This questionnaire seeks to elicit information that could be useful in engaging with insurers and focusses on Rainscreen and ETICS type external wall systems normally tested by the BS8414 / BS9414 / BR135 regimes. Following extensive research programmes by ABI, RISCAuthority, FPA, and others, a number of potential vulnerabilities were identified in the approvals and deployment process that this questionnaire seeks to address.

A major component of this questionnaire is to request the documentation and evidence necessary to demonstrate a robust pedigree back to a suitably relevant standards test, and where features are included that do not form part of the normal test regime, that a demonstrable fire engineering approach has been undertaken to ensure their influence would not result in a failure of the system to comply

The questionnaire has been developed by insurers through the RISCAuthority scheme. The matrix that insurers will use to consider the responses is also given to assist with interpretation.

Form: IQ 7

Version 1.0 November 2020

IQ 7

Building system questionnaire: Cladding systems

To be completed at the design and proposal stage of building planning or prior to alteration / refurbishment

Issued by: Ins. Co./Trade Ass/AHJ name in here

DOCUMENT SCOPE: Building System Questionnaire – Building Cladding Systems

This questionnaire seeks to elicit insurer relevant information to assist with decision making. It considers only rainscreen and ETICS type external wall systems whose performance is evaluated either through the BS8414 / BR135 built-up system test regime, or component reaction-to-fire classifications (for non-combustible systems not requiring BS8414 testing.)

NOTE: COMPLETION GUIDANCE NOTES

Completion of this form neither guarantees building performance or acceptance by the issuer. It is strongly recommended that each completed form and the supporting data be reviewed by an independent expert.

RISCAuthority

IMPORTANT NOTICE

This document has been developed through the RISCAuthority and published by the Fire Protection Association (FPA). RISCAuthority membership comprises a group of UK insurers that actively support a number of expert working groups developing and promulgating best practice for the protection of people, property, business and the environment from loss due to fire and other risks. The technical expertise for this document has been provided by the Technical Directorate of the FPA, external consultants, and experts from the insurance industry who together form the various RISCAuthority Working Groups. Although produced with insurer input it does not (and is not intended to) represent a pan-insurer perspective. Individual insurance companies will have their own requirements which may be different from or not reflected in the content of this document.

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COMPLETION GUIDANCE NOTES:

This questionnaire is designed to elicit technical information required to assist insurers in understanding the cladding system design and the measures proposed for ameliorating risks from fire. To avoid confusion as to what information is required at each question, it is suggested that the questionnaire is read in its entirety prior to commencing completion.

In all cases, if insufficient space is provided to answer the questions in the questionnaire, continue on separate sheets. If separate sheets are used, indicate this is the case and record the document number, title, issue number and date at the location of the question.

IMPORTANT NOTE

Failure to be able to provide answers to any of the questions may demonstrate there to be a shortfall in the knowledge and evidence the FPA / RISCAuthority considers to be appropriate to the implementation of an effective and safe cladding system.

Scoring matrix for completion ONLY by Insurer / Trade Association or AHJ

The Table below is for completion by the Insurer / Trade Association or AHJ and NOT by those proposing or designing the cladding system. The matrix is made visible to ensure those completing the questionnaire understand in advance the key elements that are considered fundamental to the delivery of a resilient building.

Questions – For the risks described: -	Answer
1. Has a named individual signed off the answers supplied?	Yes / No
2. Is the population of the questionnaire complete and are the answers provided of sufficient quality?	Yes / No
3. Has full and unabridged test data been made available for the system (BS8414 / BR135 data for systems with combustible components, and separately 'Reaction to Fire' classification documents for all cladding components (whether combustible or non-combustible).	Yes / No
4. Does the BS8414 fire performance test evidence exactly describe the installed system in terms of,	
a. The materials used (including their reaction to fire classifications)?	Yes / No
b. The dimensions of all materials used?	Yes / No
c. The spacing and relative positioning of all components?	Yes / No
d. How the materials are installed?	Yes / No
e. Which parts are present?	Yes / No
5. Where the system tested is not identical to the system proposed / installed, has the deviation been adequately covered via the BS9414 process?	Yes / No
6. Is there sufficient evidence that features penetrating the cladding system, that are not normally present during BS8414 / BR135 appraisal, have been specifically considered by the fire engineer on their ability to alter the outcome of the test, and therefore fire spread over the building in which they feature?	Yes / No
7. Are there plans to control fuel and ignition sources around the external perimeter of the building?	Yes / No

8. Have additional measures been taken to fire stop all features that penetrate the cladding system?	Yes / No
9. Is the quality of workmanship considered adequate, particularly, but not limited to, the most safety critical components?	Yes / No
10. Has evidence been supplied to show that the cladding system has been accurately installed against the design drawing?	Yes / No
11. Do balconies or sun-screening devices feature in the design, and do the methods and materials used comply with current guidance?	Yes / No

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Terminology

Cladding / cladding system / external wall system:

For the purposes of this document 'Cladding' pertains to one of two principle types:

- **Rainscreen Cladding**
- **External Thermal Insulation Cladding (ETICS)**

The fire performance credentials of these systems can be evaluated based upon either component reaction-to-fire test classifications where non-combustible, or by built-up BS8414 / BR135 testing where combustible components form part of the systems make up.

12.3 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 12.5 to 12.9, 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 **BS 8414-2**.

Extract from ADB: Requirement B4: External fire spread

Rainscreen cladding system:

A wall comprising an outer skin of panels and an airtight insulated backing wall separated by a ventilated cavity. Some water may penetrate into the cavity but the rainscreen is intended to provide protection from direct rain'.

External Thermal Insulation Cladding/Composite System (ETICS):

A type of cladding system applied to the exterior façade of a buildings, primarily comprising a thermally insulating layer of material that is covered with a render finish.

BS 8414 Fire performance of external cladding systems

BS8414 is a standard testing regime that purports to evaluate whether a cladding system subject to fire breaking out of an opening (such as a window) in an external wall, will result in excessive fire spread up the outside of the building and the potential for fire to re-enter at a higher level

BS 9414 F ire performance of external cladding systems. The application of results from BS 8414-1 and BS 8414-2 tests

BS9414 constrains desktop studies to only consider variation between two successful BS8414 tests where only one featured is varied between the tests (such as the depth of insulation). The standard allows for interpolation between tests, but not extrapolation beyond the test parameters.

1 Single or part of multiple submission					
Does the building have one, or multiple different types of cladding on it?				One / Multiple	
Note: If multiple, please complete sections 1.1 and 1.2 below and ensure that a copy of this questionnaire is completed for each cladding type. Otherwise please proceed to section 2.					
1.1 Multiple cladding types					
If more than one type of cladding is used on the building, then please attach a drawing showing the location of each type and provide the following details. Where more than one questionnaire is completed for a given building, please ensure that each one is provided with an identifying reference number, which should be detailed in the matrix below.					
	Cladding 1	Cladding 2	Cladding 3	Cladding 4	Cladding 5
Cladding type					
Cladding name:					
Approximate % area of coverage					
Questionnaire form reference					
Confirm that separate questionnaire completed	This questionnaire	Yes / No	Yes / No	Yes / No	Yes / No
Has a drawing been provided that details the location of each cladding type?				Yes /No	

2 Basic Information	
2.1 Respondent Information	
Name:	
Job Title:	
Capacity in which the respondent is acting?	
Qualifications and competence to complete this form	
Company Name:	
Company Address:	
E-mail Address:	
Telephone Number:	
I confirm that the information provided is correct to the best of my knowledge	
Signature	

2.2 Proposed Building name and location	
Building Name:	
Address:	

2.3 External Wall System Assessment	
Does an EWS1 Form exist for this building?	Yes / No
If yes, please provide a copy with this submission	

2.4 Key Stakeholder Details	
2.4.1 Client Details	
Company Name:	
2.4.2 Main Contractor Details	
Company Name:	
2.4.3 Architect Details	
Company Name:	
2.4.4 Cladding system Manufacturer Details	
Company Name:	
2.4.5 Fire Engineer Details	
Company Name:	
2.4.6 Local Fire Authority Details	
LAFB Name:	
2.4.7 Local Authority Building Control Details	
LABC Name:	

2.5 Building Details					
2.5.1 Build					
New Build ☐		Cladding replacement ☐		Refurbishment ☐	
Extension ☐		Other ☐			
If Other, please specify:					
2.5.2 Building Structure					
Concrete ☐		Steel ☐		Timber ☐	
Hybrid ☐		Other ☐			
If Other, please specify:					
2.5.3 Cladding system used					
Rainscreen ☐		ETICS ☐		Rainscreen & ETICS ☐	
If Other, please specify:					
2.5.4 Applicable standards					
Please detail what standards for the system(s) will confirm product structural properties and manufacturing quality (wind loading / weather protection etc.)?					
Standards					
2.5.5 Building size					
Number of floors		Floor area		Overall dimensions (HxWxD)	
2.5.6 Occupancy					
Residential ☐		Commercial ☐		Mixed ☐	
2.5.7 Stairways					
Number of internal stairwells		Number of external fire escapes			

2.5.8 Evacuation policy	
What will the evacuation policy be for this building?	

2.5.9 Special features		
Swimming pool ☐	Roof top ponds ☐	Water capture ☐
Green roofs ☐	Green Walls ☐	Solar power ☐
Wind power ☐	Heritage status ☐	EV recharging ☐
Electrical sub-station ☐	Heli-pad ☐	Other ☐
If Other, please specify:		

2.5.10 Which of the following features penetrate the external wall system (please additionally provide drawing of their locations and local detailing with the cladding)?		
Windows ☐	Vents ☐	Pipes ☐
Air-conditioning units ☐	Air-bricks (brick) ☐	Air-bricks (plastic) ☐
Other ☐		
If Other, please specify:		

2.5.11 Are there any plans to control the proximity of external sources of fire and fuel (such as bins and cars) around the external perimeter of the building because of the cladding detailing?

3 Rainscreen Systems - Cladding system details and fire performance evidence	
3.1 What building structure is the rainscreen cladding system attached to?	
Steel ☐ Concrete ☐ Timber ☐ Other ☐	
If Other, please specify:	
3.2 What materials are the main components of the cladding system made of? (please use full product names that enable identification of the specific component and rating, rather than generic type names)	
3.2.1 Support structure	
Material?	
Product name?	
Manufacturer?	
CE marking and approvals?	
3.2.2 Insulation	
Material?	
Product name?	
Manufacturer?	
CE marking and approvals?	
3.2.3 Cavity barriers	
Type?	
Product name?	
Manufacturer?	
CE marking and approvals?	
3.2.4 Vapour barriers and membranes	
Type?	

Product name?	
Manufacturer?	
CE marking and approvals?	
3.2.5 Rainscreen	
ACM ☐ Brick/Stone Slip ☐ HPL ☐ Glass ☐ Other ☐	
Product name?	
Manufacturer?	
CE marking and approvals?	
3.3 Fire test standards	
3.3.1 Is the fire performance of the system to be assured by presentation of BS8414 / BR135 data, or component reaction-to-fire testing for non-combustibility	
BS8414 / BR135 ☐	Non-Combustible (Reaction to fire) ☐
3.3.2 What are the fire ratings for each of the key elements?	
3.3.2.1 Support structure	
Applicable standard?	
Classification rating?	
3.3.2.2 Rainscreen panels	
Applicable standard?	
Classification rating?	
3.3.2.3 Insulation	
Applicable standard?	
Classification rating?	
3.3.2.4 Vapor barrier / membrane	
Applicable standard?	
Classification rating?	

3.3.3 Has the rainscreen cladding system been tested to BS 8414?	
Yes / No / NA	If yes, please provide a full copy of the report.
3.3.4 Has the rainscreen system been classified in accordance with BR135?	
Yes / No / NA	If yes, please provide a full copy of the report.
3.3.5 Has BS9414 been used to justify any elements of this system?	
Yes / No / NA	See section 3.4.2

3.4 Evidence of data relevance	
3.4.1 For each element of the rainscreen cladding system, was the detailing used in the BS8414 test the same as the detailing used on this building?	
Support structure material?	Yes / No / NA
Framing material?	Yes / No / NA
Insulation material?	Yes / No / NA
Rainscreen type?	Yes / No / NA
Cavity barriers?	Yes / No / NA
Vapour barrier or membrane materials?	Yes / No /NA
Vertical and horizontal framing support distances per panel (amount of support)?	Yes / No / NA
Panel mounting method (type and quantity of fixings)	Yes / No / NA
Panel sizes?	Yes / No / NA
Gap distance between panel?	Yes / No / NA
Void depth?	Yes / No / NA
Cavity barrier position in relation to floor slab position and separation? (spacing must be no greater than the tested system)	Yes / No / NA
Cavity barrier specification around window detailing?	Yes / No / NA
Unclosed distance (if relevant) between front face of cavity barrier and rear face of panel?	Yes / No / NA

Presence of vapor barrier or membrane in the void?	Yes / No / NA
Insulation thickness?	Yes / No / NA
Inclusion of penetrations as detailed in section 2.5.10	Yes / No / NA

3.4.2 Have any of the following system elements been justified using the BS9414 process to account for deviations between this installation and the BS8414 / BR135 assessment criteria? For each system element, if the answer is yes, please provide both of the associated BS8414 test reports pertinent to its approval.	
Panel size?	Yes / No / NA
Panel thickness?	Yes / No / NA
Panel gap size?	Yes / No / NA
Panel mounting method?	Yes / No / NA
Void depth?	Yes / No / NA
Insulation thickness?	Yes / No / NA
Other?	Yes / No / NA

3.4.3 Features that penetrate the cladding system (as specified in 2.5.10) are not normally tested as part of the BS8414 / BR135 process. There is also no explicit requirement to fire stop devices such as vents and pipes in the external wall envelope. Please evidence and supply the source(s) of engineering judgement that state that the inclusion of the following features will not alter the outcome of the BS8414 test / BR135 classification and overall safety of the system once installed on a building. Tick to indicate which items are evidenced.		
Windows ☐	Vents ☐	Pipes ☐
Air-conditioning units ☐	Air-bricks (brick) ☐	Air-bricks (plastic) ☐
Other ☐	N/A ☐	

If Other, please specify:	

3.4.4 Please provide evidence that any reactive (intumescing) cavity barriers can respond faster than the rate of vertical fire spread of the most onerous material in the void (i.e. vapour barrier / membrane, insulation material)	
Supplied?	Yes / No

3.5 Installation accuracy evidence
3.5.1 What evidence can be supplied to demonstrate that the cavity barriers are all present, installed correctly, and in the correct places?
3.5.2 What evidence can be supplied that the building installation is accurate to the design drawings?

4 ETICS Systems - Cladding system details and fire performance evidence	
4.1 What building structure is the ETICS cladding system attached to?	
Steel ☐ Concrete ☐ Timber ☐ Other ☐	
If Other, please specify:	
4.2 What materials are the main components of the cladding system made of?	
4.2.1 Render	
Material?	
Product name?	
Manufacturer?	
CE marking and approvals?	
4.2.2 Insulation	
Material?	
Product name?	
Manufacturer?	
CE marking and approvals?	
4.2.3 Cavity barriers	
Type?	
Product name?	
Manufacturer?	
CE marking and approvals?	

4.3 Fire test standards	
4.3.1 Is the fire performance of the system to be assured by presentation of BS8414 / BR135 data, or component reaction-to-fire testing for non-combustibility	
BS8414 / BR135 ☐	Non-Combustible (Reaction to fire) ☐
4.3.2 What are the fire ratings for each of the key elements?	
4.3.2.1 Render structure	
Applicable standard?	
Classification rating?	
4.3.2.2 Insulation panels	
Applicable standard?	
Classification rating?	
4.3.3 Has the ETICS cladding system been tested to BS 8414?	
Yes / No / NA	If yes, please provide a full copy of the report.
4.3.4 Has the ETICS system been classified in accordance with BR135?	
Yes / No / NA	If yes, please provide a full copy of the report.
4.3.5 Has BS9414 been used to justify any elements of this system?	
Yes / No / NA	See section 4.4.2

4.4 Evidence of data relevance	
4.4.1 For each element of the ETICS cladding system, was the detailing used in the BS8414 test the same as the detailing used on this building?	
Support structure material?	Yes / No / NA
Cavity barrier position in relation to floor slab position and separation? (The spacing should be no greater than that used in the test)	Yes / No / NA
Cavity barrier specification around window detailing?	Yes / No / NA
Window position? (Sometimes following ETICS cladding of a building during refurbishment the windows are moved out to be flush with the new building surface)	Yes / No / NA
Insulation thickness?	Yes / No / NA
Insulation type/formulation?	Yes / No / NA

Inclusion of penetrations as listed in 2.5.10?	Yes / No / NA
4.4.2 Have any of the following system elements been justified using the BS9414 process to account for deviations between this installation and the BS8414 / BR135 assessment criteria? For each system element, if the answer is yes, please provide both of the associated BS8414 test reports pertinent to its approval.	
Insulation thickness?	Yes / No / NA
Insulation type/formulation?	Yes / No / NA
Other	Yes / No / NA

4.4.3 Features that penetrate the cladding system (as specified in 2.5.10) are not normally tested as part of the BS8414 / BR135 process. There is also no explicit requirement to fire stop devices such as vents and pipes in the external wall envelope. Please evidence and supply the source(s) of engineering judgement that state that the inclusion of the following features will not alter the outcome of the BS8414 test / BR135 classification and overall safety of the system once installed on a building. Tick to indicate which items are evidenced.		
Windows ☐	Vents ☐	Pipes ☐
Air-conditioning units ☐	Air-bricks (brick) ☐	Air-bricks (plastic) ☐
Other ☐	N/A ☐	
If Other, please specify:		

4.5 Installation accuracy evidence
4.5.1 What evidence can be supplied to demonstrate that the cavity barriers are all present, installed correctly, and in the correct places?
4.5.2 What evidence can be supplied that the building installation is accurate to the design drawings?

5 Other features	
5.1 Balconies	
Are balconies present in the building's design?	Yes / No
If Yes:	
Is wood featured in their design?	Yes / No
Does the balustrade use laminated glass?	Yes / No
If the answer to either of the above is yes, then please supply evidence that the methods and materials used comply with current guidance.	
5.2 Sun shielding devices	
Are sun shielding devices present in the buildings design?	Yes / No
If the answer to the above is yes, then please supply evidence that the methods and materials used comply with current guidance.	

7. Any other information deemed important to a potential insurer of rainscreen or ETICS clad buildings. If it is related to a previous question, please use the question's number for reference.

Commentary and Recommendations on test evidence:

- *Evidence submitted to support the understanding of* rainscreen and ETICS *system's reaction to fire, should be supplied from independent and credible 3rd party sources*
- *References to supporting standards should be accompanied by test reports that are specific to the system used*
- *The test body shall be accredited by a national accreditation body for undertaking such work.*
- *Test reports shall be presented in full.*
- *Test evidence should be made at a scale that is relevant to end-use.*
- *There shall be full traceability between fire testing and subsequent application*
- *The limitations of testing shall not be exceeded in application*