

Identifying Details of External Wall Systems – Technical Note

Overview

The external walls of high-rise residential buildings may be made up of a number of materials in combination. The external wall may be a cavity wall, rainscreen cladding system or an External Wall Insulation (EWI) system.

This data collection aims to gain information on the external facing material (i.e. brickwork, concrete, cladding panels etc) and insulation types within the external wall to form a better picture of the combinations in use in external wall systems.

To ensure that systems are safe, the Independent Expert Advisory Panel on Building Safety has issued an [Advice Note on external wall systems](#). If following investigation into the materials used you have any concerns, then you should follow the steps in this note. Buildings with ACM should already have been screened in accordance with the government’s advice.

External Facing Materials

The questions in the External Wall section of the data collection ask you to provide information on the external wall facings across the entire building – that is to say the materials which provide the external finish to the building.

The percentage of the external wall that is windows, or other forms of glazing, should be calculated and included as ‘glass’.

The rest of the external walls may be all made of one material (i.e. brickwork or concrete) or may be a mix of different facing materials. We are asking for the material to be identified and for a reasonable estimate to be made of the percentage coverage of the external walls of the building that is made up of this material.

The total sum of all materials (including windows/glazing) should be 100%.

Details of the options provided are below:

| Material | Information |
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| Glass | This should be used to record windows and any other forms of glazing (i.e. glass curtain walls). |
| High Pressure Laminate | High Pressure Laminates (HPL) are panels made of a combination of wood or paper which are then impregnated with a resin and consolidated under heat and high pressure. They are available in a wide range of colours. Care should be taken to identify the precise fire properties of the panel used as similar panels may or may not have fire retardance. |
| Aluminium Composite Materials | Aluminium Composite Materials are usually made of two thin sheets of metal with a filler material between them. |
| Other Metal Composite Materials | Any metal cladding panel with a filler material that is not made of aluminium. These may be made of zinc or copper, for example. |

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| Metal sheet panels | Panels made purely of metal with no filler. These may be aluminium, zinc or copper. |
| Render system | Render is an external cement finish to a building. This may be smooth or textured. |
| Brick Slips | Brick slips are the faces of bricks which have been cut and then attached to the building to create the appearance of a brick finish. |
| Brick | Traditional brickwork. |
| Stone panels/stone | Any stone or panels made of stone. |
| Tiling systems | Any tiling systems (for example terracotta tiling). |
| Timber/wood | Timber or wood, including any wood cladding systems (but excluding any wood based HPL which should be included in High Pressure Laminate). |
| Do not know | Please use this if you are unsure of the material that has been used. If you have any further information please include it in the further details box. |
| Other | Materials other than those listed above – please provide details. |

Insulation

Insulation between the external finish of the building and the remainder of the building is to provide thermal protection and avoid heat loss. To understand the fire safety of the external wall system, it is important to understand the insulation used.

It is possible that more than one type of insulation has been used, but it is more likely that the building will be insulated in a single material. Building owners should check their records (see below) to determine the insulation used. If this is not available, an intrusive inspection by a qualified person could identify the type of material.

Where more than one material has been used please assess the proportion of coverage as with the external facing material above.

It is unlikely that there will be insulation behind glass windows, so the proportion of the building that is windows or transparent glazing should be recorded as “None” for insulation.

Details of the options provided are below:

| Insulation | Information |
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| Mineral Wool | A form of insulation made from rock wool (usually made from basalt). Glass wool should not be included here but in the relevant category below. |
| Polyurethane rigid foam (PUR)/ Polyisocyanurate (PIR) foam | PUR and PIR foam insulation is made by mixing chemicals with a blowing agent to form a material with individual air bubbles. |
| Phenolic foam | Another form of foam, but using a different approach and chemicals than PIR/PUR. |
| Expanded and Extruded polystyrene (EPS/XPS) | Polystyrene based insulation. |

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| Glass wool | A form of insulation made from glass wool (usually made from glass fibres from recycled glass). |
| Wood fibre | Insulation manufactured using wood. |
| None | No insulation present. This may be because this proportion of the building is glazed (i.e. windows) or if some or all of the building has a cavity wall that has not been insulated. |
| Do not know | Please use this if you are unsure of the insulation that has been used. If you have any further information, please include it in the further details box. |
| Other | Insulation other than those listed above – please provide details. |

Sources of information to determine materials

For any building constructed in the last 15 years, information should be available in as-built drawings or the Operation and Maintenance manual for the building. If this is not available, building owners may wish to contact the original architect or developer or refer to the tender documents for the construction of the building. Similarly, where cladding has been added as the result of a refurbishment in the last 15 years, the same information should be available.

We are aware that in some cases, products may have been substituted for alternatives during the construction period. The building owner will need to make their own assessment of the quality assurance processes that were in place during construction and whether the materials used were appropriately checked to ensure their safety. If there is doubt about the materials used, the building owner may wish to investigate this further.

If records do not exist as to the materials used, building owners may wish to seek professional advice to ascertain the nature of the materials. Whilst some materials are identifiable by inspection, identifying the material used in cladding panels may be more difficult given that many cladding systems made of different materials look similar. It may be possible to identify the type of panel by removing a panel to enable further inspection. This should only be done by a qualified person and where panels are removed care should be taken to ensure that any combustible insulation is appropriately covered and that where panels are re-fitted this is done in line with manufacturer's guidelines.

Where the insulation materials are not known, it is likely that the only way of determining this will be an intrusive inspection of the wall.

Building owners remain responsible for the safety of their buildings and it is at their discretion whether to undertake intrusive inspections. However, if there is a clear risk of the use of combustible materials that means that the external wall system may not be safe, building owners should clearly undertake such an inspection urgently.

Where there is doubt about the material that has been used the building owner may wish to ensure that products have not been substituted with a material that is less fire safe. For example, the use of an aluminium composite when an aluminium sheet had been specified, or an HPL with a lower fire classification than that originally specified. Where this is required it is likely to need inspection of the



interior of the panel and so this inspection is likely to be destructive to the panel that has been removed.