

Building Standards (Fire Safety) – a consultation on External Wall Systems

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Building standards fire safety – a consultation on external wall systems

Title:

Building standards (fire safety) – a consultation on external wall systems

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Ministerial foreword:



Following the tragic fire at Grenfell Tower in June 2017, the Scottish Government took the swift decision to establish a [Ministerial Working Group on Building and Fire Safety](#) to review Scotland's building and fire safety regulatory frameworks. As part of the group's actions relating to building standards, two expert panels were created. One to review compliance and enforcement aspects of the building standards system and one to review the fire safety aspects primarily relating to high rise domestic buildings.

Recommendations from these reviews have already been implemented including tightening up of controls over combustible cladding, improved escape and assistance to the Scottish Fire and Rescue Service in unlikely event that partial or full evacuation of residents in new high rise domestic buildings is required. More recently, automatic fire suppression systems are now mandatory in all new build blocks of flats, social housing and shared multi-occupancy residential buildings. The [Building Standards Futures Board](#) has also been established to oversee longer term ambitions to improve compliance with building regulations.

This ongoing review has seen a panel of experts consider a ban on the highest risk cladding material and give further consideration to acceptable façade system testing. We believe the proposed actions set out by the review panel, offer the opportunity to ensure that future buildings in Scotland's are even safer for the people of Scotland who will live in, and use them each day.

I am grateful to the many panel members who gave their time and expert knowledge on how best to further improve fire safety of cladding systems used in buildings. I would also like to express my gratitude to former minister, Kevin Stewart, for his prior support and direction in moving this important work forward.

This consultation consolidates the recommendations made by the expert panel and seeks views on proposed changes to building regulations and supporting guidance contained in Section 2: fire of the technical handbooks.

I hope you will take this opportunity to give us your thoughts.

Shona Robison

Cabinet Secretary for Social Justice, Housing and Local Government
Scottish Government

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Introduction:

This consultation seeks to obtain the views and opinions of stakeholders on a review of building standards relating to the fire safety of cladding to help ensure the safety of people in and around Scotland's buildings.

The consultation covers five main areas, as follows:

- the wording of mandatory standard 2.7 relating to fire spread on external walls;
- consideration of a definition and ban on the highest risk metal composite material (MCM) cladding panels;
- options to improving standards and guidance on cladding systems, including the continued role of the large scale fire test, BS 8414;
- consequential matters – combustible exemptions; and
- Impact assessments.

The proposed changes outlined in the consultation aim to:

- improve fire safety for the design and construction of all buildings, in relation to external wall cladding systems, making them safer for those in and around buildings in the event of an outbreak of fire.

Why we are consulting:

Following the tragic events at Grenfell Tower, London in June 2017 a ministerial working group (MWG) was set up to oversee a review of building and fire regulatory frameworks and any other relevant matters, to help ensure that people are safe in Scotland's buildings, and make any recommendations for improvement as required.

In 2018, the building standards (fire safety) review panel (a sub group), recommended to ministers that the building regulations relating to external fire spread (Standard 2.7) did not require to be amended, but it did recommend that the supporting guidance in the technical handbooks could be strengthened. The key changes in relation to cladding introduced on 1 October 2019 were as follows:

- Lowering the height at which combustible cladding can be used from 18 metres to 11 metres to align with fire-fighting from the ground;
- Tighter controls over the combustibility of cladding systems on hospitals, residential care buildings, entertainment and assembly buildings regardless of building height

More recently, Kevin Stewart, minister for Local Government, Housing and Planning announced at the local government and communities committee meeting on 4 September 2020 that a panel of fire experts would be convened to consider a ban on the highest risk cladding materials through building regulations and to review the role of the large scale fire test, BS 8414.

This consultation reflects the outcomes and proposals of the expert panel.

The Scottish Government is now seeking the views of any organisation or individual with an interest in ensuring building standards legislation and associated technical handbook guidance fully address the issues raised in relation to:

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- the design and construction of buildings and the safety of persons in and around buildings in the event of fire spread onto external wall cladding systems.

How we would like you to help

This consultation is comprised of seven questions related to:

- the wording of mandatory standard 2.7 spread on external walls;
- a definition and ban of the highest risk metal composite material (MCM) cladding panels;
- options to improving standards and guidance on cladding systems, including the role of the large scale fire test, BS 8414;
- consequential matters – exemptions for certain penetrations and openings; and
- impact assessments.

Responses to the consultation will be used to inform the final policy and impact assessments that will be prepared in support of any legislative changes.

Information on how to respond to the consultation is on page 16.

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Part 1: Mandatory standard 2.7 (spread on external walls)

Overview

Two expert review panel meetings were held in December 2020 and March 2021. These first two meetings focussed on changes to mandatory standard 2.7 spread on external walls and the banning of the highest risk cladding materials. At the review panel meeting on 12 March 2021, members suggested changes to the wording of mandatory standard 2.7, to provide clarity of intent taking into account current guidance.

“Every building must be designed and constructed in such a way that in the event of an outbreak of fire within the building, or from an external source, the spread of fire on the external walls of the building **is inhibited, does not unduly promote fire spread taking into account the height and use of the building.**”

Question 1: It is proposed to remove the words “is inhibited” in the mandatory standard which is considered to be ambiguous and replace the words with the text in bold to provide clarity of intent in the supporting guidance. Do you:

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Please select only one answer and provide your reasoning in the box below. If you disagree or strongly disagree, please provide any suggestions below on how the current standard could be improved.

Comments:

Part 2: Definition and ban of category 3 metal composite material (MCM)

Overview

Following the ministerial working group on building and fire safety in March 2021, a need was identified to take precautionary action on both the highest risk cladding material and the use of large scale fire test results in new developments. Accordingly, as an interim measure and pending the outcome of this review, changes were made to Section 2 (fire) of the technical handbooks from 1 April 2021 to avoid use of the highest risk category 3 metal composite material (MCM) cladding in new building work and to remove reference to BS 8414/BR135 as alternative guidance.

A number of options were considered at the expert review panel March meeting including lowering the threshold of the calorific value of cladding materials from 35 to 20 MJ/kg. However, widening the scope to all cladding materials with a calorific value of 20 MJ/kg was not seen as a practical solution. Members agreed to retain as close to the existing definition used by Ministry of Housing, Communities & Local Government (MHCLG) as part of the aluminium composite material (ACM) panel screening test programme following the Grenfell Tower fire i.e. ACM (category 3) with a core material having a calorific value > 35 MJ/kg.

Questions 2.1 & 2.2 below relates to the following definition of the highest risk thin MCM cladding panels. These panels are non-homogeneous products made from generally, aluminium, zinc or copper sheets around 0.5 mm thick bonded together with a variety of core materials which a range of calorific values. Market research has indicated that there are currently no MCM products on the market with an overall thickness of more than 7mm. However, markets can fluctuate and it is therefore important to decide for futureproofing if the ban on MCM should be within regulation (which is less practical to amend and requires parliamentary time) or be within guidance (which can be amended much quicker). The use of the word 'thin' and maximum 10 mm thick panels was also discussed at review panel meetings.

The following definition of MCM category 3 is proposed.

Any panel or sheet, having a thickness of no more than 10mm, which is comprised of a number of layers, two or more of which are made of metal, alloy or metal compound and one or more substantial layer of which is made of a material having a gross calorific value of more than 35 MJ/kg when tested in accordance with BS EN ISO 1716:2018 entitled "Reaction to fire tests for products – Determination of the gross heat of combustion (calorific value)" published by the British standards institution in 2018 and for these purposes a substantial layer is one which is at least 1mm thick or has a mass per unit area of at least 1kg per m².

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Question 2.1: Do you agree with the above definition for MCM (category 3)?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

Please select only one answer and provide your reasoning in the box below. If you disagree or strongly disagree, please provide any suggestions below on an alternative definition.

Comments:

Question 2.2: Do you think that the ban on MCM (category 3) materials should be in guidance or regulation?

Guidance

Regulation

Unsure

Please select only one answer and provide your reasoning in the box below.

Comments:

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Part 3: Large scale fire test, BS 8414

Overview

Following the ministerial working group on building and fire safety in March 2021, a need was identified to take precautionary action on both the highest risk cladding material and the use of large scale fire test results in new development. Accordingly, as an interim measure, changes were made to the technical handbooks from 1 April 2021 to identify the need to avoid use of category 3 MCM cladding in new building work and to remove reference to BS 8414 (and associated BR 135) as alternative guidance.

The Scottish Government Building Standards Division (BSD) have requested notification from local authority verifiers under section 34 of the Building (Scotland) Act 2003 where BS 8414 (and associated BR 135) and extended field of application assessments (BS 9414) have been used to demonstrate compliance with the mandatory building standards.

Interpretation of options tables

Any reference to storey height means the height of the topmost storey above the adjoining ground.

For the purposes of this consultation ignore rules of measurement around sloping sites and topmost storeys consisting solely of plant rooms.

Reference to european classification A1, A2, B, C, D and E means reaction to fire classification as set out in BS EN 13501-1.

Supplementary guidance on the competence of designers, installers and verifiers of cladding systems as well as interpretation and use of fire test results will form part of a future consultation on compliance and contained within a new compliance handbook.

The following tables excludes proposals for the ban on MCM (Category 3) as this is covered in Part 2 of this consultation:

Options tables

Please consider the following 4 options and confirm your preferred option in question 3 which follows.

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Option 1 – April 2021 addendum

This option re-affirms the decision to remove reference to BS 8414/BR135 from technical handbook and to notify BSD when used as an alternative approach;

Domestic buildings [1]		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D or E	Status quo
Any storey at a height of more than 11m	A1 or A2 or Fire safety engineered (FSE) approach [3]	Supplementary guidance in compliance handbook
Entertainment and assembly buildings, residential care buildings and hospitals [1]		
	Performance [2]	Commentary
All buildings regardless of height [4]	A1 or A2 or FSE approach [3]	Supplementary guidance in compliance handbook
All non-domestic buildings (other than entertainment, assembly and residential care buildings and hospitals [1]		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D or E	Status quo
Any storey at a height of more than 11m [2]	A1 or A2 or FSE approach [3]	Supplementary guidance in compliance handbook

Notes

- [1] Assume building more than 1m from boundary i.e. if < 1m to boundary cladding should achieve european classification A1 or A2 in accordance with BS EN 13501-1.
- [2] Any reference to A1 or A2 or FSE approach assumes that supplementary guidance will be provided in the new compliance handbook (to be developed).
- [3] Alternative FSE approach from first principles using BS 7974 or International fire engineering guidelines (IFEG). guidance in compliance handbook to restrict use of this approach to chartered / incorporated engineer registered with engineering council having skills, knowledge and [experience/expertise] of façade fire testing and construction.
- [4] Excludes small buildings as defined in non-domestic technical handbook (NDTH) provided no storey more than 11m.

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Option 2 – Managed use of BS 8414 to address risk

This option will cite reference to BS 8414/BR135 in the technical handbooks with tighter controls depending on the use and height of the building;

Domestic buildings [1]		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D and E	Status quo
Any storey at a height of more than 11m and not more than 18m [2]	A1 or A2 or BS 8414/BR135 or FSE approach [3]	Supplementary guidance in compliance handbook
Any storey at a height of more than 18m	A1 or A2 or FSE approach [3]	Supplementary guidance in compliance handbook
Entertainment and assembly buildings, residential care buildings and hospitals [1]		
	Performance [2]	Commentary
All buildings regardless of height [4]	A1 or A2 or FSE approach [3]	Supplementary guidance in compliance handbook
All non-domestic buildings (other than entertainment, assembly and residential care buildings and hospitals [1])		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D and E	Status Quo
Any storey at a height of more than 11m and not more than 18m [2]	A1 or A2 or BS 8414/BR135 or FSE approach	Supplementary guidance in compliance handbook
Any storey at a height of more than 18m	A1 or A2 or FSE approach	Supplementary guidance in compliance handbook

Notes

- [1] Assume building more than 1m from boundary i.e. if < 1m to boundary cladding should achieve european classification A1 or A2 in accordance with BS EN 13501-1.
- [2] Any reference to A1 or A2 or BS 8414/BR 135 assumes that supplementary guidance will be provided in the new compliance handbook (to be developed).
- [3] Alternative FSE approach from first principles using BS 7974 or IFEG. guidance in compliance handbook to restrict use of this approach to chartered / incorporated engineer registered with engineering council having skills, knowledge and [experience/expertise] of façade fire testing and construction.
- [4] Excludes small buildings as defined in NDTH provided no storey more than 11m.

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Option 3 – Regulatory ban

This option proposes a regulatory ban i.e. A1 or A2 only in regulation for residential buildings with any storey more than 18m

Domestic buildings [1]		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D or E	Status quo
Any storey at a height of more than 11m and not more than 18m [2]	A1 or A2 or BS 8414/BR135 or FSE approach [3]	Supplementary guidance in compliance handbook
Any storey at a height of more than 18m	A1 or A2 only [in regulation]	Supplementary guidance in compliance handbook. No assessments in lieu of tests (AILOT) and / or FSE approach [3]
Entertainment and assembly buildings, residential care buildings and hospitals [1]		
	Performance [2]	Commentary
Any storey at height of not more than 18m	A1 or A2 or BS 8414/BR135 or FSE approach [3]	Supplementary guidance in compliance handbook
Any storey at a height of more than 18m [5]	A1 or A2 only [in regulation] [5]	Supplementary guidance in compliance handbook No assessments in lieu of tests (AILOT) and / or FSE approach [3]
All non-domestic buildings (other than entertainment, assembly, residential care buildings and hospitals) [1]		
	Performance [2]	Commentary
Any storey at a height of not more than 11m	B, C, D or E	Status quo
Any storey at a height of more than 11m and not more than 18m [2]	A1 or A2 or BS 8414/BR135 or FSE approach [3]	Supplementary guidance in compliance handbook
Any storey more than 18m [2]	A1 or A2 or FSE approach	Supplementary guidance in compliance handbook

Notes

- [1] Assume building more than 1m from boundary i.e. if < 1m to boundary cladding should achieve european classification A1 or A2 in accordance with BS EN 13501-1.
- [2] Any reference to A1 or A2 or BS 8414/BR 135 assumes that supplementary guidance will be provided in the new compliance handbook (to be developed).
- [3] Alternative FSE approach from first principles using BS 7974 or IFEG. guidance in compliance handbook to restrict use of this approach to chartered / incorporated engineer registered with engineering council having skills, knowledge and [experience/expertise] of façade fire testing and construction.
- [4] Excludes small buildings as defined in NDTH provided no storey more than 11m.
- [5] May be extended to other residential buildings including hotels

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Option 4 – Any alternative proposal

This provides opportunity for suggesting alternative proposals the Scottish Government should consider.

Question 3: Which of the four options is your preferred choice?

- Option 1 - April 2021 addendum
- Option 2 - Managed use of BS 8414
- Option 3 - Regulatory ban
- Option 4 - Any alternative proposal

Please select only one answer and provide any reasoning in the box below.

Comments:

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Part 4 – Consequential matters – combustible exemptions

Overview

The current list of A1 and A2 exemptions in the technical handbook annexes for reaction to fire has raised questions about the combustibility of other penetrations through the external wall that are not included in the list below e.g. flue liners, drainage and overflow pipes, ventilation extract ducts and outlet terminals etc. The current list of exemptions is provided below for ease of reference.

In buildings where external wall cladding systems achieve a European Classification A1 or A2, the following products, where used as part of such a wall, need not achieve the same classification:

- cavity tray
- any part of a roof (other than a part of a roof pitched at an angle of 70° or more to the horizontal) if that part is connected to an external wall
- door frames and doors
- electrical installations
- insulation and water proofing materials used below ground level
- intumescent and fire stopping materials where the inclusion of the materials is necessary for compliance with the standards in Section 2 (Fire)
- membranes
- seals, gaskets, fixings, sealants and backer rods
- thermal break materials where the inclusion of the materials is necessary for compliance with the standards in Section 6 (Energy), or
- window frames and glass.

Question 4 : Do you think that the current list of exemptions above should be amended to include other penetrations e.g. cavity wall vents, boiler condensate pipes, drainage and overflow pipes, ventilation extract ducts, balanced flue liners etc.

Yes

No

Unsure

Please select only one answer and provide your reasoning in the box below.

Comments:

Part 5 – Impact assessments and responding to the consultation

Equality impact assessment

The Scottish Government does not think that the proposals in the consultation will have potentially negative impacts for equality groups. However, we welcome your comments on the impact of the proposals on particular groups of people in respect of their age, disability, gender reassignment, race, religion, sex or sexual orientation, being pregnant or on maternity leave and children’s rights and wellbeing. Your views on the impact of these proposals will be used to inform the final equality impact assessment that will be prepared in support of any changes required to the building standards legislative framework .

Question 5.1: Are there any proposals in this consultation which you consider to impact or have implications on equality groups? Choose from the following options:

Yes

No

Unsure

Please select only one answer and provide any comments in the box below. If selecting yes, please specify which of the proposals you refer to and why you believe specific groups will be impacted.

Comments:

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Business and regulatory impact assessment (BRIA)

To help us determine the impact of the policies proposed in the consultation, we are interested to find out if these proposals would lead to increased costs and/or impact on resources for you or your business (if applicable).

Any comments received will be used to inform the final BRIA which would be prepared in support of any new or amended building regulations.

Question 5.2: Do you think that any of the proposals in this consultation have any financial, regulatory or resource implications for you and/or your business (if applicable)? Choose from the following options:

Yes

No

Unsure

Please select only one answer and provide any comments in the boxes below. If selecting yes, please specify which of the proposals you refer to and why you believe financial, regulatory or resource implications will be impacted.

Comments:

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Responding to this consultation

We are inviting responses to this consultation by 8th October 2021.

Please respond to this consultation using the Scottish Government's consultation hub, citizen space (<http://consult.gov.scot>). Access and respond to this consultation online at <https://consult.gov.scot/building-standards/building-regulations-fire-ews-review> You can save and return to your responses while the consultation is still open. Please ensure that consultation responses are submitted before the closing date of 8th October 2021.

If you are unable to respond using our consultation hub, please complete the respondent information form to buildingstandards@gov.scot or by post to:

Scott Young
Building Standards Division
Scottish Government
Denholm House
Almondvale Business Park
Livingston
EH54 6DE

Handling your response

If you respond using the consultation hub, you will be directed to the About You page before submitting your response. Please indicate how you wish your response to be handled and, in particular, whether you are content for your response to be published. If you ask for your response not to be published, we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government is subject to the provisions of the freedom of information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

If you are unable to respond via citizen space, please complete and return the respondent information form included in this document.

To find out how we handle your personal data, please see our privacy policy:

<https://beta.gov.scot/privacy/>

Next steps in the process

Where respondents have given permission for their response to be made public, and after we have checked that they contain no potentially defamatory material, responses will be made available to the public at <http://consult.gov.scot>. If you use the consultation hub to respond, you will receive a copy of your response via email.

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Following the closing date, all responses will be analysed and considered along with any other available evidence to help us. Responses will be published where we have been given permission to do so. An independent analysis report will also be made available.

Comments and complaints

If you have any comments about how this consultation exercise has been undertaken, please send them to buildingstandards@gov.scot, or by post to:

Scott Young
Building Standards Division
Scottish Government
Denholm House
Almondvale Business Park
Livingston
EH54 6DE

Scottish Government consultation process

Consultation is an essential part of the policymaking process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work.

You can find all our consultations online: <http://consult.gov.scot>. Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post.

Responses will be analysed and used as part of the decision making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

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Respondent information form

Please Note this form **must** be completed and returned with your response.

To find out how we handle your personal data, please see our privacy policy: <https://beta.gov.scot/privacy/>

Are you responding as an individual or an organisation?

- Individual
- Organisation

Full name or organisation's name

Address

Email

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

- Publish response with name
- Publish response only (without name)
- Do not publish response

Information for organisations:

The option 'Publish response only (without name)' is available for individual respondents only. If this option is selected, the organisation name will still be published.

If you choose the option 'Do not publish response', your organisation name may still be listed as having responded to the consultation in, for example, the analysis report.

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

- Yes
- No

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Annex A

Supporting documents / website links

- SG website – Building Standards Division <http://www.gov.scot/bsd>
- Technical Handbooks - <http://www.gov.scot/Topics/Built-Environment/Building/Buildingstandards/techbooks/techhandbooks>
- Procedural Handbook - <http://www.gov.scot/Topics/Built-Environment/Building/Buildingstandards/ProceduralLegislation/ProceduralHandbook>
- Ministerial Working Group on Building and Fire Safety - <https://beta.gov.scot/groups/ministerial-working-group-building-and-fire-safety/>
- Building Standards Futures Board
[Building Standards Futures Board - gov.scot \(www.gov.scot\)](http://www.gov.scot/Topics/Built-Environment/Building/Buildingstandards/FuturesBoard)



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