

RIBA Response to the Review of the ban on the use of combustible materials in and on the external walls of buildings including attachments
21.05.2020

Question 1	Respondent Details
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Please indicate whether you are applying to this consultation as:	Other interested party: Professional body

Consultation Link: <https://www.gov.uk/government/consultations/fire-safety-risk-prioritisation-in-existing-buildings-a-call-for-evidence>

Buildings in Scope of the Ban

Changing the building types

Question 3a
<p>Do you agree that hotels, hostels and boarding houses should be included in the definition of relevant buildings in Regulation 7(4)? Please provide evidence to support your answer.</p> <p>Yes. The RIBA recommends that the restriction on the use of combustible materials in and on the external walls of buildings including attachments should be extended to include hotels, hostels and boarding houses.</p> <p>The RIBA recommends that these building types are included in the definition of a “relevant building” in Regulation 7(4), and be subject to Regulation 6(3) and 7(2), as the risk profile of buildings which contain a ‘room for residential purposes’ (Building Regulations 2010) are greater as they pose increased risk to users due to the potential vulnerability and mobility of users, users who are unfamiliar with the building, which may be complex in nature or have complex escape strategies, and ultimately, where there is a sleeping risk.</p> <p>The three building types that have been exempt from the regulations under a ‘room for residential purposes’ (hotels, hostels and boarding houses), although often staffed overnight and may include enhanced fire safety measures (for example, emergency lighting to assist evacuations and a higher level of fire detection and alarm systems in comparison to residential buildings), should be included in the ban as the risks outlined above place these buildings in a high risk category. The available data on incidents attended by fire and rescue service (collected by the Home Office), show that the frequency of fires in these building types demonstrate a significant risk of a catastrophic event causing multiple fatalities.</p>

Details of evidence provided

- The Building Regulations 2010 No. 2214, Building and Buildings, England and Wales http://www.legislation.gov.uk/ukxi/2010/2214/pdfs/ukxi_20102214_en.pdf [Accessed 01.04.2020]
- Home Office Fire Statistics Data Tables: Information on incidents attended by Fire and Rescue Services. Non-dwelling fires attended - FIRE0301: Primary fires, fatalities and non-fatal casualties in other buildings by motive and building type, England <https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables>, and; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/823436/fire-statistics-data-tables-fire0301-080819.xlsx [Accessed 31.01.2020]

Question 3b

Should any other building types be included within the scope of the ban? Please provide details and evidence to support your answer.

The RIBA acknowledges that although there is an overarching requirement to ensure compliance with Part B4, the RIBA recommends that the ban should be extended to all buildings where a catastrophic event could cause multiple fatalities. These buildings might include all buildings where people sleep, where there is a reduced capability of escape (e.g. hospitals and care homes), where young people assemble (e.g. schools and nurseries) and public assembly buildings (e.g. theatres and community centres).

Details of evidence provided

- The Building Regulations 2010 No. 2214, Building and Buildings, England and Wales http://www.legislation.gov.uk/ukxi/2010/2214/pdfs/ukxi_20102214_en.pdf [Accessed 01.04.2020]

Changing the height threshold

Question 4a

Do you agree that the height threshold of the ban should be reduced to at least 11m and above?

The RIBA recognises the reasoning for the proposal to lower the height threshold at this time in accordance with the precautionary principle and in the light of recent major fires. Such a reduction would be consistent with current firefighting capabilities identified by the National Fire Chiefs Council (NFCC) in its published response to the call for evidence for the full technical review of Approved Document B (see also response to Question 4e).

However, we note that in the consultation the MHCLG recognises that whilst it considers that relevant buildings between 11 and 18m may be subject to similar levels of fire risk to many of those taller than 18m there is currently no robust scientific evidence of which the MHCLG is aware to fully support this. The RIBA welcomes the proposal by the MHCLG to commission further research and would like to be kept informed of the progress of this research contribute to it if appropriate.

Question 4b

Is there another lower height threshold that should be considered? Please provide evidence.

The RIBA recommends that equal consideration is given to the number of storeys, with any stipulated numerical height requirement. The RIBA recommends that any new height threshold that restricts the use of combustible materials in external walls in buildings should provide a threshold from the ground level story to the top-level story in metres and in stories. For example: where the top floor is more than 11m above ground level, or the top floor is more than three storeys above the ground level storey (whichever is reached first).

Currently, with a reduction to 11m, it is possible to design and develop relevant buildings up to 4 storeys (with low floor to ceiling / floor to floor heights – See ‘Technical housing standards – nationally described space standard’), rather than the more typical 3 storeys (as described in The London Plan 2016, where there is a higher requirement) which would fall outside any extended ban. Consideration should be given to such unintended consequences through the absence of this secondary sub clause, given the added risk with increased occupancy levels for buildings on the cusp of falling into the regulations.

The RIBA recommendation is also supported by the evidence submitted by the National Fire Chiefs Council (NFCC) in the MHCLG call for evidence on the Technical Review of Approved Document B (Fire Safety), which noted that there is ‘significant scope for ‘gaming’ how buildings are measured’. The NFCC stated that trigger heights ‘should include the number of floors, using wording which would require the higher of the specified requirements’.

Details of evidence provided

- MHCLG Technical housing standards – nationally described space standard, March 2015
<https://www.gov.uk/government/publications/technical-housing-standards-nationally-described-space-standard> [Accessed 02.04.2020]
- The London Plan - The spatial development strategy for London (consolidated with alterations since 2011), March 2016
https://www.london.gov.uk/sites/default/files/the_london_plan_2016_jan_2017_fix.pdf [Accessed 02.04.2020]
- National Fire Chiefs Council (NFCC) response to the MHCLG call for evidence on the Technical Review of Approved Document B (Fire Safety)
https://www.nationalfirechiefs.org.uk/write/MediaUploads/Grenfell/Technical_review_of_ADB_-_1_March_2019_-_FINAL.pdf [Accessed 01.04.2020]

Question 4c

Do you agree an appropriate research project regarding building risk should be carried out to inform further review the scope of the ban?

Yes. The RIBA welcomes the proposal by the MHCLG to commission further research and would like to be kept informed of the progress of this research contribute to it if appropriate.

In the RIBA response to the MHCLG ‘Fire Safety: Risk Prioritisation in Existing Buildings’ consultation (Submitted 17 February 2020), the RIBA recommended that risk-based assessments should be undertaken for existing buildings on a case by case basis using a standard process. This approach may be used to identify key thresholds or requirements that might be used in a future scope of the ban.

Research should be undertaken to ensure that any categorisation does not limit or narrow building types that may be a higher risk. The RIBA recommends that the research programme should consider a wide range of characteristics beyond height and building type such as:

- layers of fire safety measures included in the building
- building layout and complexity
- location of escape routes
- occupancy characteristics (including familiarity, vulnerability, mobility and whether there is a sleeping risk)
- construction quality
- management processes (ongoing review, maintenance of systems and records)
- expected fire load
- calorific value per m³ in the external wall.
- probability of a fire occurring
- standard firefighting operations

Question 4d

Please suggest the type of evidence you consider should be included in further review of the height threshold of the ban.

The RIBA recommends the research programme includes gathering qualitative evidence from fire services on how fires have been fought, particularly after flashover has occurred and what has been learned from fires in buildings of heights up to 11m, between 11m and 18m and above 18m. Evidence may also consider other key characteristics of these buildings and fires to help gain the most from this research.

Evidence of this kind might inform the need for different measures to be introduced or amended if the height threshold for the ban on combustible materials in external walls is lowered to 11m. Measures might include lowering the threshold for the requirement of firefighting lifts in residential buildings to 11m so that firefighting and evacuation can be undertaken from within the building effectively.

The RIBA recommends that statistical evidence is evaluated to identify fires that have occurred over the past 10 years, or longer, that have breached compartments in buildings due to external fire spread then gather further information on these fires, to identify key characteristics to inform future regulatory change, including:

- fatalities
- non-fatal injuries
- materials included in the external wall
- building characteristics (including layers of fire safety measures included in the building, layout, complexity and location of escape routes)
- occupancy characteristics (including familiarity, vulnerability and mobility)
- construction quality
- further insight on these fires from the fire services (if available)

The RIBA has identified the number of fires in buildings in the year preceding September 2019 that breached compartments possibly due to external fire spread (167 domestic building fires and 87 other building fires) – See Question 4e.

The RIBA recommends that research is carried out to provide evidence as to the actual completeness, quality and effectiveness of the installation that is generally achieved by the construction industry in the UK of those components that are required to ensure the appropriate levels of compartmentation both internally and externally upon which the fire safety of residents and users of these buildings depends.

Question 4e

Please provide any evidence you believe should be considered in further review of the height threshold of the ban.

The RIBA supports the National Fire Chiefs Council (NFCC) position (evidence submitted by the NFCC to the MHCLG call for evidence on the Technical Review of Approved Document B -Fire Safety), which noted that there is an anomaly for protection of buildings between 11m and 18m. The NFCC concluded that front line equipment* carried by fire services is fit for external firefighting and rescue up to 11m in floor height. Above 11m is the point at which fire and rescue services are typically no longer able to rescue persons from the exterior of the building and are reliant on the interior protection measures of the building for escape and firefighting.

The RIBA recommends that fire statistics data, collected by the Home Office which identifies the number of incidents attended by the Fire and Rescue Services, should also be considered as part of the review. The data shows that although the number of total fires have decreased in 2019 from the previous recorded year (2018), there are still a large number of fires (7,704) in purpose built low rise (1-3 floors) flats/ maisonettes, purpose built medium rise (4-9 floors) and high rise (10+ floors) flats (FIRE0205a). Collectively in 2019, within these building types, there are a high number of fatalities (41) (FIRE0205b) and non-fatal casualties (1,449) (Fire0205c). This data, when related to fire spread (FIRE0203), has shown that compartmentation has been breached (limited to 2 floors, affecting more than 2 floors, affecting the whole building) in 167 recorded fires for domestic buildings, and 87 'other' buildings (hotels, boarding houses, hostels [etc] and communal living) (FIRE0304). This indicates that these buildings are not performing as intended, and fires are breaching their compartment of origin. The RIBA believe there is a high likelihood that this is caused by external fire spread.

The RIBA recommends that further information on the 167 domestic building fires and 87 other buildings identified above should be investigated to determine if external fire spread was the cause of compartments being breached and to gather qualitative feedback from fire services on how the fires were fought and what was learned.

The statistical data shows that a large proportion of fires are in buildings containing a 'flat' or a 'room for residential purposes', and 'flats' below 18m in height, where the frequency of fires remain high and result in a large number of fatalities and non-fatal casualties, which fall outside the Governments current ban on the use of combustible materials in "external walls" of a "relevant building".

Details of evidence provided

- MHCLG Building safety advice for building owners, including fire doors - Advice on the measures building owners should take to ensure their buildings are safe <https://www.gov.uk/government/publications/building-safety-advice-for-building-owners-including-fire-doors> [Accessed 02.04.2020]
- National Fire Chiefs Council (NFCC) response to the MHCLG call for evidence on the Technical Review of Approved Document B (Fire Safety) https://www.nationalfirechiefs.org.uk/write/MediaUploads/Grenfell/Technical_review_of_ADB_-_1_March_2019_-_FINAL.pdf [Accessed 01.04.2020]

Home Office Fire Statistics Data Tables: Information on incidents attended by Fire and Rescue Services [Accessed March 2020]:

<https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables>

- FIRE0205a: - Dwelling fires attended by fire and rescue services in England, by dwelling type and fire and rescue authority

- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/845801/fire-statistics-data-tables-fire0205-141119.xlsx
FIRE0205b - Fatalities in dwelling fires attended by fire and rescue services in England, by dwelling type
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/845801/fire-statistics-data-tables-fire0205-141119.xlsx
FIRE0205c - Non-fatal casualties in dwelling fires attended by fire and rescue services in England, by dwelling type
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/823436/fire-statistics-data-tables-fire0301-080819.xlsx
FIRE0301 - Primary fires, fatalities and non-fatal casualties in other buildings by motive and building type, England
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/830400/fire-statistics-data-tables-fire0304-120919.xlsx
FIRE0304 - Other building fires by building type, spread of fire and motive, England
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/830400/fire-statistics-data-tables-fire0304-120919.xlsx

Metal Composite Materials

Question 5a

Do you agree that metal composite panels with a polyethylene core should be banned from being used in external wall construction of any building regardless of height or purpose?

The proposal to ban the use of metal composite panels with a polyethylene core ('metal composite panels with a core comprised of greater than 30 percent polyethylene by mass') would help provide clarity in the industry that these products are unacceptable as their use would not meet regulatory requirement B4. However, the proposal to ban only one material may provide false confidence that all metal composite materials and other products are acceptable for use on buildings not covered by Regulation 7(2). Other materials that may pose a significant fire risk may include, for example, non-fire rated high pressure laminate cladding panels or other metal composite panels with a polypropylene core.

The RIBA recommends that the proposed ban on this product type should be applied in Approved Document B (Volume 1 and 2) as a performance requirement on metal composite panels used in all external wall construction of any building.

Question 5b

If no, why not? Please provide evidence to support your answer.

The RIBA recommends that research is undertaken to identify other materials that may pose similar fire safety risks, and as appropriate, update legislation outlining the ban on the use of combustible materials in and on the external walls of relevant buildings including attachments, and industry guidance demonstrating routes to compliance with regulatory requirements, which should be sufficiently robust to restrict the use of cladding products deemed to pose such a fire risk. Approved guidance can also inform the use and application of applicable cladding products for other buildings that fall outside the scope of the ban, which would still need to meet the overarching requirement of Part B4 (External Fire Spread).

Question 5c

If their use was to be restricted, do you agree with the proposed definition? Please provide evidence to support your answer.

The RIBA recommends that further clarity of the proposed definition is provided: “metal composite panels with a core comprised of greater than 30 percent polyethylene by mass”. This should include providing clarity on what is defined as a ‘Metal Composite Panel’ / ‘Metal Composite Material’ and what is a ‘core’. For clarity, the definition must make clear that ‘30 percent polyethene by mass’ refers to the core and not the total mass of the product.

The RIBA recommends that other cladding products identified as posing a potential fire risk (See RIBA Response to Question 5a) should have an associated definition to ensure clarity in the industry of the composition of materials that would not meet the regulatory requirement B4.

Attachments

Question 6a

Which components, if any, do you consider should be included in the list of specified attachments in Regulation 2(b) and why?

Consideration of Industry Interpretation – Guidance

The RIBA recommends that further clarity, beyond that of the MHCLG guidance on the ‘Building (Amendment) Regulations 2018: frequently asked questions’, is provided to ensure that it is clear what is included as specified attachments. The RIBA supports the significant research undertaken by the Centre for Window and Cladding Technology (CWCT) and the Society of Façade Engineers (SFE), to develop clear definitions and industry interpretation of Regulation 7 and Requirement B4, to highlight issues and provide clarity for the industry (for example, solar shading, balconies, rainwater goods, lighting conductors). The development of the guide included consultation and collaboration with industry professionals, including façade engineers, fire engineers, architects, building control professionals and surveyors.

The RIBA recommends that the MHCLG also supports this work, to ensure that the interpretations are in line with the Secretary of State’s view, and that its use can be relied upon to help prove compliance.

Solar Shading

The RIBA acknowledges that following a Judicial Review, solar shading products such as blinds, shutters, awnings, brise soleil, and similar products, defined as ‘a device for reducing heat gain within a building by reflecting sunlight which is attached to an external wall’, are not required to meet the performance requirements of Regulation 6(3), as the High Court ruling quashed one part of the ban in relation to such devices (‘specified attachment’ under Regulation 7, 2(b)(ii)).

In the RIBA response to the MHCLG consultation on ‘Banning the use of combustible materials in the external walls of high-rise residential buildings’ (Submitted 10th August 2018), the RIBA maintains the recommendation that the ban should place a restriction on window spandrels, balconies, brise soleil, and similar building elements, in order that such specified attachments do not contribute and promote the spread of fire over the external walls and from one building to another (Building Regulations, Schedule 1, Part B4(1) – External Fire Spread) (See RIBA Response to Question 6c).

Balconies

Regulation 7 identifies 'a balcony attached to an external wall' as a "specified attachment". The interpretation of this requirement introduces ambiguity within the industry, both for the type of balcony and its implications on the use of other related materials that are not exempt from the ban, which the CWCT and SFE have identified.

The RIBA recommends that in the review, further consideration should be given to balconies, and considers the development of 'BS 'BS8579 - Guide to the design of balconies and terraces' (public consultation concluded 03.03.20, with standard due to be released in Summer 2020), to ensure there is no conflict or ambiguity between the requirements of the regulations and developed guidance. This standard sets out a series of definitions for the various types of balconies (balcony, covered balcony, free standing balcony, inset balcony, Juliet balcony, projecting balcony, enclosed balcony and terrace – See Figure 1 below). Upon the application of Regulation 7, several issues arise which have not been captured in any available guidance, or clarity through the regulation itself. For example, a terrace ('accessible space positioned above internal space above ground level exterior to and with direct access from a building' – as defined in BS8579) is not assumed to be specified attachment and as such, Regulation 7(2) does not apply. In comparison, a projecting or inset balcony above a terrace would need to meet the regulatory requirement. The RIBA recommends that the review will identify such anomalies, across all specified attachments, to ensure that these are addressed and there is clarity in the regulations and guidance provided.

Membranes used as part of the external wall are required to achieve European Classification B-s3, d0 (Paragraph 10.15a, Volume 1 - Approved Document B, 2019). The RIBA recommends that guidance is provided in Approved Document B for the performance requirements of membranes used in specified attachments, such as balconies.

See next page for Figure 1: Balcony Types.

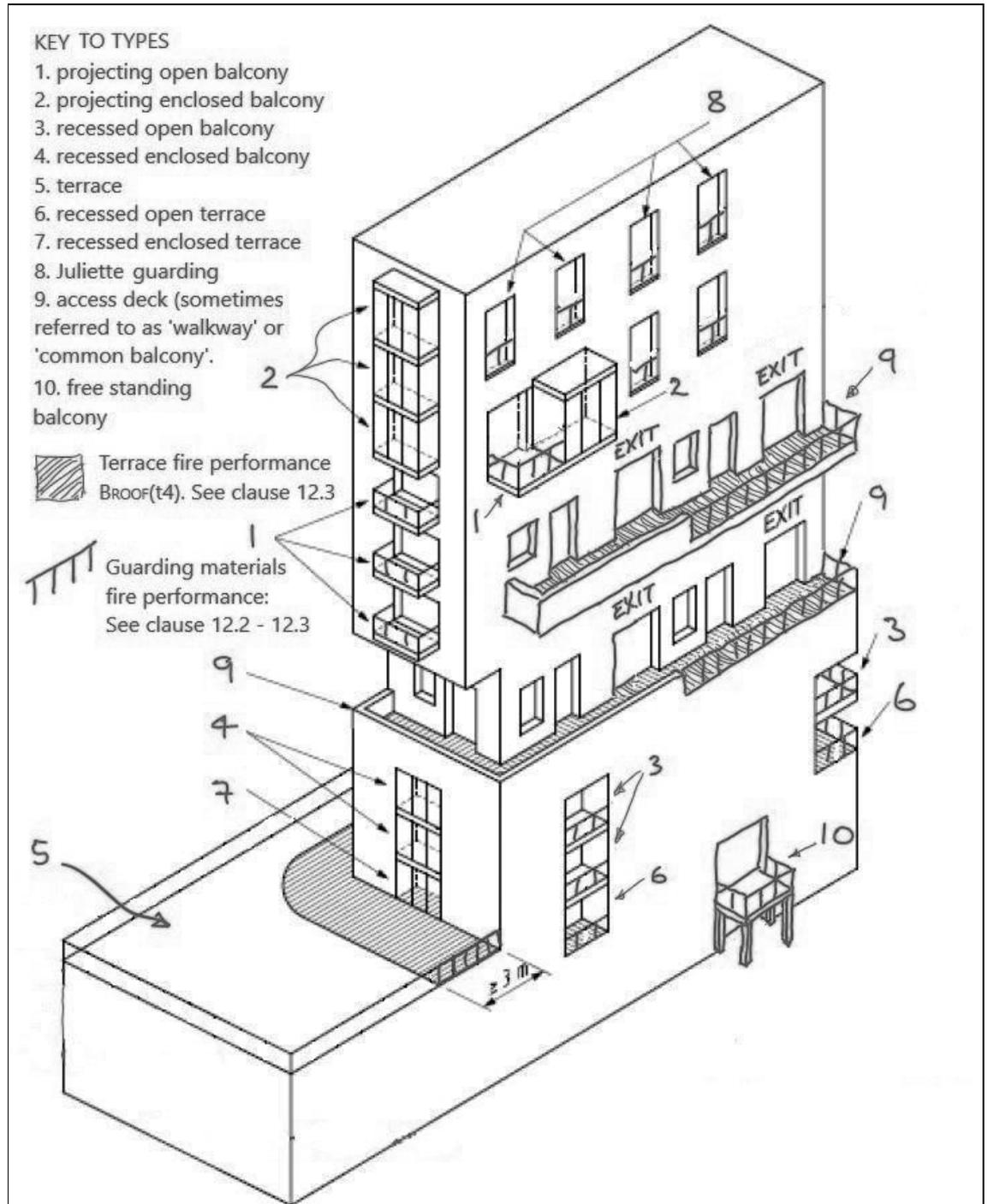


Figure 1: Balcony Types – Draft BS 8579 Guide to the design of balconies and terraces

Details of evidence provided

- High Court judgment on the ban on combustible materials in and on the external walls of high-rise buildings - Building (Amendment) Regulations 2018: circular 03/2019 [Accessed 27/03/2020]
<https://www.gov.uk/government/publications/building-amendment-regulations-2018-circular-032019>

- RIBA Response to MHCLG consultation on Banning the use of combustible materials in the external walls of high-rise residential buildings.
<https://www.architecture.com/-/media/files/Grenfell-Tower/18-08-10-Combustible-Materials-Consultation-RIBA-Response.pdf>
- The Building (Amendment) Regulations 2018, 2018 No. 1230, Building and Buildings, England (Statutory Instrument).
http://www.legislation.gov.uk/ukxi/2018/1230/pdfs/ukxi_20181230_en.pdf
- MHCLG Guidance - Building (Amendment) Regulations 2018: frequently asked questions following the ban on combustible materials in external walls
<https://www.gov.uk/government/publications/building-amendment-regulations-2018-frequently-asked-questions/building-amendment-regulations-2018-frequently-asked-questions> [Accessed 30.03.2020]
- BS 8579 Guide to the design of balconies and terraces (In Development)
<https://standardsdevelopment.bsigroup.com/projects/2018-02068#/section> [Accessed 20.02.2020]

Question 6b

Do you agree with the proposed definition of solar shading products? If no, what other definition would you propose and why?

The RIBA supports the proposed definition of solar shading products, described as “a device for reducing heat gain within a building by deflecting sunlight which is attached to an external wall”.

Question 6c

Do you agree that solar shading products need to achieve class A2-s1, d0 or A1 in line with the requirements of the Building (amendment) Regulations 2018?

As outlined in Regulation 7(2) of The Building (Amendment) Regulations, 2018 No. 1230, the RIBA supports the performance requirement 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 (“Fire classification of construction products and building elements. Classification using test data from reaction to fire tests”).

The RIBA maintains that such products should achieve a minimum European Classification of A2-s1, d0, in order to limit the contribution and spread of fire (See RIBA Response to Question 6a), and as this classification would ensure very limited smoke production and no flaming particles/droplets. A simple A2 classification would allow unlimited smoke production and unlimited flaming particles/droplets, which would put building users and the Fire and Rescue Authorities at unnecessary risk.

The RIBA recommends that clarity is provided on the use of blinds, for example, blinds within a glazing unit, such as mid-pane (interstitial) blinds for glare control. Currently, the exemption for ‘window frames and glass’ (Regulation 7, 3 (i)), suggests that this includes materials contained within a glazing unit. Similarly, clarity should be provided on the use of blinds within a double skin façade, which dependent upon the continuity of the cavity (continuous or compartmentalised), can either be exempt or required to achieve European Classification A2-s1, d0 or A1.

For externally mounted shading products, consideration should be given to how the performance requirements are imposed, as it is unlikely that all components (for example components within complex mechanisms, lubricants, to name but a few) would meet the

requirement and their prohibition would be cause further issues in the industry. The RIBA recommends that research is undertaken to ensure that the ban can be applied effectively and appropriately, with due consideration of the fire risk (See RIBA Response to Question 7b - Minor Components in Specified Attachments).

Details of evidence provided

- The Building (Amendment) Regulations 2018, 2018 No. 1230, Building and Buildings, England (Statutory Instrument).
http://www.legislation.gov.uk/ukxi/2018/1230/pdfs/ukxi_20181230_en.pdf

Question 6d

Do you agree that retractable awnings fitted to the ground storey should be exempted? If yes what restrictions, if any, should be placed on these.

The RIBA recommends that retractable awnings over commercial premises at the top of the ground level storey of mixed-use buildings should be exempted from the requirement under Regulation 7(2), as the RIBA do not consider these to contribute to the spread of fire over the external wall.

The RIBA recommends that research is undertaken to inform guidance in Approved Document B, to identify the appropriate fire classification for awnings.

Exemptions

Question 7a

Which components, if any, do you consider should no longer be included in the list of exemptions in Regulation 7(3) and why?

In the RIBA response to the MHCLG consultation on ‘Banning the use of combustible materials in the external walls of high-rise residential buildings’ (Submitted 10th August 2018), the RIBA recommend that the ban should not cover the entire wall construction. The RIBA reiterates its recommendation that:

- Within external wall construction, the ban should restrict plasterboard, sheathing boards, insulation and outermost cladding materials to European classification A2-s1, d0 or A1. The ban should not include the buildings primary structure. The primary structure should have adequate fire protection (see Building Regulations requirement B3).
- The ban should restrict window spandrels, significant materials in balconies, brise soleil, and similar building elements to European classification A2-s1, d0 or A1.

The RIBA recommend that if the MHCLG will not adopt a ban as outlined above, then further consideration should be given to how the industry can apply the requirements through more detailed and explicit exemptions list, with appropriate approved guidance, to provide clarity in the industry. The RIBA recommend that in the first instance, clarification of the current exemptions and scope of the ban is made explicitly, prior to any amendments, to ensure that there are no conflicts or ambiguities where the regulation applies.

Consideration of Industry Interpretation – Guidance

The RIBA recommends that further clarity, beyond that of the MHCLG guidance on the ‘Building (Amendment) Regulations 2018: frequently asked questions’, is provided to ensure that it is clear what the requirement include in detail, both in terms of its scope and application. The RIBA supports the significant research undertaken by the Centre for Window

and Cladding Technology (CWCT) and the Society of Façade Engineers (SFE), to develop clear definitions and industry interpretation of Regulation 7 and Requirement B4, to highlight issues and provide clarity for the industry. The development of the guide included consultation and collaboration with industry professionals, including façade engineers, fire engineers, architects, building control professionals and surveyors.

Details of evidence provided

- RIBA Response to MHCLG consultation on Banning the use of combustible materials in the external walls of high-rise residential buildings
<https://www.architecture.com/-/media/files/Grenfell-Tower/18-08-10-Combustible-Materials-Consultation-RIBA-Response.pdf>
- MHCLG Guidance - Building (Amendment) Regulations 2018: frequently asked questions following the ban on combustible materials in external walls
<https://www.gov.uk/government/publications/building-amendment-regulations-2018-frequently-asked-questions/building-amendment-regulations-2018-frequently-asked-questions> [Accessed 03.04.2020]

Question 7b

Which additional components, if any, should be included on the list of exemptions in Regulation 7(3) and why?

The RIBA recommends that MHCLG update the exemptions list to cover the materials and systems outlined below. These are included as they do not contribute significantly to the potential fire load of external walls in relation to spread of fire across the wall. The RIBA recommends that guidance on appropriate performance requirements for these materials and systems be included in Approved Document Part B. The RIBA advises that outright bans on these materials and systems will limit the progress of fire safety knowledge as the industry will no longer subject them to scientific testing to prove compliance with the functional requirements of the Building Regulations.

Primary Structure

The ban should not include the buildings primary structure. The primary structure should have adequate fire protection, as set out in Building Regulations requirement B3 and when included in the external wall should still meet requirement B4.

Further research into the use of structural timber within external walls (such as cross laminated timber) should be undertaken to obtain relevant scientific data or experimental evidence to determine and quantify the performance of buildings constructed using structural timber when subject to real fire loads. The paper ‘Needs for Total Fire Engineering of Mass Timber Buildings’, Bartlett, et al (2016), refers to the need for future research priorities. This research may be used to provide guidance to the industry through updates to Approved Document Part B and inform any changes to Regulation 7(2) or the exemptions list under Regulation 7(3).

Curtain Walling

The MHCLG guidance provided in the ‘Building (Amendment) Regulations 2018: frequently asked questions’ confirms that curtain walling is exempt for the requirements of Regulation 7, 6(3) and 7(2). The RIBA recommends that curtain walling should be identified separately as it is a different type of building system. The RIBA recommends that curtain walling should remain in the exemptions list, and that further guidance is provided, including undertaking full scale testing, to help building designers demonstrate compliance with Requirement B4.

Laminated Glass

The RIBA recommends that laminated glass should be exempt from the performance requirements of Regulation 7(2) for use in external walls and specified attachments, including window spandrel panels, infill panels and balustrades on balconies and terraces (See RIBA Response to Question 9). The RIBA recommends that further guidance is provided on glazing, including undertaking full scale testing, to help building designers demonstrate compliance with Requirement B4.

Integral Blinds

The RIBA recommends that further clarification is provided for the application of blinds used within glazing units and cavity blinds used within double skin facades (See RIBA Response to Question 6c). The RIBA recommends that following this review, any amendments to Regulation 7 and/or guidance is made, to ensure clarity in the industry.

Damp Proof Course

The RIBA recommend that the MHCLG review the guidance set out in Approved Document Part B (10.15a), which states ‘Membranes used as part of the external wall construction above ground level should achieve a minimum of class B-s3, d0’. The RIBA recommends that DPCs (typically built into masonry leaves), should not be included in this requirement, as they do not pose a significant fire risk.

Cavity Trays

The RIBA recommends that cavity trays should be exempt from Regulation 7, 6(3) and 7(2), for use in external walls with a masonry outer leaf. If the MHCLG has evidence that confirms the use of cavity trays in external walls with one non masonry leaf is a significant risk, then this should be published, and the current requirements should remain unchanged. (The RIBA have provided further information in Question 8a).

Minor Components in the External Wall

The RIBA recommends that minor materials and components that must be included in external walls, unlikely to meet the performance requirement in Regulation 7(2), are made exempt from the ban. Such components would add minimal caloric value to the overall system and do not pose a significant fire risk, such as cavity weep-holes, ventilation air bricks and airtightness products.

The RIBA recommends that further research or evidence as appropriate is undertaken to identify the scope of materials and components that should be exempt, to ensure that the ban can be applied effectively and appropriately, with due consideration of the fire risk.

Minor Components in Specified Attachments

The RIBA recommends that minor materials and components that must be included in specified attachments, unlikely to meet the performance requirement in Regulation 7(2), are made exempt from the ban. Such components would add minimal caloric value to the overall system and do not pose a significant fire risk, such as spacers, components within complex mechanisms, lubricants.

The RIBA recommends that further research or evidence as appropriate is undertaken to identify the scope of materials and components that should be exempt, to ensure that the ban can be applied effectively and appropriately, with due consideration of the fire risk.

Details of evidence provided

- Needs for Total Fire Engineering of Mass Timber Buildings. Bartlett, Alastair; Wiesner, Felix; Hadden, Rory; Bisby, Luke; Lane, Barbara; Lawrence, Andrew; Palma, Pedro; Frangi, Andrea. 2016 World Conference on Timber Engineering (WCTE 2016). Vienna, 2016.
https://www.research.ed.ac.uk/portal/files/33151493/Joint_WCTE_full_paper_Final.pdf

Cavity Trays

Question 8a

Do you agree that cavity trays should, by temporary relaxation for 18 months, be exempted from the requirements of Regulation 6(3) and 7(2)?

The RIBA recommends that cavity trays should be exempt from Regulation 7, 6(3) and 7(2), for use in external walls with a masonry outer leaf.

The RIBA recommends that the restriction on combustible materials should only apply to significant products in the external wall (See RIBA Response to Question 7a), to include sheathing boards, insulation and outermost cladding products, plasterboard, window spandrels, balconies, brise soleil, and similar building elements. This would provide clarity for the use of cavity trays and other products that would need to be identified in a list of exemptions.

The RIBA are not aware of any evidence that suggest polymer cavity trays pose a significant risk of fire spread across external walls.

Steel Framing Systems are commonly used as the inner leaf backing wall in the construction of higher rise buildings. The current ban restricts the use of polymer cavity trays in such construction methods, and the industry is attempting to use alternative solutions to meet the performance requirement of Regulation 7(2). However, metal proprietary cavity trays, developed to meet this performance requirement, do not have the same material characteristics, as they are inflexible and may lead to cold bridging and mortar adhesion issues.

If the MHCLG has evidence that confirms the use of cavity trays in external walls with a single masonry outer leaf and non-masonry inner leaf is a significant risk, then this should be published, and the current requirements should remain unchanged. If this is the case, the RIBA recommends that the proposed inclusion of a temporary relaxation for 18 months undermine the overarching policy aim 'of reducing the risk to life from external fire spread in buildings covered by the ban'.

A temporary relaxation of the ban would result in the development of buildings both at the design phase and those onsite, which after this relaxation, may be viewed as non-compliant. This may adversely lead to other owner and occupier issues, such as mortgage lending, commercial and private building insurance, which should be avoided through temporary changes.

Details of evidence provided

- Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869532/Building_safety_advice_for_building_owners_including_fire_doors_January_2020.pdf [Accessed 31.03.2020]

<ul style="list-style-type: none"> • New industry-wide process agreed for valuation of high-rise buildings https://www.rics.org/uk/news-insight/latest-news/fire-safety/new-industry-wide-process-agreed-for-valuation-of-high-rise-buildings/, and; https://www.rics.org/globalassets/rics-website/ews1-external-wall-fire-review-final-2.pdf [Accessed 31.03.2020]
<p>Question 8b If yes, what if any conditions should be imposed on their use?</p>
<p>N/A</p>

Laminated Glass

<p>Question 9a Do you agree that laminated glass in balcony construction should continue to have to achieve A2-s1, d0 classification or A1?</p>
<p>No. The RIBA recommends that laminated glass in balcony construction should be permitted, similarly as is permitted in framed glass in the vision area of a window or curtain wall, covered by Regulation 7(3)(j). This permits the use of materials which do not achieve class A2-s1, d0, including laminated glass in these areas (See RIBA Response to Question 7b - Laminated Glass).</p> <p>In the MHCLG circular letter regarding the application of requirement B4 of the Building Regulations 2010 (1 July 2019), following the fire at Samuel Garside House in Barking (09 June 2019) the MHCLG stated: ‘As with all the functional requirements in Schedule 1, Building Control Bodies should use judgement to consider the overall intent of Requirement B4, not just comply with specific guidance.’</p> <p>The RIBA recommends that further research through full scale testing is used to help develop guidance in the use of laminated glass in balconies. In the meantime, applications should demonstrate how balconies meet the regulatory requirement of B4, and where applicable, Regulation 7.</p>
<p>Details of evidence provided</p> <ul style="list-style-type: none"> • MHCLG circular letter regarding the application of requirement B4 of the Building Regulations 2010 https://www.gov.uk/government/publications/circular-letter-regarding-the-application-of-requirement-b4-of-the-building-regulations-2010 [Accessed 03.04.2020] • Advice for Building Owners of Multi-storey, Multi-occupied Residential Buildings https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869532/Building_safety_advice_for_building_owners_including_fire_door_January_2020.pdf [Accessed 03.04.2020]
<p>Question 9b Please provide evidence to support your answer where possible and discuss specific materials or products.</p>
<p>The RIBA recommends that further clarity on the MHCLG guidance is provided for the material composition requirements of laminated glass. The MHCLG guidance states that ‘Products which have been deemed by European Commission decisions to meet Class A2-s1, d0 or A1 can be considered to meet the new requirements. The EC Commission Decision 96/603/EC as amended by 2000/605/EC and 2003/424/EC, gives a list of materials to be considered as reaction to fire Classes A1 without the need for testing. Glass, including</p>

laminated glass, is listed as being classified as A1. The RIBA have been made aware that research is being undertaken by glass manufacturers which the MHCLG may wish to encourage further full-scale testing.

Details of evidence provided

- The Building (Amendment) Regulations 2018, 2018 No. 1230, Building and Buildings, England (Statutory Instrument).
http://www.legislation.gov.uk/ukxi/2018/1230/pdfs/ukxi_20181230_en.pdf
- 96/603/EC: Commission Decision of 4 October 1996 establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products
<https://op.europa.eu/en/publication-detail/-/publication/999ef8f3-56e7-4a99-8e20-01f910b77d2e/language-en>
- MHCLG Guidance - Building (Amendment) Regulations 2018: frequently asked questions following the ban on combustible materials in external walls
<https://www.gov.uk/government/publications/building-amendment-regulations-2018-frequently-asked-questions/building-amendment-regulations-2018-frequently-asked-questions> [Accessed 03.04.2020]

Roof Components

Question 10a

Do you agree that additional clarification in Approved Document B, that roofing membranes are not required to achieve A2-s1, d0 classification or higher when used as part of a roof connecting to an external wall, is not required?

The RIBA recommends that Regulation 7 is amended (See RIBA Response to Questions 6a and 7a), with specific emphasis on the list of exemptions in Regulation 7(3), to provide clarity on what materials, and in what circumstances and scenarios materials need to meet the performance requirements set out in Regulation 6(3) and 7(2), when they interface with an external wall.

The RIBA recommends that the clarification of Regulation 7 should be supported by clear accompanying guidance in Approved Document B. Additional clarification, together with any further necessary clarifications for the use of other materials which equally demonstrate uncertainty within the industry as to their application and interfaces, in light of Regulation 7 (See RIBA Response to Questions 6a and 7a), should be provided so that the route to compliance is not ambiguous.

Question 10b

If no, please provide an explanation with evidence to support your answer where possible and discuss specific materials or products.

N/A

Materials Below Ground Level

<p>Question 11a Do you agree with the proposal of expanding the exemption of the use of water proofing and insulation material from below ground level to up to 250mm above ground level?</p>
<p>Yes. The RIBA supports the proposal to extend the exemption of the use of water proofing and insulation material from below ground level, to address the need for these materials to be continued above ground level to prevent moisture penetrating the external walls. The RIBA recommend that the MHCLG review the proposed allowance to account for stepped insulation and waterproofing on sloping ground, while considering standard UK brick and block dimensions and warranty requirements. The RIBA recommends that the exemption should permit the use of waterproofing and insulation materials up to 600mm above ground level, to account for stepping in different construction technologies (for example, blockwork courses).</p> <p>Further consideration should be given to the need to include necessary components, in order to meet the requirements of Building Regulations Part C (Site preparation and resistance to contaminants and moisture), such as cavity weep-holes (See RIBA Response to Question 7b).</p>
<p>Question 11b If yes, what other conditions should be imposed on their use if any?</p>
<p>No further comment.</p>

Performance Requirements

Floor Testing

<p>Question 12a Do you agree with the proposed expansion of classifications required for materials used horizontally to include Class A2fl-s1 and Class A1fl?</p>
<p>Yes. The RIBA supports the proposal to extend the classifications required for materials to be used horizontally as a floor, and expanding Regulations 6(3) and 7(2) to permit the use of materials achieving Class A2fl-s1 or A1fl as part of the performance requirement for inclusion in specified attachments when used horizontally. The RIBA draws attention to the need for the MHCLG to clarify the scope and extent of specified attachments, for example balconies, inset balconies and terraces (See RIBA Response to Question 6a).</p> <p>The expansion of classifications and inclusion of these performance requirements will ensure that materials used horizontally as a floor are tested against the most appropriate test procedure (tested in a horizontal position rather than vertical position), and permit those products which have already undergone the necessary tests which are already in the market (tested accordingly to BS EN ISO 1182 or BS EN ISO 1716 and BS EN ISO 9239-1) to be able to specified for use.</p>
<p>Question 12b If no, please explain why and provide evidence where possible.</p>
<p>N/A</p>

Update of BS EN 13501-1

<p>Question 13a Do you agree that Regulations 7(2) and 6(3) should be amended to reference the current BS EN 13501-1 standard?</p>
<p>Yes. The RIBA supports the update to Regulations 7(2) and 6(3) to reference the current BS EN 13501-1 standard, only where amendments are being made to the regulations. It is not standard practice to update references in regulations where referred standards are updated, but it is expected as common practice that the latest standard is adopted when used.</p> <p>The RIBA acknowledge that although the updated version of BS EN 13501-1 (2018) does not impact the classifications of A1 and A2-s1, d0, it should be made clear that applicable products with existing test results, referring to BS EN 13501-1:2007+A1:2009, should not be required to be re-tested to meet the 2018 standard, and referred to as such.</p>
<p>Question 13b If not, please explain why.</p>
<p>N/A</p>

Assessment of Impacts

<p>Question 14a Please provide any additional evidence on costs, risks and benefits which should be considered in an assessment of impacts of this consultation.</p>
<p>Clarity of Regulations and Guidance</p> <p>An unintended consequence of insufficient clarity in the current version of the updated Regulation 7 and associated guidance, has caused delay to the deliverability of construction projects due to the lack of definition on the scope and application of the regulatory requirement on materials in and on the external walls of buildings including attachments.</p> <p>The RIBA recommends the clarification of the current regularity requirement and associated guidance is made to ensure that there are no conflicts or ambiguities where the regulation applies.</p> <p>Climate Change</p> <p>The climate emergency is the biggest challenge facing our planet, the construction industry and our profession. For the UK to reach the government’s target of net zero greenhouse gas emissions by 2050, the construction industry work together to limit carbon emissions, and the RIBA has set a challenge to its members to design net zero new buildings by 2030.</p> <p>The current ban restricts the use of structural timber in the external wall, often used to limit carbon emissions, which will have a detrimental effect of innovation in structural timber as development and testing may now not be undertaken. The RIBA recommends that the ban should not include the buildings primary structure. The primary structure should have adequate fire protection, as set out in Building Regulations requirement B3 and when included in the external wall should still meet requirement B4.</p> <p>Further research into the use of structural timber within external walls (such as cross laminated timber) should be undertaken to obtain relevant scientific data or experimental</p>

evidence to determine and quantify the performance of buildings constructed using structural timber when subject to real fire loads. The paper 'Needs for Total Fire Engineering of Mass Timber Buildings', Bartlett, et al (2016), refers to the need for future research priorities. This research may be used to provide guidance to the industry through updates to Approved Document Part B and inform any changes to Regulation 7(2) or the exemptions list under Regulation 7(3).

Question 14b

Are you aware of any particular equalities impacts for these proposals? How could any adverse impact be reduced and are there any ways we could better advance equality of opportunity or foster good relations between people who share a protected characteristic and those who do not? Please provide evidence to support your response.

No Comment.