

External Walling System Review

Trinity Estates

Aqua House, Agate Close, London, NW10 7FF

18/08/2021



EWWS REVIEW



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1.0 Summary

The premises are known as Aqua House, Agate Close, London, NW10 7FF

The development comprises of 1 residential block. Addresses covered in this location:

- 1-37 Aqua House – Agate Close – 8 storeys – built in 2005.

This report aligns to the latest RICS EWS Guidance issued in March 2021.

1.1 EWS Applicability

Criteria	Requirement	Does this apply
1. For buildings over six storeys, an EWS1 form should be required where:	a. There is cladding or curtain wall glazing on the building, or 1-37 Aqua House – Agate Close – 7 storeys	Yes
	b. There are balconies that stack vertically above each other and either both the balustrades and decking are constructed with combustible materials [e.g. timber] or the decking is constructed with combustible materials and the balconies are directly linked by combustible material	Yes
2. For buildings of five or six storeys, an EWS form should be required where:	a. There is a significant amount of cladding on the building [for the purpose of this guidance, approximately 25% of the whole elevation estimated from what is visible standing at ground level is a significant amount], or	N/A
	b. There are ACM, MCM or HPL panels on the building, or	N/A
	c. There are balconies that stack vertically above each other and either both the balustrades and decking are constructed with combustible materials [e.g. timber], or the decking is constructed with combustible materials and the balconies are directly linked by combustible materials	N/A
3. For buildings of 4 storeys or fewer, an EWS form should be required where:	a. There are ACM, MCM or HPL panels on the building Block no/name – Name of Block – X storey	No

Above 18m
The building in the context of EWS is above 18m as such materials which are part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or A1, classified in accordance with BS EN 13501-1:2007+A1:2009.



Traditional Brick wall
The brickwork is non-combustible and therefore not classified as a fire risk.



Solid Blockwork
The blockwork is non-combustible (A1) materials, as is the render coat, unless acrylic.



Timber wall panelling
Timber cladding like this, although diagram 40 in ADB shows 9mm thick timber to be acceptable under 18m, is only likely to achieve Euroclass D. The timber has also been provided above 18m in places and would have needed to achieve Euroclass B in those locations. This would have required treatment of the timber with a fire retardment system. Such systems usually require reapplications every 3-5 years in order to maintain the level of fire performance. 13 of 19



The timber on these buildings does not appear to have been subject to recent treatment and is likely to meet the lower performance of Euroclass D. The timber has aged and is weathered, and condition is not sound.

The timber cladding will therefore require replacement with a material that achieves a minimum of Euroclass A2 such as Marley Eternit board, or other cementitious boards or wood lookalike panels.

High Pressure Laminated [HPL] Panel
High pressure laminate [HPL] panels are a form of cladding typically manufactured by layering sheets of wood or paper fibre with a resin and bonding them under heat and pressure. They sometimes include additional chemicals to provide fire retardant properties. They achieve a Class B-s1, d0 fire rating. Panels manufactured without fire retardant can be Class C or D, depending on the thickness of the panel.



The HPL is found at the top terrace waling systems to the Penthouse level and extends and interfaces

1.2 Summary of Findings Relating to this Building

Given criteria of Section 1.1 in ORSA's opinion: Given criteria of Section 1.1 in ORSA's opinion cladding remediation works in consideration of the risk of fire spread across the facades are necessary to ensure safety is assured for the occupiers and those in close proximity to the development.



with the feature soffit at this level which is also in the HPL. The system includes non FR Tyvek membrane which contributes to the high fire load.

ORSA advise urgent replacement of these non FR Trespa panels to the walling and soffits with a non-combustible alternative that aligns to MHCLG Guidance.

Timber to Balconies and Penthouse Terraces

The balconies to the levels below the Penthouse Terraces are of steel superstructure with exposed timber decking. It is considered that the combustible timber decking gives rise to significant fire risks that are high enough to warrant urgent remedial works at this time.

At the Penthouse level, the two Penthouses are surrounded by a terrace of combustible decking that interfaces with the HPL walling systems of the Penthouses and adds considerable fire load at this level. Due to the detail of the walling systems which run below and interface with the FFL of the terrace decking, there is a considerable fire load at this level from the decking. The decking details integrate with the walling and it is regarded as a necessary part of works for eligible replacement.

NOTE: The replacement of the combustible cladding systems and materials with suitable Class A1/A2 systems will require an application to the LA Planning Authority. Cladding remediation works will require a submission to Building Control for Approval



2.0 Why was EWS introduced?

After the Grenfell Tower fire in June 2017 there was a focus on removing aluminium composite material [ACM] from buildings over 18 metres.

Over time, focus broadened to take in other types of combustible cladding. In December 2018 the Government issued Advice Note 14 containing guidance for building owners on the steps to take to tackle non-ACM materials on the external walls of high-rise buildings.

Owners were advised to check “general fire precautions” and ensure that external wall systems were “safe”. This can require an intrusive inspection by a qualified individual to check the materials used and how they were installed.

In 2019 mortgage providers began to require assurances about the safety of external wall systems as a condition of approving mortgage applications.

There was concern that flats in high-rise blocks wouldn't represent good security and that owners could be liable for remediation costs. Surveyors took the view that flats in blocks without a certificate showing compliance with Advice Note 14 had a value of £0 or significantly less than the asking price. An increasing number of mortgage applications were rejected; sales started to fall through.

In response, the Royal Institution of Chartered Surveyors [RICS] led a cross-industry working group to consider best practice in the reporting and valuation of tall buildings within the secured lending arena with a view to agreeing a new standardised process.

The EWS process was agreed by the industry in December 2019 – [it is described as an](#) “industry-wide valuation process which will help people buy and sell homes and re-mortgage in buildings above 18 metres [six storeys].”

2.1 What is the EWS1 Form?

After its introduction, flat owners seeking to sell or re-mortgage their homes found that lenders asked for an [EWS1 form](#). EWS1 forms are not a statutory requirement.

In the UK, if required by a valuer or lender, specialist input from a competent expert on cladding can be sought through an EWS1

This form was developed in consultation with a range of market participants, including the UK government, UK Finance, the Building Societies Association, lenders, chartered engineers registered by the Institution of Fire Engineers, developers, managing agents, building owners, chartered valuation surveyors, and legal representation.

Lenders may refuse a mortgage application where one cannot be produced – this is a commercial decision.

EWS1 was designed as a means of ensuring that a suitable assessment has been carried out by a competent fire expert to



Timber Decking detail



provide information about whether remedial works are likely to be required for a building.

It is intended for use in valuation only, not as a fire risk

assessment	and provides a simple and clear pro forma from
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which lenders and valuers can assess whether there is a need for remedial works that will affect value.

This enables lenders and valuers to provide the best advice to those wishing to access finance and make purchasing decisions.

The EWS1 form is not a safety certificate and the fact that an EWS1 form is not required for a particular building does not mean that the building may not require some form of remediation in the future.

EWS1 forms are valid for five years. Where buildings are altered a new form may be needed.

2.2 Ongoing issues

Although the EWS process was devised as an industry solution to 'unstick' the market for flats in high-rise blocks, its implementation brought other problems to the fore.

On 21 November the Government announced changes to the application of the EWS process to help long leaseholders [see below].

2.3 Which blocks does EWS apply to?

Requesting an EWS1 for buildings where there is no visible cladding or a low risk of remediation work creates long and unnecessary delays to the buying, selling or re-mortgaging of such properties.

It also prevents the limited pool of competent experts from focussing their assessments on properties where there is a significant risk to the safety of occupants.

A valuer should always have a rationale to justify the request for an EWS1 form.

This relates to consolidated Government guidance issued in January 2020: Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings which says, "The need to assess and manage the risk of external fire spread applies to buildings of any height."

On 21 November 2020 an agreement between RICS, UK Finance, the Building Societies Association and Government [was announced](#) such that an EWS1 form will no longer be needed for sales or re-mortgages on flats in blocks with no cladding. [Supplementary guidance](#) on fire risk assessments was issued on 21 November.

On 8 March 2021, RICS published a new guidance note which provides further guidance on the criteria where an EWS1 form should be required.

This guidance note is not intended to be, nor should it ever be used as, a substitute for or part of a professional life safety fire risk assessment of any building.

This updated guidance is purely to help valuers understand when an EWS1 form is required due to visible cladding and it is likely, under current government guidance, that remedial works affecting the value of the property would be needed to remedy any defects with that cladding.

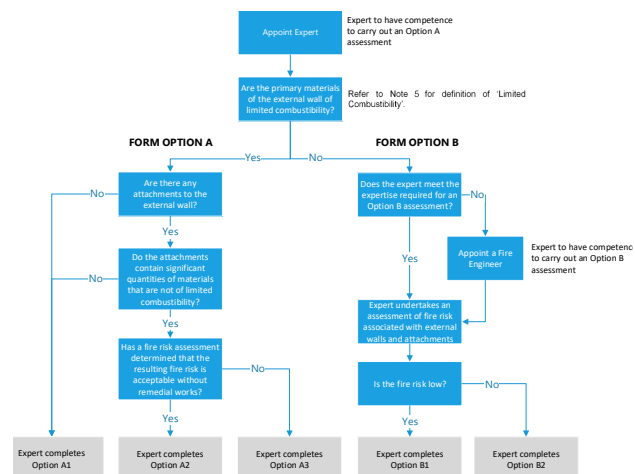
The EWS1 form is not a safety certificate and the fact that an EWS1 form is not required for a particular building does not mean that the building may not require some form of remediation in the future.

2.4 What happens after the EWS1 is completed?

There are five possible results from an EWS assessment.

Category A applies where buildings have external wall primary materials that are of limited combustibility or better [i.e., Euroclass A1 or A2 only], and when cavity barriers are installed to an appropriate standard in relevant locations [i.e., in accordance with Approved Document B]. Under this category, it is the attachments to the external wall that are decisive.

- RICS states that A1 and A2 findings "are not likely to lead to any further action."
- An A3 finding means that remedial work may be needed on attachments to the external wall, such as balconies.
- Category B applies where combustible primary materials within the external wall build-up are clearly present.
- A B1 rating means the engineer has decided that the fire risk is low, and no remedial work is required.
- A B2 finding means that there isn't an adequate standard of fire safety and remedial work/interim measures are required.



3.0 Purpose of this Report

This report is an external wall survey [EWS] carried out for the premises known as Aqua House, Agate Close, London, NW10 7FF.

This report will assess whether the buildings are in line with the standard fire design guidance at the time of design, and whether the buildings are considered to be "safe" in line with the MHCLG Advice Note 14.

This report deals explicitly with life safety and the regulatory requirements that can be satisfied. This report will appraise the walling systems on site and will assess the requirements for cavity barriers.

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This report includes evidence of the fire performance of the actual materials installed.

Noting: -

- 'Limited combustibility' is defined in BS 9991:2015.
- Cavity barrier fire performance and locations are based on relevant fire safety design guidance documentation such as BS 9991 or relevant statutory guidance.
- The assessment of fire risk includes that insofar as is necessary to ensure a reasonable standard of health and safety of those in and around the building, all external wall constructions and any external attachments [e.g., balconies] of the building.

3.1 External Wall Fire Review

In December 2019 the Ministry of Housing, Communities & Local Government [MHCLG] released Advice Note 14 "Advice on external wall systems that do not incorporate Aluminium Composite Material". The purpose of this document is to give building owners and operators advice on external walling systems on buildings >18m.

The document effectively provides a flow chart outlining the processes that should be followed to determine if a building is "safe".

The document defines "safe" for existing buildings as having external walling systems which contain only materials that are of limited combustibility [class A2 or higher] should have been used, unless the system has achieved BR135 classification via a BS 8414 test.

There is a third route to compliance, point 5 of Advice Note 14 states "Where an Assessment In Lieu of Test [sometimes referred to as a desktop study or technical assessment] of the likely performance of external wall systems has been undertaken, the technical basis of such assessments should be checked to ensure that all assumptions are technically robust.

Assumptions should be based on established scientific and engineering principles and supported by reference to relevant BS 8414 fire test data. The assessment and tests should have been undertaken by competent professionals".

3.1.1 Government Advice

Changing Government advice regarding building safety is impacting thousands of properties across the UK, making it difficult for a large number of homeowners to secure mortgages as many lenders are now requesting what is known as a 'statement of compliance' [EWS1 form].

The EWS1 form needs to be signed by an independent qualified professional advisor recognised by Government.

Since June 2017 the Ministry for Housing, Communities and Local Government has published a series of advisory notes relating to building safety.

In January 2020 this was consolidated into a single document: Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings.

This advice asks that building owners review the design, installation and composition of the structure of external wall systems. It covers the materials used and also how façades were put together, as well as certification of the methods taken, and procedures followed during construction.

3.1.2 <18m Building control circular

In July 2019 the MHCLG released a circular to Building Control bodies in relation to buildings which are <18m and the external walling systems used on them.

This document is more intended for new buildings; however, it is the MHCLG expectation that existing buildings are analysed in the same way.

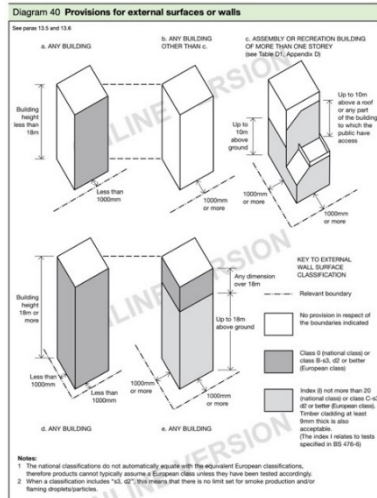
Although there are no restrictions on the combustibility of materials used on <18m residential buildings [even in the most recent guidance], they should be assessed from first principles to determine if the functional requirement of Part B4 has been met: "The external walls of the building shall adequately 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".

This means that the walls, should they contain combustible materials, should be assessed by determining the risk of uncontrolled fire spread with respect to occupant life safety. Any balconies or terraces on <18m buildings should be assessed in the same way.

Latest guidance suggests that the MHCLG's view is that all components of a balcony should be of limited combustibility, and this should be taken into consideration.



3.2 Walling Systems Guidance Requirements



The 2000 version of Approved Document B [ADB] which supported the Building Regulations of 2000 was the version current at the time the scheme was designed and constructed.

Within part B4 of the approved document, the following guidance is given “if the external walls are constructed so that the risk of ignition from an external

source, and the spread of fire over their surfaces, is restricted by making provision for them to have low rates of heat release;”

There are also requirements relating to the area of unprotected openings allowed in an external wall which are not relevant to the two buildings under review.

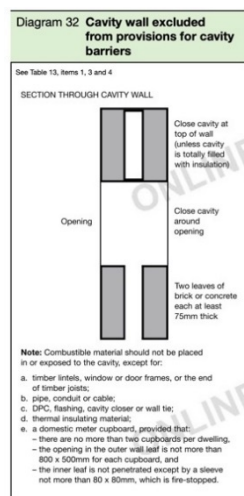
The Guidance in ADB goes on to cover the construction of external walls and the standard of the external surfaces.

3.2.1 External surfaces

The use of combustible materials for cladding framework, or of combustible thermal insulation as an over cladding or in ventilated cavities, may present such a risk in tall buildings, even though the provisions for external surfaces in Diagram 40 of ADB have been satisfied

In a building with a storey 18m or more above ground level, insulation material used in ventilated cavities in the external wall construction should be of limited combustibility.

This restriction does not apply to masonry cavity wall construction which complies with Diagram 32 in Section 10 of ADB.



Advice on the use of thermal insulation material is given in the BRE report Fire performance of external thermal insulation for walls of multi-storey buildings [BR135, 1988].

Advice on the use of thermal insulation material is given in the BRE report Fire performance of external thermal insulation for walls of multi-storey buildings [BR135, 1988].

3.2.2 Other considerations

There are two “code-compliant” routes that can be taken to meet the building regulations; all materials in the system should be of limited

combustibility [minimum A2-s3, d2 to BS EN 13501-1], or if combustible materials are present the system should pass a BS8414 test in accordance with BR135.

The “guidance” contained in Approved Document B [ADB] is purely guidance, and there is no obligation to adopt a specific solution in that guidance if it can be demonstrated that a proposed system will fulfil the functional guidance of the Building Regulations in some other way.

This is the principle behind what latterly became known as option 3 and 4 reports as defined in the Building Control Alliance Technical Guidance Note 18.

Originally these were still known as fire engineered assessments and they were used.

Where non code compliant solutions are adopted on a building, it should be ascertained whether an engineered solution was submitted to and accepted by the relevant approving authorities.

3.2.3 Guidance requirements

Part B3[4] of The Building Regulations requires “The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.”

Cavity barriers should be provided to close the edges of cavities, including around openings for all building purpose groups. They should also be provided at every compartment floor and compartment wall.

The only exclusion applies to masonry skin walls under these points.

Cavity walling systems are generally either ventilated or non-ventilated; the function of the ventilation is to remove condensation build up.

Most systems are ventilated cavities, double skin walls are an example of a non-ventilated cavity.

3.2.4 Combustibility

Material	UK Classification	EU Classification
Steel, concrete, brickwork, blockwork, stone, ceramic tiles, glass etc.	Non-combustible	A1
Aluminium	Combustible materials such as aluminium alloys should be assessed on each individual case	Not Applicable
Mineral wool insulation	Non-combustible	A1



Material	UK Classification	EU Classification
Phenolic Insulation	Combustible	B-s3,d2
PIR/PUR Insulation	Combustible	C-s3,d2 – D-s3,d2 - is more combustible than phenolic
Polystyrene Insulation	Combustible	E - the most combustible of common insulation

3.3 Owner/Occupier Obligations

In the context of fire safety, Regulation 38 Regulatory Reform [Fire Safety] Order is used to ensure the provision of information for the formation of the buildings Fire Risk Assessment to meet the requirements of the Regulatory Reform [Fire Safety] Order 2005. Regulation 38 requires that “The person carrying out the work shall give fire safety information to the responsible person* not later than the date of completion of the work, or the date of occupation ... whichever is earlier.”

This regulation aims to ensure that information critical to the life safety of people in and around the building is communicated to the owner, occupier and/or end user, so that the building can be operated and managed correctly.

This report seeks to identify correct fire safety information for the Responsible Person.

The Responsible Person will need to conduct a suitable and sufficient fire risk assessment for the building to accurately record the physical fire safety precautions in place, and so enable risks to the relevant persons in the building to be understood in a way that allows them to be appropriately addressed.

In turn, the client should then provide the relevant information to the “responsible person”.

4.0 General Project Information



Location Plan of Aqua House NW10 7FF

Schedule of Addresses:

Flat 1 – 37 Aqua House, Agate Close, Park Royal, London, NW10 7FF.

The premises are known as Aqua House, Agate Close, London, NW10 7FF.

- The facility was built in 2005.
- The building is used for residential use only.
- The premises comprise a purpose-built eight-storey block of flats. The height from ground to the top of the uppermost floor slab is over 18m.
- The Entrance is on the internal side of the building facing private service access routes only.
- It is a single staircase building with AOV at the top level operated by roof hatch operation.
- Inner skin walls are of blockwork faced with cementitious render direct onto the inner skin at all levels with the exception of the Penthouse where the blockwork is faced with non-FR HPL on non FR Tyvek membrane.
- There are two Penthouse level apartments which are surrounded by Terraces with combustible decking.
- The feature soffit to the roof overhangs the Penthouse terraces and is of non-FR HPL on timber structure.
- There is natural ventilated basement car parking accessed from the internal service road and separate escape routing direct to open air by individual staircases from basement out.
- Bin stores are found with outside access louvred doors to the perimeter areas of the building.
- There is no resident Manager on the premise
- The Concierge service is a mobile attendance only.



Elevation from Twyford Abbey Road

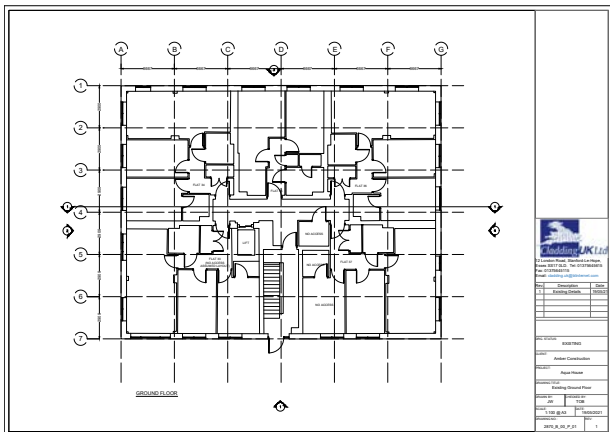




Street Elevation



Elevation from Lakeside Drive



Typical ground floor plan



Elevation

4.1 Planning History

Full planning consent was achieved in December 2008

4.2 Data Reviewed

No O&M Manuals are available for the building.

- Fire Risk Assessment Report by Salvum Ltd dated 7 February 2019.
- Assessment of Cladding Details by Tennyson Suite dated 28 May 2020.
- Plan /Elevation Drawings by Cladding UK Ltd dated 19 May 2021.
- Cladding Investigation Report by Cladding UK Ltd dated: 15 March 2021.

4.3 Facilities & Access by Fire Brigade

By assessing the location of the buildings, access for emergency vehicles from the entry to the front of the buildings is suitable.

There are dry riser access points in the internal stair core.

Evacuation strategy is on the 'stay put' basis.

No personal evacuation plans have been advised to ORSA by Management.

No Fire Brigade 'Grab Pack' was seen on the premises. This should be provided in a lockable fireproof cabinet to be located in the ground floor entrance area and is for use by the LFB on attendance of any incident of fire.

4.4 Fire Protection to the Common Access Corridor and Stairs

On the basis of the Fire Risk Assessment¹ report it can be concluded that the fire protection to the common access corridor

¹ A Fire Risk Assessment is a legal requirement. If you are responsible for a building, for example an employer, owner or occupier of premises that are not a 'single

private dwelling' [a private home], you need to make sure a suitably competent person completes a Fire Risk Assessment.



and stairs are in accordance with the guidance for a block of flats and the premises has adequate means of escape.

The fire protection measures available include:

Automatic Opening Vents [AOVs] on the building are sited at the top of the stair core and are by hatch release. The maintenance regime for the AOVs is unknown. Automatically opening vents, or those vents which are electrically controlled and manually operated require regular maintenance and servicing. AOVs and electrically operated OVVs should be tested once a month using the manual controls to ensure they are working as intended.

- Fire Fighting Lifts: There is one lift service in the facility.
- Smoke detectors are located on every landing in the residential buildings, communal areas, plant rooms and risers. They are mains operated and are required to be tested regularly
- As reported in the Fire Risk Assessment, regular checking, testing and maintenance are required to be undertaken on all fire protection measures across the Estate throughout the year.
- A protected lobby and stair serving all floors is found with a protected escape route to the final exit from the building, at ground floor level.
- Emergency lighting is installed along communal areas and should be regularly tested and certified as in order.
- A fire action plan is installed within the main entrance lobby of the lock.

4.4.1 Fire doors

As per the Fire Risk Assessment, all corridor doors are fire doors. A sample of flat entrance doors [30min FR] were inspected across the site and they were generally acceptable. A further Fire Risk Assessment or Fire Door Survey would be beneficial to determine more accurately the conditions of the doors.

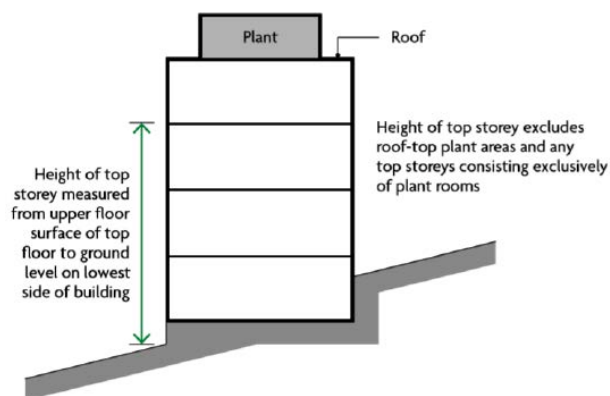
Whilst it is not possible [without destructive testing or original documentation] to determine the original fire resistance standard of the doors, a considered view would be that with the addition of cold smoke seals the doors would provide a 'reasonable' standard of fire resistance.

4.4.2 Fire detection and warning within the individual flats

As per the Fire Risk Assessment, the building indicates a satisfactory level of fire compartmentation but the building would benefit from an updated FRA for checking of this and other elements of passive fire protection.

No mention of any formal provision of warning systems with the individual flats is noted within the Fire Risk Assessment.

4.4 Building Height



Height Rules: The measurement should be taken from the lowest ground level to the finished floor level of the top occupied storey [i.e. excluding roof-top plant and any top storeys consisting exclusively of plant rooms].

Measurement: In the context of the EWS building height measurement rules the structure for Aqua House has an EWS height above 18m from ground level as measured using the EWS method.

- Aqua House - 8 storey; EWS height is 19.95m

The measurement was taken from the section drawing on the property.

The building height is calculated using an approximate average height of 2.7m per storey [for residential] and 3m for commercial storey heights.

5.0 External Façade

The building utilises 4 main wall types for its external walling: -

- Traditional Brick Wall construction at ground floor and lower levels/basement enclosures
- Solid blockwork with render finish
- Timber cladding used as a feature detail to window surrounds and onto the facades, including lift over run at roof level.
- High pressure laminated [HPL] panels to the Penthouses at the top level at walling systems and to the interfaced soffit at the `Penthouse/Roof level.

Summary of timber decking installations

- Steel Frame balcony structures bolted to the facades at the lower levels below the Penthouse levels. The balconies stack one above the other and are therefore considered a high risk for risk of spread of fire.
- Timber decking to these bolt on balconies is a combustible material and should be replaced with a suitable Class A1/A2 decking product (as Ali Deck or equivalent)
- Penthouse Level Terraces have combustible timber decking which integrates with the wall cladding system of combustible HPL. The wall detail continues down past the decking levels where the decking detail interfaces with the



HPL cladding faces. This brings a significant fire loading to the `Penthouse` Terraces which require replacement of walling and decking materials with suitable Clads A1/A2 systems for reasons of fire safety.



Timber Decking inspection

Various investigations have been carried out along the external perimeter of the block. A selection of record photographs has been included throughout this report.

ORSA hold various other inspection record photographs and details for this report.

The set back occurs on the top floor where the HPL cladding panels are located to both the walling system and to the soffit feature which overhangs the Penthouse terraces. The walling details interface directly with the walling system and are therefore considered to add significant risk of spread of fire. The walling system HPL is backed by a non-FR Tyvek membrane which again adds risk of spread of fire across these ~Penthouse facades.

5.1 External Walling Detail

- Wall Type 1 ■ External Facing Brick
Traditional Brick Wall
- Wall Type 2 ■ Blockwork
Blockwork
- Wall Type 3 ■ External render and backing board
 ■ Internal Cavity
 ■ Weatherproof membrane

- Timber Cladding ■ Timber studs
 ■ Vapour barrier
 ■ Internal Plasterboard lining
- Wall Type 4 ■ Breeze block substrate with standard Tyvek breathing membrane
- High Pressure Laminated [HPL] Panels ■ 5mm timber battens form the sub grid
 ■ 8mm Trespa meteon cladding panels

5.2 Attachments

- Attachment Type 1 Balcony ■ Timber decking
 ■ Steel framed balconies
 ■ Stacked balconies

5.3 Cavity Barriers

No signs of additional cavity barriers have been noted around the window openings.

ORSA advise that a full cavity barrier survey is conducted to verify the condition and presence of all relevant cavity barriers. Cavity barriers [subject to their design and installation] are crucial to preventing the spread of fire. ORSA advise cavity barrier surveys should be carried out for record and defective cavity barriers are addressed where necessary.

It is noted that replacement systems will include replacement of cavity barriers to the required systems as part of works.



showing the brick work on the ground floor



5.4 Wall Types Investigation

5.4.1 External Wall Type 1 Traditional Brick Wall



Front façade showing the brick work on the ground floor

Several investigation holes were formed in the brick facing wall along all the elevations of the different blocks. In most cases the build-up seemed similar with a variation in the stock of brick used.

5.4.2 External Wall Type 2 Blockwork



Blockwork with cementitious render direct onto blockwork



Blockwork inspection



Zoomed in blockwork inspection hole

Several investigation holes were placed formed in the render/block facing wall along all the elevations. In most cases the build-up was similar with a variation in the stock of block used.

5.4.3 External Wall Type 3 Timber Cladding

The external wall of the building is partially clad with a timber detail. The timber is a combustible element and should be replaced.

Amendments to The Building Regulation 2010 require materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2- s1, d0 or Class A1, classified in accordance with BS EN 13501 1:2009+A1:2009 entitled "Fire classification of construction products and building elements."

5.4.4 External Wall Type 4 High Pressure Laminated [HPL] Panels

The High Pressure Laminated [HPL] panels are on the top floor of the building.

The 'Trespa' High Pressure Laminate (HPL) panels do not meet Euroclass B and MHCLG Advice Note 22 states that "The fire classification of an HPL panel can vary depending on its material properties, thickness and whether or not it incorporates fire retardant chemicals. HPL panels with fire retardant chemicals added are sometimes referred to as "FR grade" and typically achieve Class B-s1, d0. Panels manufactured without fire retardant can be Class C or D, depending on the thickness and make-up of the panel. No FR markings were found to the rear of the Trespa panels to demote any FR properties.





Top floor _ High Pressure Laminated Wall Panels to the Penthouse Level with direct interface to Soffit Overhang



The HPL at the Penthouse Levels to the walling system with non-FR Tyvek membrane which adds to the risk of spread of fire across the facades.



Projected Balconies and Juliette balconies _ showing the timber cladding and timber decking.

5.4.5 Timber Decking to bolt on Balconies and Penthouse Terrace Levels.

Starting from the bottom up, there is waterproofing on top of the concrete, possibly GRP- approx. 15mm in depth, lilt has layered up between 100mm timber bearers. This in turn has 28mm timber decking fixed to timber bearers.

5.5 Key Details

Building Taller Than 18m	Yes
	Aqua House EWS height is 19.95m
Does the Facade include metal composite material [MCM's / ACM]?	No
Does the Facade include high pressure laminates [HPL's]?	Yes
Does the Facade include any timber elements?	Yes



General description	<p>Steel structure bolt Balconies have a significant amount of timber decking. The balconies are of large size These Balconies are stacked horizontally and without soffits bringing about a high risk of vertical fire spread should an incident occur.</p> <p>Traditional solid brick construction on the ground and basement floor levels. Solid blockwork with a significant amount of timber cladding on each floor and the top floor of the building is all covered of HPL panels to walls and overhanging soffit.</p>
Number of Floors	7 Floors
Number of Staircases	1 Stair core
Sprinkler Protected?	No
Cladding materials	The HPL panels were easily identifiable at time of Penthouse investigations.

5.6 Façade Percentages

Cladding type	Percentage
Timber	15%
HPL (Penthouse Levels)	15%
Render System	70%

6.0 Observations & Conclusion

6.1 Buildings Above 18m

Aqua House in the context of EWS is above 18m.

Approved `document B Amendment states:

Subject to paragraph [3], building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or A1, classified in accordance with BS EN 13501-1:2007+A1:2009 entitled "Fire classification of construction products and building elements. Classification using test data from reaction to fire tests" _[ISBN 978 0 580 59861 6] published by the British Standards Institution on 30th March 2007 and amended in November.

6.2 Traditional brick wall construction [Wall type 1]

The brickwork is non-combustible and therefore not classified as a fire risk.

6.3 Solid Blockwork with render finish [Wall Type 2]

The blockwork is non-combustible (A1) materials, as is the render coat which was seen as a cementitious monocouche render applied directly to the thermal blockwork.

6.4 Timber Cladding [Wall Type 3]

Any timber feature elements on to the external façade act as a potential fire load to the building. This involves the timber panelling to the façade and timber decking to balconies and timber decking to the Penthouse Terraces.

To avert the risk of a fire we would recommend external timber elements are replaced with a suitable non-combustible alternative which can meet the functional requirements B4 of Approved Document B of the Building Regulations.

The areas of timber cladding lack cavity barriers in the void behind the timber cladding itself. This is not in accordance with the guidance and barriers should be provided behind the timber at intervals of not more than 10m, vertically and horizontally.

The following material ['Cedral click'] with a fire safety classification of A2-s1, d0 can be installed as a cladding replacement to the timber features.

Timber wall panelling

Timber cladding like this, although diagram 40 in ADB shows 9mm thick timber to be acceptable under 18m, is only likely to achieve Euroclass D. The timber should be replaced.

The timber on these buildings does not appear to have been subject to recent treatment and is likely to meet the lower performance of Euroclass D.

The timber cladding will require replacement with a material that achieves a minimum of Euroclass A2 such as Marley Eternit board, or other cementitious boards or wood lookalike panels.

This will need planning permission and advice should be sought from the approval authority before undertaking remedial works.

6.4 High Pressure Laminated [HPL] Panels [Wall Type 4]

High pressure laminate [HPL] panels are a form of cladding typically manufactured by layering sheets of wood or paper fibre with a resin and bonding them under heat and pressure. They sometimes include additional chemicals to provide fire retardant properties. They achieve a Class B-s1, d0 fire rating. Panels manufactured



without fire retardant can be Class C or D, depending on the thickness of the panel.

The panels are fixed to blockwork with a timber battening support and rail system and includes non-FR Tyvek membrane, it is considered that the combustible non-FR high pressure laminate panels give rise to high fire risks that are high enough to warrant remedial works at this time. The HPL to the walling system at the Penthouse levels directly interfaces to the sweeping soffit which overhangs the Terraces and below. The total HPL requires replacement.

As part of ongoing maintenance ORSA advise replacing the non-FR Trespa panels with a non-combustible alternative that aligns to MHCLG Guidance and meets las A1/A2 Building Regulation requirements.

6.4 Timber Decking [Wall Type 5]

Any timber elements lining the external façade act as a potential fire load to the building. This includes the timber decking to both the bolt on Balcones and as found at the Penthouse Terraces at the top level.

To avert the risk of a fire, these timber decking systems should be replaced with a suitable Class A1/A2 system (Ali Deck or equivalent)

Timber decking to Balconies and Terraces

It is considered that the combustible timber decking gives rise to fire risks that are high enough to warrant remedial works at this time.

Notably at the Penthouse Levels where the decking interfaces directly to the walling system which is in non-FR HPL.

This gives a high risk of spread of fire across the Penthouse facades with a significant fire loading on the building.

6.3 Other Non EWS Related concerns

Although not directly relating to the EWS, ORSA have noted that an updated FRA should be undertaken, and record of fire testing of relevant elements should be demonstrated.

Management procedures should be implemented to ensure that no combustible materials or storage of hazardous materials takes place on the balconies or terraces.

7.0 Limitations

- 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.
- Where the product information is absent, or where sampling could not be undertaken, ORSA state the expected combustibility rating based on the known characteristics of the materials in use.
- Where product branding is absent or ambiguous, ORSA will refer to as-built drawings and specification contained in the O&M manuals [where available], but this does not constitute confirmation of the brand of the products used in construction.
- The supporting evidence provided in this report has been selected to substantiate the statements made within its content. Additional photographs an endoscope video footage is available upon request.
- Product manufacturers cannot be confirmed with absolute certainty unless the sampled materials viewed show evidence of product branding.



Appendix 1

Cladding Investigation Report By

Cladding UK

EWS REVIEW 3421_Aqua House_EWS Report_CIK090821.docx



CLADDING UK LTD

12 LONDON ROAD, STANFORD-LE-HOPE, ESSEX, SS17 0LL
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EMAIL

D170/ORSA/TOB/01

15th March 2021

ORSA Projects Ltd
15 Stratton Street
London
Q1J 8LQ

For the attention of Cindy Cane

Re: Aqua House, Agate Close, Park Royal NW10 7FF

REPORT

Dear Cindy,

Please see attached photographs pertaining to our site visit w/ending 5th March 2021.

Works:

To carry out intrusive investigation to the substructure behind the timber wall cladding, Trespa wall cladding, Trespa soffit cladding and roof structure, to assess suitability for new cladding systems

Appendix

Timber decking- photo's 1-4 attached
Wall / soffit cladding- photo's 1-9 attached

Summary:

Timber wall cladding- We were unable to remove any timber wall cladding due to access restrictions / limitations.

External wall cladding- Breeze block substrate with standard Tyvek breather membrane (not fire curb). 50mm timber battens form the subgrid for 8mm Trespa Meteor cladding panels (not FR grade). A small discreet sample was taken and provided to ORSA for fire-testing.

Soffit cladding- consisted of 8mm Trespa Meteor cladding panels, fixed to the overhang from roof with timber battens. 472mm depth total ply and timber battens. No insulation was found in the soffit.

The panels we removed were not found to be FR grade. (fire rated)

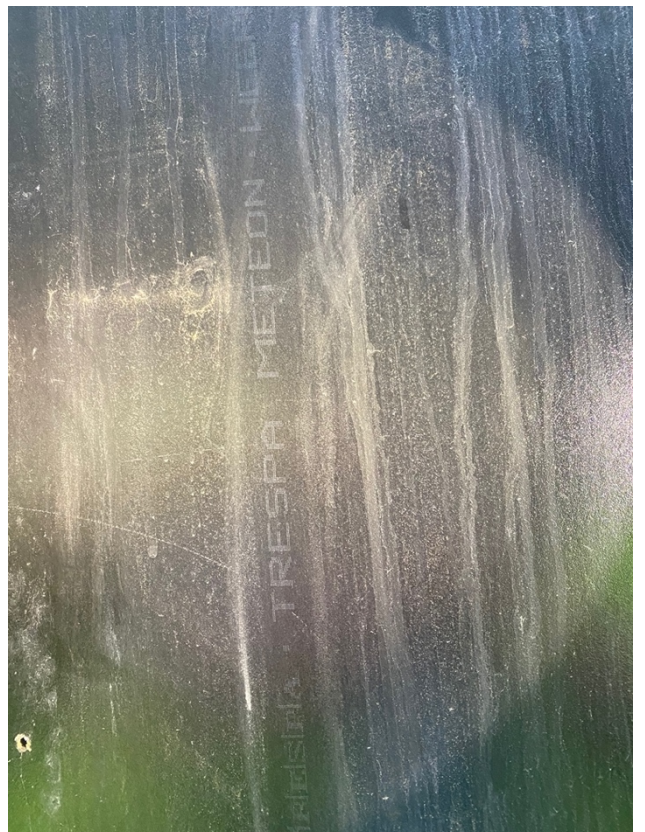
Roof structure- consisted of structural steel work and ply.

Timber decking- starting from the bottom up, there is some kind of waterproofing on top of the concrete, possibly GRP- approx. 15mm in depth, this in turn is strangely covered with 10mm of soil, layered between 100mm timber bearers. This in turn has 28mm timber decking fixed to timber bearers.

Yours sincerely.

Mrs J. O'Brien
Cladding UK Ltd

Wall Cladding details





Timber Decking Detail at Penthouse Terrace:



Appendix 2 EWS Frequently Asked Questions

What is an external wall system?

- The external wall system is made up of the outside wall of a residential building, including cladding, insulation, fire break systems, etc.

What is the EWS1 process/form?

- 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 [HMO].
- 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" [see download on this page] 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.
- ORSA has a number of Qualified Persons including Christian A. Bucknall, the business founder, Phil Barry and Dr. Augustin Majdalani.
- See the appendix below "About ORSA" for further details of the experience of our qualified persons.

EWS Scope

- The EWS process and 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.
- Not every building will require an EWS1 form.
- RICS published guidance for valuers on 8 March 2021.
- 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 consider 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.
- The rationale to justify the request for the EWS1 form must always be justified.

Does the publication of the revised EWS1 form on 8 March 2021, render any existing completed EWS1 forms obsolete?

- No, they remain valid until such time as a new EWS1 form is completed.
- The EWS1 Form dated March 2021 should be adopted as soon as possible and only this one used after 5 April 2021, which is the implementation date of the Guidance Note.
- Please note that EWS1 forms completed before the above version was made available will remain valid until such time that a new EWS1 form is completed.

Does each flat/apartment have to get an individual EWS1 form for selling, buying, or re-mortgaging?

- No. Each EWS1 form is valid for an entire block/building. It is valid for five years.

How does the EWS1 form factor into the buying, selling or re-mortgaging of a flat/apartment?

- The EWS [external wall system] process, is agreed by representatives for developers, managing agents, fire engineers, lawyers, lenders, insurers, and valuers, and has been adopted across the industry.
- Its purpose is to ensure that a valuation can be provided for a mortgage or re-mortgage on a property which features an external wall cladding system of unknown make-up. Being of unknown construction may have safety implications, and in turn may affect a valuation, should remedial works be required due to the associated fire risk.
- The process results in a signed EWS1 form per building, with two options/outcomes:
 - [A] external wall materials are unlikely to support combustion
 - [B] Combustible materials are present in an external wall with sub options of either, fire risk is sufficiently low that no remedial works are required, or fire risk is high enough that remedial works are required.
- The EWS1 form itself certifies that the external wall cladding system has been assessed by someone who is suitably qualified to do so.
- While the form applies to residential buildings, changes in Government advice introduced in January 2020, mean that



all residential buildings of any height with a wall system may need to be risk assessed.

- There is guidance to help valuers decide when an EWS1 form should be required.

The EWS Certificate

- A completed EWS Certificate is not a life safety certificate. It is only for the use of a valuer and lender in determining if remediation costs affect value.
- Where a building is found to need remedial works this will need to be carried out by the building owner, to ensure safety of the building, before a mortgage can proceed unless the lender agrees otherwise.
- ORSA welcomed the Secretary of State announcement in February 2021, on the additional funding for the removal of dangerous cladding in all qualifying residential properties over 18m.
- Government funding is something ORSA has long called for, and whilst we recognise the complexity of the funding mechanisms, it is critical that any loan scheme for sub-18m blocks should be affordable and viable.

If the building owner has not proactively tested the external wall materials what does the seller need to do?

- A seller can request that their building owner or managing agent commission an EWS assessment, and/or enquire as to the make-up of the wall system.
- The building owner or managing agent is responsible for confirming what materials are on their building, and in respect to the EWS1 form, the person responsible for the building needs to confirm what the wall system is made up of and whether an assessment is required.

Can the buyer or seller initiate the EWS process if the building owner has not?

- The EWS process/form is for building owners to undertake. Both sellers and buyers should be in contact with the building owner or their agent to ensure this takes place as quickly as possible.

If the building owner will not undertake the required assessment, what can the owner/lender/valuer do?

- If the building owner does not acknowledge their responsibility and refuses to undertake the necessary assessment, the local council can provide further advice, or it should be referred to the Fire and Rescue Service.
- No one should be living in a building which is unsafe, and the building owners are the only ones who can progress this.
- Building owners have a clear responsibility reinforced by MHCLG advice to arrange for the wall system to be checked and therefore have a route to remediation where needed.

- Leaseholders should continue to engage with the building owner or their managing agent to ensure this happens.
- The Fire Safety Bill, which is due to gain Royal Assent in 2021 will go further in dealing with this.

Who carries out the EWS assessment, and what is their expertise?

- The EWS1 form must be completed by a fully qualified member of a relevant professional body within the construction industry with sufficient expertise to identify the relevant materials within the external wall cladding and attachments, including whether fire resisting cavity barriers and fire stopping have been installed correctly.
- Buildings over 18m or those which are high risk and require specialist testing require a qualified fire safety engineer.
- UK banks and building societies have robust measures in place to protect people against fraud, which would pick up any EWS1 form that is suspicious, but ORSA encourage everyone to check the signatory on a form with the profession's institution or with ourselves at fire@orsa.uk
- If an RICS member is completing your EWS1 form, you can check their membership with us on our website.
- There is a list of suggested bodies to contact to source fire experts. This list is not exhaustive, nor does it constitute an endorsement or approval from RICS, UKF or BSA, and other bodies with relevant expertise may be able to assist.
- Anybody instructing an EWS1 form must be satisfied that the signatory meets the requirements as described above.

How will an assessment be carried out?

- This is up to the expert undertaking the assessment, but it must include evidence of the fire performance of materials used in the cladding.
- While paperwork submitted by the building's original developer and/or owner can form part of the evidence, it cannot be solely relied upon. Photo evidence of the cladding will be required, or a physical inspection where this is not available or inconclusive.
- In some cases - even where all attempts to establish the cladding system have been taken - the make-up and composition of the external wall system may still be unclear. In such instances intrusive tests may be required, alongside a more detailed review by a professional of a higher level of expertise.
- Such tests may involve a hole being drilled into the wall or a section of cladding to identify the external wall system materials and their composition. It is crucially important to identify the whole make-up of an external wall system and how it has been installed.

Why is an EWS assessment required every five years?

- An EWS assessment is required every five years for each building or block.



- This means multiple sellers located in one block can use the same assessment to assist with the sale of their property.
- Five years is intended to capture any renovation or adaptation work done to the building, as well as maintenance over that period.
- However, a new EWS assessment may be required within the five-year period if substantial works have been completed to a property, affecting the original conclusions.
- When the Fire Safety Bill comes into force, the building owners of all multiple storey, multiple occupancy buildings in England will be required to undertake fire risk appraisals and assessments of their buildings, which includes, where appropriate, an assessment of the external wall system.

What happens if the EWS assessment identifies that remedial works are required?

- If an external wall system requires remedial work then we would expect the valuer to take this into consideration in their valuation.
- A valuation will only be possible if there is clarity on cost of the work and a timeline for works to be completed. Lenders are unlikely to lend until remedial work has been completed, but some may choose to do so with retentions and the like based on their own risk appetite.
- The EWS assessment is for the building owner to oversee, but the resulting form should be available on request to all occupants in that block in the interests of transparency.

Does the EWS assessment cover general fire safety measures?

- The EWS1 form assessment is carried out for valuation purposes only.
- It captures the details of the safety of different types of external wall systems used in residential buildings and will determine whether or not remedial works are required.
- It is not designed to assess other fire safety features or risks and should never be used to determine the overall risk of fire to a building. It is not a life safety certificate.
- The person responsible for the building [Responsible Person under the Regulatory Reform [Fire Safety] Order 2005] should have a fire risk assessment [FRA] for the building as this is an independent legal requirement that is already in place and does not commonly incorporate assessment of external wall materials.
- Note this will change with the Fire Safety Bill coming into force in England and FRA will then need to cover the external cladding.

Does a nil valuation mean a flat is worthless?

- No. 'Nil valuations' are used in the process of valuing a property for mortgage lending purposes, where a valuer is unable to provide a value at that moment in time i.e. when the valuers' inspection takes place due to insufficient information being available.

- Often a nil valuation signals that the lender requires further information before a valuation can be made, rather than a property being unsellable.

Why are lenders asking for EWS1 forms below 18m?

- Changes in Government advice in January 2020, bringing all residential buildings into scope, mean some residential buildings below 18m may now require an EWS1 form.
- For buildings of five or six storeys, there could be a significant amount of cladding on the building, or a check could be due to the types of panels on the building.
- For buildings of four storeys or fewer, there may be present the most dangerous types of cladding present.
- The guidance note for Valuers provides information on criteria where an EWS1 should be required.
- A valuer should always have a rationale to justify the request for the EWS1 form.

Is the EWS1 form stopping homeowners from selling their flats?

- EWS1 form assessments are not the cause of people finding themselves unable to move.
- Following Grenfell it became apparent, despite having building regulation certification, buildings may have safety concerns.
- This halted the market in some areas largely over concerns about the extent of future costs of remedial works, and where they would fall.
- The EWS1 form review process was introduced jointly by RICS and the two key UK mortgage lending bodies, to inform buyers, owners, lenders and valuers on the extent of works needed on the highest risk properties.
- However, since the introduction of the EWS1 form, MHCLG advice to check a wall system has extended beyond the original scope, increasing the number of buildings needing checks.
- Some of the issues arising from this change have now been addressed and eased following the latest RICS guidance, which clarifies where EWS1 forms are needed.
- Given the relatively small pool of fire engineers that are competent and have sufficient insurance to allow them to undertake these reviews, delays are unfortunately occurring in some cases.

Where are EWS1 forms issued and how can they be accessed?

- In accordance with guidelines from RICS, ORSA upload all of our authorised EWS1 forms to the Building Safety Portal.
- The Building Safety Portal has been created by the Fire Industry Association [FIA] and can be accessed at: buildingsafetyportal.co.uk.
- On this website, anyone can search for an EWS1 form, either by postcode or by building name.



- The FIA checks all forms uploaded to the portal before they are made available to the public. This process takes around ten days for the FIA to complete.
- Before a form is made available to the public, it will be listed on the Building Safety Portal website as “EWS-1 Form in Draft”. It is not possible to view the form at this stage.
- After the form is made available to the public, it will be listed on the Building Safety Portal website and can be viewed.
- Anyone can request access to view an EWS1 form by searching for the form on the Building Safety Portal website. If it has been made available, there will be an option to “Request EWS-1 Form”. Follow the subsequent instructions, as explained on the website, to view the EWS1 form.

Appendix 3 About ORSA

- ORSA is a specialist compliance consultancy whose fire related services are led by Phil Barry and Dr. Augustin Majdalani.
- Phil Barry has a BSc in Fire Engineering and is a Member of the Institute of Fire Engineers [membership no. 18506]. Phil is a highly experienced fire safety professional with 30 years' experience as a fire safety officer in UK local authority fire services.
- Phil has specialised in fire safety since 1999 developing and delivering the highest standard of fire safety training for The Fire Service College & Fire Protection Association.
- He completed three secondments as a senior instructor in fire safety at the UK Fire Service College between 1999 & 2010.
- Phil is an associate tutor for The Fire Service College, The Fire Protection Association and The Chartered Institute of Environmental Health continuing to develop and deliver the highest standard of fire safety training.
- Phil advises clients on a wide variety of fire safety projects, new build consultations, risk assessments and reviews for a diverse range of buildings and is a technical consultant for The Fire Protection Association carrying out fire risk assessments and fire safety related projects on their behalf.
- Phil is an expert advisor to Fire Safe Europe and a registered fire risk assessor with the Institution of Fire Engineers.
- ORSA's Dr. Agustin Majdalani graduated with a BSc in Mechanical Engineering, before completing an MEng in Fire Protection in the USA and a PhD in Fire Safety in the UK.
- Agustin is a Member of Institution of Fire Engineers [MIFireE; membership no. 0054894], and a Chartered Engineer [CEng] professionally registered by the Engineering Council UK.
- As a fire safety consultant Agustin has worked in a wide range of projects gathering a strong expertise in holistic fire safety engineering in the built environment.
- Agustin gained extensive experience in both business and project management areas working for over 20 years in companies servicing the construction industry.
- ORSA as a business is owned by Christian A. Bucknall. Chris has a BSc [Hons] Construction and MSc Energy in Built Environment, being a Member of the Chartered Institute of Building [membership no. 1179233] and a Member of the Royal Institution of Chartered Surveyors [membership no. 1167233].
- ORSA is a RICS registered company.
- ORSA is a business accredited to ISO9001:2015 [CertNo CN/16051IQ], ISO 14001:2015, [Cert No CN/16051IE], OHSAS 18001:2007 [Cert No CN/16051IHS], and ISO 45001:2018 [Cert No CI/16051IHS] by SOCOTEC.





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