes

It was noted that the waste store was unsecured, open to the public and to intentional fire setters.

— Photos


Photo 2


Photo 3


Photo 4

OPINION

Compliance of façade products?	Non-Compliant

MHCLG COMPLIANCE

Advice Note 14	Non-Compliant

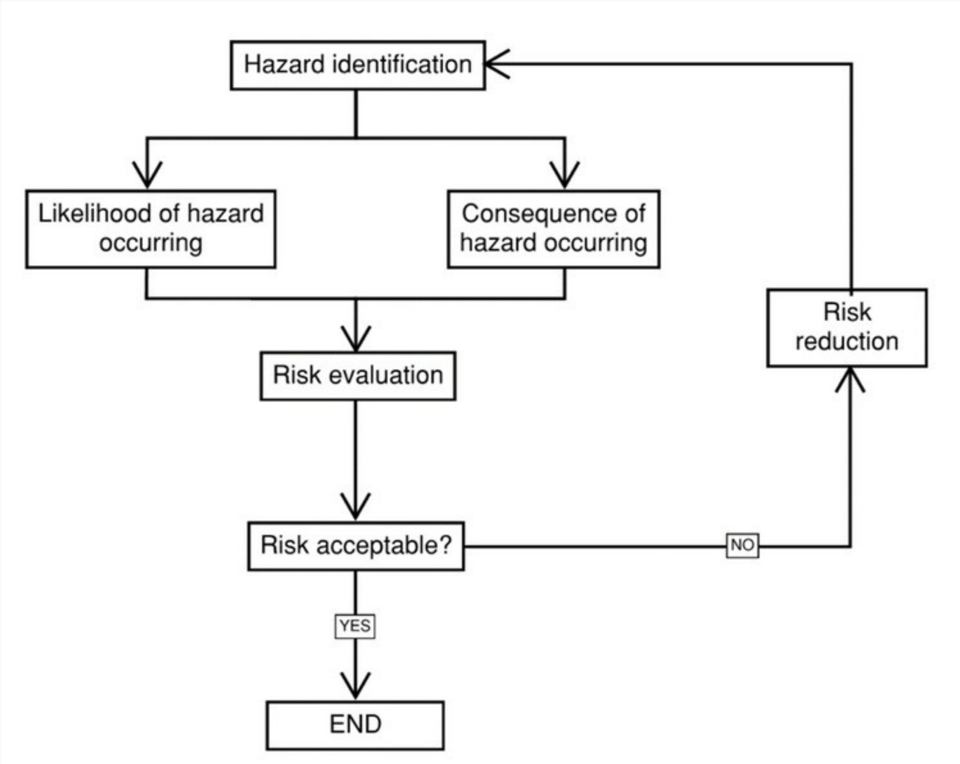
ASSUMPTIONS

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.
It is assumed that there will be ignition risks throughout the high rise 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 code compliance check, however it is based on the first principles of fire safety to, as far as practicable, comply with life safety codes.

LIMITATIONS

The tool is limited to three occupancy types.
The tool as originally developed was applicable to timber frame buildings. It was primarily designed to assess structural frames such as steel or concrete. However, we are able utilise the basic principles of this assessment tool to assess timber frame structures.
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 the cavity barriers have been installed compilantly 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.
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.
This guide is not exhaustive and variations on the information presented may exist on specific buildings

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.
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).
PAS 79:2012, Fire risk assessment-Guidance and recommended methodology, British Standards Institution and C.S. Todd & Associates Ltd.

	Likelihood of fire hazard		
Potential consequences 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.

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; and

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.

INSTRUCTION

100%

INTRODUCTION	
Michael A Fox Associates Ltd have been instructed to carry out a fire risk assessment of the facade at: Chloe Court	
Bournemouth Road, London, Peckham, SE15 4UN	
Instructing Party	
Wandle Housing Association	
INSTRUCTIONS	
To provide an assessment of the building facade to determine compliance to the latest MHCLG guidance.	
BUILDING DETAILS	
Building Location	
Bournemouth Rd, Peckham, London SE15, UK	
Building Type	
	Residential - Multi Occupancy - Above 18m
Building Risk Group	
	Sleeping Risk
Separate Risks Within Building	
Waste Storage within building footprint	
Height of Building	
7 Storeys x 2.7m = 18.9m	
Number of Floors	
7 Storeys at highest	
Balconies Installed	
	Yes
Outboard balconies	

ASSESSOR EXPERIENCE

Assessor Experience
The risk assessment inspection was carried out by Michael Fox director of MAF Associates Ltd. 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 and is has been elected to the Institute of Clerks of Works, is an Associate of the Royal Institute of Chartered Surveyors and is a Member Institute Fire Safety Managers.
FPA - Applied Fire Risk Assessment
FPA - Advanced Fire Risk Assessment
FPA - Fire Safety Design of Buildings
Member Institute of Clerks of Works – Fire Safety (MICWCI)
Member Institute Fire Safety Managers (MIFSM)
Member Institute Fire Prevention Officers (AMIFPO)
Associate Royal Institute 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

REGULATORY REFORM ORDER – FIRE SAFETY ORDER 2005

UK Fire Legislation
UK Fire Legislation Since 1st October 2006 the fire safety law in Scotland has differed from that of England & Wales and Northern Ireland, therefore to carry out a Fire Risk Assessments successfully, you first need to know what legislation applies to the country that you are in and which Government Sector Specific Guidance applies there. This is important information for the Fire Risk Assessors working "cross-border" or a company or organisation who has multiple sites spread throughout the United Kingdom of Great Britain and Northern Ireland. England and Wales In England and Wales, Article 9 of the RR(FS)O 2005 (The "Fire Safety Order") requires that the responsible person, on whom the Order imposes requirements, must make a suitable and sufficient assessment of the risks to which the relevant persons are exposed for the purpose of identifying the general fire precautions he needs to take to comply with the requirements and prohibitions imposed on him by or under this Regime. (For the purposes of this legislation, " relevant persons" are any person who is or maybe lawfully on the premises, and also any person in the immediate vicinity of the premises who is at risk from a fire in the premises, other than fire-fighters at the time of a fire) The same duty is imposed on every person, other than the responsible person, who has, to any extent, control of the premises as far as the duty relates to matters within his control. (This would normally include, for example, the landlord or managing agent of commercial premises in multiple occupation). The above risk assessment is commonly described as a fire-safety-risk-assessment. Guidance on the requirements of the Fire Safety Order and on the Fire Safety Risk Assessment required by it is produced by the Communities and Local Government. Scotland In Scotland the duty to carry out a Fire Risk Assessment is imposed on every employer by Section 53(2) (a) of the Fire (Scotland) Act 2005. The Act requires that the Risk Assessment identifies any risks to the safety of the employers, employees in respect of harm caused by fire in the workplace. Section 54(2) (a) of the act also imposes a duty, on any person who has control of any extent of the relevant premises, to carry out a fire risk assessment, and this risk assessment must identify any risks to the any relevant persons in respect of harm caused by fire in the relevant premises that; relevant persons is defined in much the same manner as it is defined Fire Safety Order in England and Wales. In Scotland, further requirements in respect of the assessments required by the Fire (Scotland) Act are imposed by the Fire Safety (Scotland) Regulations 2006. Guidance on the requirements on this legislation and the Fire Risk Assessment required by it, is published by the Scottish Government.
It is important to understand the content of the Fire Risk Assessment. Necessary recommendations are made if there are actions that are required to protect 'relevant persons' from fire. If the content in the recommendations section is unclear, clarification should be sought.
The report is a fire risk assessment of the façade not a fire engineering report as such the report must be read within the context of the instructions.

EXECUTIVE SUMMARY

1 Failed 66.67%

Introduction
The Grenfell Tower fire in June 2017 highlighted the need to inspect the building façade. In the aftermath of the disaster, local Fire & Rescue Services were charged with inspecting properties which are deemed to be "high rise". Fire & Rescue Services define buildings with a height of 18m or more as "high rise". There is no standard height at which a building is deemed to be "high rise". However, the Building Regulations, which apply to fire safety, state that any floor or storey level above 18m is required to have a higher level of fire resistance than a building below 18m. A floor to ceiling level of 3 metres is normally assumed. Therefore, a 6-storey building is deemed to be "high rise". However, a five-storey building may also fall within that category if the floor to ceiling height was more than 3m.
This report details the assessment and provides a methodology of how the risk is determined. The risk is split in to two parts: • The risk posed to the building from external / internal fire sources. • How the building would react to a fire.

Assessment

1 Failed

This assessment sets out the key findings of the inspection. For ease of reference, the risk is set out in red/amber/green to illustrate the risk and urgency.

Products Installed

Mainly insulated render.

— Photos

Photo 1

Risk	
Considering all information available at the time of the inspection, I believe the risk posed by the products installed on the facade is:	
	MED
Regulation	
Considering all information available at the time of the inspection, does the facade comply with Approved Document B in force at the time of construction	
	Yes
MHCLG Guidance	
Considering all information available at the time of the inspection, does the facade comply with the latest guidance from MHCLG	
	No

BUILDING FAÇADE ASSESSMENT

4 Failed 73.08%

REPORT

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	
19th Feb, 2020	
Weather	
Overcast with rain spells	
Personnel	
Mike Fox	
Areas Inspected	
	Externally
Rendered areas	
Purpose Group Purpose group: 1(a) Flat	
General Building Condition	
From the areas inspected, the building appeared to be in good condition and well maintained	

1. Facade condition
The rendered facade is good condition with no defects or damage.
2. Quality of installation
The render appears to be well installed; thickness of render appears to be consistent.
3. Damage or defects of the façade
No damage or defects were noted.
4. Detailing at the base of the façade
The detailing around the base of the building appears to be robust.
5. Detailing around windows and doors
No defects were noted.

Observations
Chloe Court is set back from Bournemouth Road, a steel gate accesses the courtyard. Chloe Court is not street facing and does not have an elevation onto a street. Chloe Court is a multi-occupancy building comprising of 22no flats over 7 storeys. The building is predominantly constructed around a concrete frame and is covered with an insulated render. Balconies are installed on the building and these are generally outboard of the main building. There is an entrance to rear elevation of the building. Apart from the main exit from the building into the courtyard, there is a sperate fire exit into the courtyard. The main waste area is a waste room by the main entrance. At the time of the inspection, the waste room was open.

When considering the risk, there is also a requirement to assess against the Approved Document in force at the time of construction and to consider current guidance. The Approved Document in force at the time of construction was Approved Document B – Fire Safety 2006 Edition.	
The external envelope of a building should not contribute to undue fire spread from one part of a building to another part. This can be assured by constructing external walls so that both of the following are satisfied.	
a. The risk of ignition by an external source to the outside surface of the building and spread of fire over the outside surface is restricted.	
b. The materials used to construct external walls, and attachments to them, and how they are assembled do not contribute to the rate of fire spread up the outside of the building.	
The extent to which this is necessary depends on the height and use of the building.	
The current guidance states that the external wall of a building should not provide a medium for fire spread if that is likely to be a risk to health and safety. Combustible materials and cavities in external walls and attachments to them can present such a risk, particularly in tall buildings.	
The external walls of buildings other than those described in regulation 7(4) of the Building Regulations should achieve either of the following:	
a. Follow the provisions given in paragraphs 10.5 to 10.8, which provide guidance on all of the following: i. External surfaces. ii. Materials and products. iii. Cavities and cavity barriers. b. Meet the performance criteria given in BRE report BR 135 for external walls using full-scale test data from BS 8414-1 or BS8414-2.	
In relation to buildings of any height or use, consideration should be given to the choice of materials (including their extent and arrangement) used for the external wall, or attachments to the wall, to reduce the risk of fire spread over the wall.	
Does the facade comply with Approved Document B – Fire Safety?	Non-Compliant
— Notes Although the render system may have been compliant at the time of construction, we identified that fire stopping around windows / doors and floor levels has not been installed. Most externally insulated render systems have been fire-tested and all have fire stopping as part of the tested system. As such, the render system does not comply with the functional requirements of the Approved Document.	
External surfaces	
Do the external surfaces (i.e. outermost external material) of external walls on relevant buildings comply with Class A2-s1, d0 or better?	Compliant
— Notes The external surface of the render is unlikely to allow fire to spread over its surface.	

Is the insulation non-combustible? (i.e. A1 or A2-s1,d0 etc)	Non-Compliant

— Notes

The survey of the insulation was conducted on 3rd March 2020 working from a mobile scaffold tower positioned within the courtyard at the East elevation of the property.

During the survey, 2no 100x100mm core samples were taken from the external render and the following build up was observed:

- Concrete block inner masonry wall
- 100mm thick Expanded Polystyrene (EPS) insulation (mechanically fixed to blockwork). Two coat reinforced polyester render finish

When taking the 100x100mm cores, there is clear evidence of heat damage to the installed EPS insulation boards above the low-level flat roof adjoining the East stairwell. The flat roof has been covered/ recovered with torch on mineral felt and the damage appears to be a result of the naked flame from the gas torch used to install the roof felt. From the inspection, the damage extends approximately 1 metre up the wall from the roof surface and the EPS material has completely perished. This has also caused the render finish to delaminate from the EPS in some areas.

Where possible, we have conducted smaller 8mm diameter trial holes in the render at window surrounds and potential party wall positions. Holes were drilled at 3no individual windows and at 2no potential party wall positions. From the trail holes conducted, in all cases EPS insulation was confirmed.

On completion, all cores and trail holes were covered over, reinstated or sealed with high performance gun sealant.

To conclude, from the core samples and trail holes conducted at the East elevation and East stairwell area of the property, we have been unable to identify any installed fire barriers within the EPS insulated external render system. This includes areas at floor slab, party wall and window surrounds.

When viewing the East elevations externally, the individual flats appear to occupy the entire floor area from the corners to the stairwell. An internal inspection of each floor or issue of floor plan drawings would be required to fully understand the layout and confirm the locations of party walls.

We have identified heat damaged EPS insulation above the low-level flat roof at the east elevation. We advise further investigations are conducted in the affected area and all damaged insulation is removed and replaced with new material.

Cavity Barriers

If a fire develops within the building it can break out of windows and attack the exterior facade. If the cladding system provides a medium for vertical fire spread, then this can cause secondary fires to quickly break out on storeys above the initial fire.

Cavity fire barriers are typically positioned horizontally at each separating floor within the building and vertically at centres determined by the overall building design. Additional fire barriers may be required around openings and other penetrations in the façade.

Are cavity barriers installed at the correct positions and to the specification where inspected?	No
— Notes Cavity barriers are required at floor levels, party wall positions and at windows and doors. Cavity barriers were not recorded during the inspection on the 3rd of March 2020.	
It is not always possible to confirm that all cavity barriers are installed compliantly at all the required positions. As such the risk assessment assumes that a percentage have not been installed or not installed correctly.	
EXTERNAL IGNITION SOURCES	
As part of the façade risk assessment there is a requirement to assess any ignition sources which maybe the start or be involved in a fire that could spread to the façade.	
Security to building	Fair
Electronic access to building	
Arson / Waste	Poor
— Notes It was noted that the waste store was unsecured and open to the public and to intentional fire setters. — Photos  Photo 2  Photo 3  Photo 4	
To reduce the risk of arson, flammable materials must be locked away, so they cannot be accessed easily.	
Waste store was open with an accumulation of waste	
Smoking	No smoking signs displayed in entrance to building but smoking is allowed within the private dwelling. No evidence of clandestine smoking around building external areas of the building
BBQ / Fires	BBQs and other naked flame equipment is prohibited from being used on the balcony areas
Car parking	There is no car parking within or around the building

STRUCTURAL FRAME	Concrete
GENERAL CONSTRUCTION Concrete frame with insulated rendered walls.	
BALCONIES	Outboard
OCCUPANCY TYPE	Sleeping Risk
PERSONS AT RISK Occupiers of building and their visitors. Trades, cleaners and anyone legally entitled to be in the building.	
EVACUATION STRATEGY	Stay Put - Defend in Place
BUILDING HEIGHT / STOREYS	Floor height above 18m
APPROXIMATE FLOOR AREA M² Not known	
FIRE LOSS EXPERIENCE None declared	

Facade Risk 1	
COMPONENTS	
Outer Facing Insulated Render	
Insulation Type 100mm Expanded Polystyrene	
Void Depth No void	
Frame Type Concrete	
Inner Construction Plasterboard	
VARIABLE	
Façade Vertical Connectivity Yes	
External ignition Sources/Fire Hazards People, waste area	
OVERALL RISK	MED

OVERALL RISK	
INSULATION	MED
CLADDING	MED
IGNITION SOURCES	MED
LIKELIHOOD OF A FIRE OVER MULTIPLE STORIES (CLADDING NOT VERTICALLY CONNECTED	MED
REASON	
	Limited ignition sources and fuel from insulation
LIKELIHOOD OF A FIRE OVER MULTIPLE STORIES (CLADDING VERTICALLY CONNECTED	MED
REASON	
	Limited ignition sources and fuel from insulation

OPINION

1 Failed 50%

The main concern is always the occupants of the building and fire starting within the property. The products installed on the building should not aid fire spread over the façade. For the facade products to be compliant with Section B4 of the Approved Document B – Fire Safety and compliant with latest MHCLG guidance the products should have a fire classification of A2 s1-d0 or better or have been tested to BS8414 - Compliant with BR135.
Non-Compliant
The lack of fire stopping/cavity barriers at floor, window and door positions means that the render system cannot be assessed against a defined BS8414 fire test. Most externally insulated render systems require fire stopping at floor levels, windows and party wall positions. None were recorded during the inspection, as such I cannot assess the render as compliant with the latest guidance from MHCLG.
The government has also issued guidance notes on the use of combustible materials within a balcony construction. This advice was published in June 2019 and questions the use of timber / composite decking as a suitable balcony floor material. The government's advice is that the balcony construction should warrant a fire classification of A2 s1-d0 or better. This would be in line with other government advice notes which state that the façade should be classified as A2 s1-d0 or better.
Compliant
Management of illicit BBQs, storage of combustible materials on the balconies and no smoking on the balconies must be enforced.
The fire risk on balconies can also be increased due to the use of balconies as storage. A significant number of balcony fires start from the unsafe disposal of smoking materials and the misuse of barbecues. Building owners should have policies in place as to what can and cannot be stored and used on balconies by residents and should review these in the light of the materials used in the balcony construction. They should also communicate with residents to develop their understanding of these risks.
Sources of ignition from the outside of the building must be limited where possible and the control of waste is paramount to occupant safety. Storage of waste should be in a dedicated place and or with dedicated waste bins. There must be no storage of combustible materials in the waste store. If the waste area is near the building, any fire starting could spread to the main building.
Storage of personal belongings on the balcony areas must be discouraged and managed.
Access of people within the perimeter of the building is easier to control. External to the building perimeter is more complex as these are usually public accessed areas.
Car Parking
No car parking near the building

MHCLG COMPLIANCE

1 Failed 50%

Following the revision to Approved Document B in December 2018 and subsequent clarification of the Approved Document in July 2019 this risk assessment will also assess the façade against the amended regulations and the governments recently published advice notes. The government has issued advice notes on the following concerns:	
AN 14 - Advice on external wall systems that do not incorporate Aluminium Composite Material	
	Non-Compliant
AN 19 - Advice for owners of buildings which include spandrel panels/ window panels/ infill panels	
	N/A
AN 21 - Advice Note on Balconies on Residential Buildings	
	Compliant
GENERAL MHCLG COMPLIANCE	
The main issues for compliance against the latest MHCLG guidance is the ability to assess the insulated render system against a system which has been BS8414 fire tested. Several tested systems have this type of build-up, but all have fire stopping/cavity barriers at defined positions. The insulated render system on this building does not have the fire stopping/cavity barriers as such I cannot assess the render system as compliant.	

MITIGATION OF RISK

MITIGATION OF RISK

An invasive inspection is generally considered a requirement to understand the build-up of the façade and to understand what mitigation measures can be introduced to reduce the High Risk (Intolerable Areas) to Low / Medium Risk (Tolerable).
This assessment is intended to assess the fire risk associated with combustible façade systems that have been installed on high rise buildings. Where there are deficiencies in pre-existing fire safety provisions such as sprinklers, fire alarm or passive fire protection that were required by the original design or applicable standard, then these should be rectified as a matter of course.
The mitigation options that will reduce the risk rankings assigned by this tool can be classified as follows: Management solutions Repair and regular testing/maintenance of existing fire safety provisions Installation of additional fire safety provisions (active or passive) Facade system remediation
Management Solutions Prohibit the use of BBQs/flames heaters on the balcony areas. Advise the occupants not to smoke on the balcony areas and discourage the occupiers from storing items on the balconies.
Mitigation Option 1 - Management procedures to eliminate occupancy of terraces or prohibit BBQs and other similar ignition risks from balconies. This would need to be monitored daily or more often.
Effectiveness - This will reduce the ignition sources and therefore the likelihood of a fire hazard and is a suitable short-term solution but may not give significant gains long-term. It may be appropriate where immediate action needs to be taken because a building is classified as “substantial” or “intolerable”
Mitigation Option 2 - Management procedures to eliminate fire load near the base of the building e.g. no parking, no trash containers, no fire load in vicinity etc. This would need to be monitored daily or more often.
Effectiveness - This will reduce the ignition sources and therefore the likelihood of a fire hazard and is a suitable short-term solution but may not give significant gains long-term. It may be appropriate where immediate action needs to be taken because a building is classified as “substantial” or “intolerable”
Mitigation Option 3 - Remove or de-energise lighting systems to reduce ignition risks.
Effectiveness - This will reduce the ignition sources and therefore the likelihood of a fire hazard and is a suitable short-term solution but may not give significant gains long-term. It may be appropriate where immediate action needs to be taken because a building is classified as “substantial” or “intolerable”
This will reduce the ignition sources and therefore the likelihood of a fire hazard and is a suitable short-term solution but may not give significant gains long-term. It may be appropriate where immediate action needs to be taken because a building is classified as “substantial” or “intolerable”
Repair and Regular Testing / Maintenance Ensure all fire safety systems have been inspected, tested and are up to date.
Mitigation Option 4 - Repair of a faulty fire pump and initiation of a code compliant testing/maintenance regime for the sprinkler system.
Effectiveness - Improvements to the sprinkler system will reduce the risk of ignition of a combustible façade system from an interior fire. This type of mitigation should be carried out regardless to protect occupants against other fire scenarios interior to the building.

Mitigation Option 5 - Initiation of a code compliant testing/maintenance regime for any of the passive or active systems that have not been looked after over the life of the building.
Effectiveness- In the context of this tool, changes which improve means of escape routes, fire alarm and compartmentation have the greatest impact on the risk ranking. Introducing sprinklers reduces the likelihood of a fire in a building
Installation of additional fire safety provisions (Active or passive) This should be discussed at the earliest opportunity with your fire safety advisors.
Mitigation 6 - Upgrade of a fire alarm system to permit an “all-out” evacuation strategy i.e. the fire alarm will sound simultaneously throughout the building and not just in the apartment of fire origin (“stay-put”).
Effectiveness - The risk rankings for residential “all-out” are lower within the tool than for the same building height, façade risk and fire safety provisions as residential “stay-put”. This means upgrading the fire alarm system will have some benefit in reducing the risk ranking. It will not remove the fire risk but it will mean occupants are likely to leave the building more quickly.
Mitigation 7 - Addition of sprinklers to balconies.
Effectiveness -This will help reduce the likelihood of ignition. Sprinklers on balconies do not offer a guarantee that fire will not spread to the façade but they reduce the likelihood.
Façade System Remediation Install fire stopping at the correct positions.
Mitigation 8 - Replacement or removal of vertical connections in the façade system.
Effectiveness - This will reduce the “façade hazards” category as the likelihood for flame/fire spread up the building facade is reduced. This option does not offer a guarantee that fire will not spread up the building as flames could leap from one portion of combustible façade to another or flaming debris could ignite the façade at lower levels but it would reduce the risk.
Mitigation 9 - Removal of combustible façade cladding/insulation near the base of the building.
Effectiveness -This is an option if the ignition risks are at the base of the building only and the interior of the building is sprinkler protected. This option does not offer a guarantee that fire will not spread up the building as flames could break-out from an interior fire but it would reduce the risk.
Mitigation 10 - Removal of combustible façade cladding/insulation in the vicinity of ignition sources.
Effectiveness - This is an option if the ignition risks are limited and the interior of the building is sprinkler protected. This option does not offer a guarantee that fire will not spread up the building as flames could break-out from an interior fire but it would reduce the risk.
Mitigation 11 -Replacement of the combustible cladding and/or insulation system in its entirety.
Effectiveness -This is the only way of mitigating the risk of a façade fire and reducing the risk to “tolerable (B)” or trivial (A)”.

ACTIONS TO BETAKEN

ACTIONS REQUIRED It is considered that the following recommendations should be implemented in order to reduce fire risk to, or maintain it at, the following level:
1. Review internal FRA against this assessment to ensure the risks are mitigated as much as possible during the remediation process
2. Advise the occupiers with balconies not to use them for smoking, BBQs or storing of belongings
3. Review evacuation strategy

ASSESSMENT REVIEW

This fire risk assessment should be reviewed by a competent person by the date indicated above 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
Internal Risk Assessment 23rd Mar, 2020
External Risk Assessment 3rd Aug, 2020
External Façade Risk Assessor
Michael A Fox – MICWCI MIFSM AMIFPO AssocRICS MIoR FSIDip
Michael A Fox Associates Ltd
34 West Lane Ripon North Yorkshire HG4 2NP
Tel: 07814 193567
Email:mike@maf-associates.co.uk

APPENDIX

Appendix 1 - Assessor Experience


The Institute of Clerks of Works and Construction Inspectorate of GB Inc.

Membership Certificate

This is to certify that

MICHAEL FOX

Was elected a

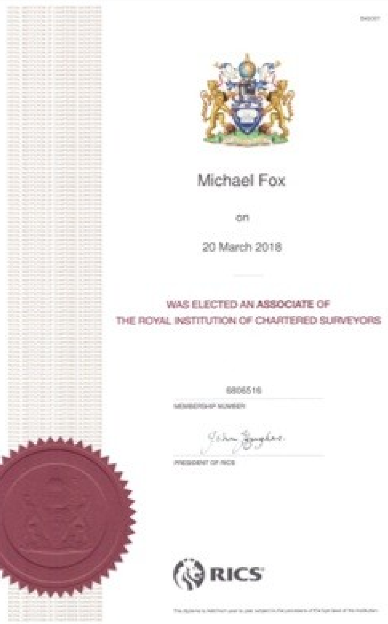
MEMBER (FIRE SAFETY)

in the year 2018

Registered membership number 8681

President

"Ability, Integrity and Vigilance"


Michael Fox

on

20 March 2018

WAS ELECTED AN ASSOCIATE OF THE ROYAL INSTITUTION OF CHARTERED SURVEYORS

6806516

MEMBERSHIP NUMBER

PRESIDENT OF RICS

RICS


IFSM

The Institute of Fire Safety Managers

hereby certifies that

Michael Fox

having been recommended by the Governing Council, is a Member of The Institute of Fire Safety Managers at the grade of

Member

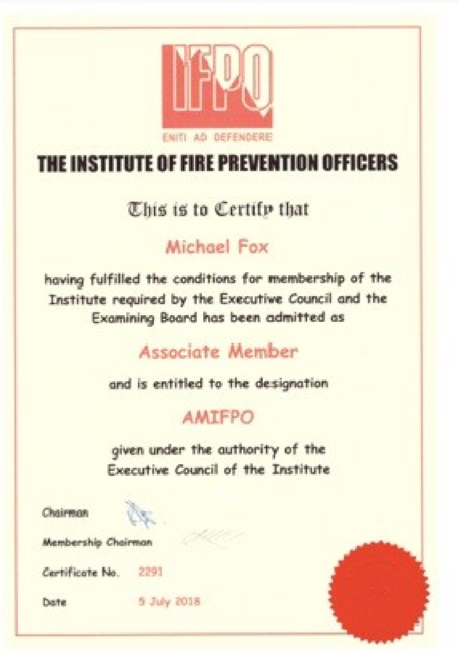
Membership Registration Number

1661

Dated: July 2018

President: Graham Green

Chairman: Dr Robert W Docherty


IFPO

ENITI AD DEFENDERE

THE INSTITUTE OF FIRE PREVENTION OFFICERS

This is to Certify that

Michael Fox

having fulfilled the conditions for membership of the Institute required by the Executive Council and the Examining Board has been admitted as

Associate Member

and is entitled to the designation

AMIFPO

given under the authority of the Executive Council of the Institute

Chairman

Membership Chairman

Certificate No. 2291

Date 5 July 2018

THE INSTITUTION OF FIRE ENGINEERS

Incorporated A.D. 1924

This is to certify that

Michael Fox

Affiliate

The Institution of Fire Engineers

an Association established to promote, encourage and improve the science and practice of Fire Engineering, Fire Prevention and Fire Extinction and all operations and expedients connected therewith, and to give an impulse to ideas likely to be useful in connection with or in relation to such science and practice to the Members of the Institution and to the community at large.

Witness our hands at Stratford-upon-Avon this 4th day of July 2017

International President

Chairman

FPA Fire Protection Association Training

This is to certify that

Michael Fox

Has successfully completed

C05 Certificate In Applied Fire Risk Assessment

Date

07-Aug-2017 to 11-Aug-2017

CFPAEUROPE Satisfies the requirements of CFPA Europe Certificate in Principles of Fire Safety at Work

Managing Director

Learner ID: mfox

THE UK's NATIONAL FIRE SAFETY ORGANISATION

Protecting people, property, business and the environment

FPA Fire Protection Association Training

This is to certify that

Michael Fox

has completed the Fire Protection Association's

C07 Advanced Fire Risk Assessment course

On

31-Oct-2017

Managing Director

Learner ID: mfox

THE UK's NATIONAL FIRE SAFETY ORGANISATION

Protecting people, property, business and the environment

FPA Fire Protection Association Training

This is to certify that

Michael Fox

Has successfully completed

C19 Fire Safety Design of Buildings

Date

01-Aug-2017 to 03-Aug-2017

Managing Director

Learner ID: mfox

THE UK's NATIONAL FIRE SAFETY ORGANISATION

Protecting people, property, business and the environment

CARDIFF
UNIVERSITY
PRIFYSGOL
CAERDYDD

Expert Witness Certificate

Michael Fox

This is to verify that, having followed an approved training programme and successfully completed each of the required assessments of the Cardiff University Law School Bond Solon Expert Witness Scheme, Michael Fox has been certified by Cardiff Law School as an Expert Witness this 13th day of September 2014.

Completed elements:	Grade:
Excellence in Report Writing	Competent
Cross Examination and Courtroom Skills	Competent
Law and Procedure (Civil)	Competent

BOND
SOLON
the legal training company
A Wilmington Company

Signed:

Jason Tucker
Chair of Test Board: Expert Witness Certificate
Professional Development Unit
Cardiff Law School

Appendix 2 - Assessor CV

Michael A Fox

Based in the UK
mike@maf-associates.co.uk; 07814 193567

PROFILE

BUILDING CONSULTANT

Clerk of Works / Expert Witness / Specialist Roofing & Façade Professional / Fire Risk Assessor / Claims Manager

Sharp, achievement driven and diligent individual with a wealth of experience as an approved insurance auditor / loss adjuster working for UK, European and Scandinavian insurers. Regularly travels around Europe consulting with clients and materials manufacturers. Consultative and tenacious person offering expertise in the inspection and investigation phases of Expert Witness reporting. 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. Attended and gained certification in Applied Fire Risk Assessment with the Fire Protection Association.. Recently elected to Member Institute of the Clerks of Works and Construction Inspectorate (Fire Safety), Member Institute Fire Safety Managers, Member Institute of Fire Protection Officers and the Royal Institute Chartered Surveyors

OVERVIEW

- Experienced Claims Manager for long term warranty insurers with expert knowledge of construction, regulations and inspections
- Fully equipped to access any type of building, including mechanical access / rope access techniques (all available worldwide)
- Guided and advised an enormous number of building owners, local authorities and insurers concerning fire risk assessments
- Lengthy background working with specifiers of building materials such as architects, consulting engineers and building surveyors
- Providing technical support during loss adjustment periods, the settlement of claims and advising insurers on courses of action
- Set up Auditing Workmanship & Materials in 2004 as a specialist risk and defect company working in the construction industry
- Experienced determining causes, if a building defect is under warranty policy, quantifying costs and supervising remedial works
- Performing fire risk assessments to ensure buildings are fully compliant with statutory duties under the Regulatory Reform Order
- Specialist Fire Risk Assessor for the External Building Façade
- Advising MHCLG Safer Buildings Programme
- Advised on the MHCLG on the Addendum to the HHSRS
- Technical Advisor to the Fire Protection Association for Fire Testing
- As detailed within MHCLG Information Note 1 Annex A – Professional Advisors I am classified as a Professional Advisor as a member of the Institute of Clerks of Works (ICWCI)

SKILLS SUMMARY

- A1 NVQ Assessor
- Investigating New Claims
- Advising Insurers on Action
- Supervising Remedial Works
- Defect Management Projects
- Clerk of Works
- Specialist Roofing Consultant
- Legal Expert Witness
- Inspections & Auditing
- Investigating Defect Causes
- Façade Fire Risk Assessor
- Fire Stopping Inspector
- Fire Risk Assessor
- Fire Risk Consultant

CAREER HISTORY

Michael A Fox Associates Ltd (MAF), Managing Director — **Nov 2015 - Present**

Key Achievements;

- MAF Associates holds specific Expert Witness Professional Indemnity Insurance, together with Public and Employee insurances
- Requested to personally manage specialist defect management projects and buildings where expert type advice is required
- Undertook expert witness training with Cardiff Law school and completed multiple courses with the Fire Protection Association
- Professionally qualified Specialist Façade Risk Assessor, Roofing Consultant including Expert Witness and Mediation
- Retained by a major insurer to undertake their claim investigation and management, and investigating claims for policy holders
- Investigating and reporting on the causes of the defects, providing costings to rectify and supervising the rectification works
- Retained by major UK housebuilder to advise and assist in the remediation of fire safety measures in residential dwellings
- Retained by major UK building management company to risk assess high rise residential blocks

AWM Surveyors Ltd, Managing Director **Dec 2004 - Present**
Key Achievements;

- Advising building warranty insurers of risks due to products, workmanship and design during installation and the buildings life
- Consulting with customers and supplying long term roofing and cladding warranties to the roofing and cladding industry
- Assisted with developing a Latent Defect Guarantee scheme for the roofing and cladding industry involving weekly inspections
- Reporting back to insurers on the suitability of the roofing / cladding installation and providing long term guarantees to owners
- Roofing works have incorporated various types of glazing systems, roof drainage, ventilation systems, roof access and safety systems and associated elements such as secondary steel supports

Euroclad Limited, Regional Manager - Director Designate **Jan 2002 - Dec 2004**
Key Achievements;

- Integral part of the senior management team overseeing business within Scotland, Northern England and the Midlands
- Implemented a £15M budget and held responsibility for major key account management (Prologis Kingspark and Astral)
- Led and motivated a diverse team of 20 staff (internally and externally) and managed the Elite Contractor Network

Roofspec, Sole Proprietor **Jan 2001 - Jan 2002**
Key Achievements;

- Generated a respectable £100K turnover from a standing start in the first year in a fiercely competitive market place
- Opened dialogue and attended appointments with local authorities as a specifier of standing seam and façade systems
- Secured £5.5M worth of business for manufacturers and specified £8M worth of product for manufacturers

Euroclad Limited, Area Sales Manager **Apr 2000 - Jan 2001**
Key Achievements;

- Negotiated and secured Euroclad's first projects from British Airways (BAA) and from Prologis Kingspark
- Initiated and presented Part L2 seminars and procured £4.5M sales against a budget of £3.6M
- Produced and presented technical CPD seminars to architects and clients in the North of England and Scotland

Early Career

Speedeck Building Systems Limited, Area Sales Manager	Oct 1998 - Apr 2000
Haironville Tac Limited, Area Sales Manager	Sep 1996 - Oct 2000
Metsec Plc, Building Products Division, Area Sales Executive	Mar 1989 - Oct 1996
Merchant Navy, Petty Officer	Mar 1976 - Dec 1988

Qualifications & Training

Cardiff Law School / Bond Solon, Expert Witness Certificate; Excellence in Report Writing
Cross Examination & Courtroom Skills, Law and Procedure
Health & Safety; Working at Height Safety Supervisor; IRATA - Rope Access Technician - Level 1
City & Guilds - Confined Space Supervisor; CITB - SSSTS Site Safety Supervisor Training Scheme
CITB - SMSTS Site Managers Safety Training Scheme; IOSH - Managing Safely; HQSE - Working at Height; HQSE - Asbestos Awareness
CSCS - Professionally Qualified
Specialist Courses; IPAF - Mechanical Working Platforms; PCN - Thermographer - Level 1 – Hydrajaws - Certified Pull Tester
Fire Safety Courses; FPA - Introduction to Passive Fire Protection; FPA - Certificate in Applied Fire Risk Assessment
FPA - Advance Fire Risk Assessment; FPA - Fire Safety Design in Buildings; FPA - Fire Detection Alarms and Emergency Lighting
FPA - Understanding Fire Doors; FPA - Understanding Fire Stopping; Fire Stopping Inspection Dipolma
E-Learning; FPA - Fire Safety at Work; FPA - Fire Risk Assessment for Simple Buildings; FPA - The Role of The Fire Warden
FPA - Evacuation Planning; FPA - The Responsible Person; FPA - Access and Facilities for Firefighters in Buildings
Merchant Navy; C & G Mechanical Engineering

Memberships & Courses

Memberships; Institure Clerks of Works & Construction Inspectorate; Member Institure Fire Safety Managers; Associate Member Fire Protection Officers; Associate RICS; Institute of Roofing; The Fire Protection Association; Institute of Fire Engineers; UK Fire Association; National Fire Protection Association: IOSH; Association Insurance Surveyors;
A1 NVQ ASSESSOR - Registration No 1378484 QUA715 - Roof Sheeting & Cladding Level 2
QUA716 - Roof Sheeting & Cladding Level 3
QUA723 - Applied Waterproof Membranes Level 2 - Built Up Bituminous Roofing
QUA723 - Applied Waterproof Membranes Level 2 - Single Ply Roofing
QUA723 - Applied Waterproof Membranes Level 2 - Liquid Waterproofing Systems
Approved Trainer; Single Ply Membranes - TPO; Single Ply Membranes - PVC; Liquid Plastic Membranes
Trained in the application of around 20 different roofing and façade systems to installer level

Appendix 3 - Statement of Methodology

External invasive inspection of the façade with the use of mobile access towers to access the façade at height.

Appendix 4 - List of documents supplied by client

None supplied

Appendix 5 - Details of literature

N/A

Appendix 6 - Chronology

Instruction – 16/01/2020

Inspection – 19/02/2020 revisit 03/03/2020

Report Issued – 13/03/2020