

MHCLG Consultation on banning the use of combustible materials in the external walls of high-rise residential buildings

Response on Behalf of: The Confederation of Timber Industries

August 3rd 2018

Introductory Note:

The Confederation of Timber Industries (CTI) is an umbrella organisation representing the major trade associations of the timber supply chain and associated stakeholders.

Timber is a vital material for all forms of construction and the industry has seen sustained investment in recent years. It now forms a £10 billion supply chain in the UK, employing approximately 200,000 people, with rapid growth in the downstream sectors of timber-frame manufacturing and offsite construction.

Question 1	Respondent details
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Please state whether you are responding on behalf of yourself or the organisation stated above	Organisation

Question 2	Select one
Please indicate whether you are applying to this consultation as:	
• Builder / Developer	
• Designer / Engineer / Surveyor	
• Local Authority	
• Building Control Approved Inspector	
• Architect	
• Manufacturer	
• Insurer	
• Construction professional	
• Fire and Rescue Authority representative	
• Property Manager / Housing Association / Landlord	

• Landlord representative organisation	
• Building Occupier	
• Tenant representative organisation	
• Other interested party (please specify)	Trade Association

Question 3	Yes/No/Don't Know
<p>a. Do you agree that combustible materials in cladding systems should be banned?</p>	<p>No.</p> <p>There is considerable ambiguity over the scope of the ban being proposed in this consultation. In paras 19 & 20 it is defined as the outer wall, not the inner structural wall. In para 23 it is defined as applying to the “entire wall construction from the internal face of the wall through to its external face”.</p> <p>Q6 adds to this confusion by asking if a ban should cover the entire wall construction. Clarity is needed in order to be sure we are answering correctly. Until such time, we have to answer many of these questions as ‘No’.</p> <p>However, our view is as follows: For buildings over 18metres tall all cladding systems should be constructed of materials classed as either:</p> <ul style="list-style-type: none"> • Euroclass A1 to EN13501-1 (non combustible) • Euroclass A2 to EN13501-1 (limited combustibility) or • The whole system should be compliant with the test regime set out in BS8414. <p>This approach has been acceptable and in place for many years in Building Regulations Approved Document B. It is not this standard that is wrong, rather it is the current perceived ambiguity of current ADB guidance and the ineffective policing of existing guidance. Both of these points were highlighted in the Hackitt Review.</p> <p>No evidence has been supplied that the BS8414 approach is not satisfactory. Quite the opposite: the expert panel continue to confirm their confidence of it. Objective, appropriate and quantifiable test methods are the optimum way forward whilst allowing for change and innovation.</p> <p>We do not believe that banning (materials A2 or less) <u>now or in the future</u>, below 18m, is an appropriate</p>

measure, due to the lower risk and differing fire design strategies, which are based on periods of fire resistance and evacuation principles. The messaging and signalling of this should be categorically made clear, as part of this consultation. We are already seeing various building control inspectors specify that cladding – even on buildings much smaller than 18metres – should be of non-combustible materials only. The confused rhetoric is having a very negative effect already.

We would also like to note, for buildings over 18m that if the cladding system and whole wall make up, has been tested in line with BS8414, then this should be an acceptable compliance method and alternative approach deemed acceptable to verifiers within regulations. This provides flexibility to industry to use cladding and whole wall systems provided they are fully tested, validated and constructed in strict compliance with the test.

For example this would support new materials such as CLT or hybrid constructions (concrete frame & SIPS infill) to mature within the marketplace, supporting innovation and technology development, providing differing compliance pathways, where all materials have the chance to be used.

Industry needs flexibility in material selections, as compliance is a holistic requirement, with many factors to be considered i.e. structure, fire, acoustic, aesthetics, sustainability, robustness etc. A competent fire engineering design and compliance, validation and verification regulatory approach should be the goal for all materials, rather than a prescriptive ban on material types. It is feasible that some A2 materials may perceive to comply, but under fire load, bring other safety factors into play i.e. weakening of the structure & collapse.

In addition we feel all buildings over 18m should have water suppression/sprinkler systems incorporated. This has significant benefit in fire design in suppressing fire occurring in a compartment and the resultant spread. This would be irrespective of the materials used.

b. Should the ban be implemented through changes to the law?	No, via changes to Building Regulations, with the option of BS8414 testing and site verification, as an acceptable compliance route.
c. If no, how else could the ban be achieved?	Via a system of licenced products and systems, tested to BS8414.

Question 4	Yes/No/Don't Know
Do you agree that the ban should apply:	
a. to buildings 18m or over in height?	No – See comments in Q3
b. throughout the entire height of the wall, i.e. both below and above 18m?	No – see comments in Q3 & exemptions in Q7
c. to high-rise residential buildings only?	No – We believe all building classification over 18m should be treated the same
d. to all high-rise, non-residential buildings e.g. offices and other buildings, as well as residential buildings?	no
e. Please provide any further information in relation to your answers above.	<p>It is hard to answer this question while there is such ambiguity over the scope. There is, or should already be, a de facto ban on combustible cladding over 18 metres in existing regulations. No new ban is needed, just enforcing current regulations.</p> <p>A ban would also have unintended consequences. It would mean a pragmatic need to create a list of</p>

	<p>exemptions, therefore making the ban very difficult to implement and creating a route for non-compliant materials to enter the market.</p> <p>There should be an accepted, agreed method of determining what should be exempted and we believe this method should be testing to BS8414.</p>
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Question 5	Yes/No/Don't Know
a. Do you agree that the European classification system should be used and do you consider that Class A2 or better is the correct classification for materials to be used in wall construction?	Yes to the European classification system, NO to the simplification of A2 or better. When considering material specific classifications. BS8414 test should also be considered as a compliance option (see Q3 commentary)
b. If no, what class should be allowed in wall construction and why?	See comments concerning BS8414 test regime. If the Govt wishes to ban combustible materials in cladding systems only (not whole wall build ups) for buildings over 18 metres then this is the best route.

Question 6	Yes/No/Don't Know
a. Do you agree that a ban should cover the entire wall construction?	No, this consultation should focus on cladding only – see Q3 comments & only applicable to buildings over 18m
b. If no, what aspects of the wall should it cover?	Cladding (not wall structure) on buildings over 18m only
c. Should a ban also cover window spandrels, balconies, brise soleil, and similar building elements?	No – Window fenestrations are difficult to deliver with A2 or better materials. These should be excluded, but utilised in conjunction with appropriate fire stopping and fire mitigation design detailing.
d. Please provide any further information in relation to your answers above.	We believe BS8414 is the right test to use to objectively assess materials.

Question 7	Yes/No/Don't Know
a. Do you agree that a limited number of wall system components should, by exception, be exempted from the proposed ban?	Yes

b. If yes, what components should be included on an exemption list and what conditions should be imposed on their use?

- Roof & wall membranes
- Timber whole wall construction, where proven through BS8414 testing
- Timber cladding, where fixed to A2 backing substrate lining or encapsulated structure.
- Window glazing systems and structural glass
- Thermal breaks in walls
- Cabling & Services penetrations, but adequately fire sealed.
- Plastic damp proof courses & cavity trays
- Insulation material if encapsulated with fire protection/boarding

Materials used as non-structural decorative fascia/rain-screen on the lower three stories of such buildings should be classed as Euroclass B to EN13501-1 or better, where fixed to A2 or better substrate lining or encapsulated structure. For example, flame-retardant treated timber boarding (tested and classified to Euroclass B).

Why?

This approach has been acceptable for many years as a compliance option in Building Regulations Approved Document B.

It Maximises flexibility in material selection and client choice whilst setting a clearly defined and well understood minimum performance level.

Those that have already spent significant sums of money developing products and testing to Euroclass B in accordance with EN13501 do not lose that investment unnecessarily in what has been to date best practice for such applications.

These lower floors are easily accessible for inspection, maintenance and fire services.

c. Would you recommend an alternative way of achieving the policy aims stated above?

Yes, Testing (BS8414) and product certification

Question 8	Yes/No/Don't Know
Do you agree that:	
a. a risk-based approach is appropriate for existing buildings?	Yes.
b. the ban should apply to alterations to existing buildings, including over cladding?	No -
c. the ban should extend to projects that have been notified before the ban takes effect but work has not begun on site?	No
d. the ban should not affect projects where building work has already begun?	No
e. Please provide any further information in relation to your answers above.	We have answered No due to the ambiguity over the scope of the consultation.

Question 9	Free Text Answer
a. Which wall elements are likely to be affected by the proposed change – i.e. where they would pass as part of a cladding system in a BS8414 test but would not meet the proposed Class A2 or better requirement (e.g. sheathing boards or vapour barriers)?	<ul style="list-style-type: none"> • CLT (Cross Laminated Timber) • Hybrid Construction – Concrete or steel frame with SIPS or lightweight steel infill panels • Flame Retardant Treated Timber cladding (tested to Euroclass B) fixed to A2 sheathing substrate • Timber sheathing to infill panels – SIPS or light gauge steel panels • Membranes & weather barriers

<p>b. We understand that since the Grenfell tower fire, a high proportion of relevant building work is already using elements which meet Class A2 or better. How frequently are elements which do not meet the proposed requirement, as identified in question 3, currently being used on buildings in scope?</p>	<p>In general – post Grenfell, most buildings have reverted to A2 materials and make ups.</p> <p>A significant amount of medium rise CLT buildings (up to 8 storeys) have been completed, or are in the design/construction pipeline or at concept stage. CLT is an innovative material attracting a lot of investment in the UK. We feel this consultation has the potential to significantly damage CLT market development over 18m, which has through good fire engineering practise, design, verification and due diligence proven to be an attractive, safe, compliant and competitive modern method of construction. It is important that new materials, systems and solutions are supported and encouraged to market, through a variety of compliance routes. If they are not, then this clearly has potential to stifle innovation, investment and new technologies, against a global competitive market that could disadvantage UK construction and supply chains.</p>
<p>c. What the impact of removing access to the BS8414 for those buildings affected by the ban test is likely to be?</p>	<p>If the scope of the ban were to include the structural wall as well as the cladding wall, then the impact will be a massive limitation in access to the materials available for building and the stifling of innovation, investment and employment. The UK would no longer be seen as a world leader, particularly in the use of CLT and mass timber in mid to high rise construction.</p> <p>Existing buildings would have no opportunity to be verified through a recognised testing regime. So, how would you know if the ban should apply to them?</p>

	<p>This could cause unnecessary confusion, cost and panic among residents, rendering large areas of housing stock as non-compliant.</p>
<p>d. What types of buildings 18m or over are likely to be affected by this change (e.g. hotels, residential, student accommodation)? What proportion of each type would likely be affected by the proposed change?</p>	<p>All buildings over 18m would be affected. Some examples would be:</p> <ol style="list-style-type: none"> 1. Residential 2. Hotels 3. Student accommodation 4. Mixed use 5. Hospitals <p>We do not have accurate figures for the proportions.</p>
<p>e. How much extra cost would typically be involved in meeting the proposed new requirements over and against a building which meets the current requirements? (Please provide any further details.)</p>	<p>We do not have cost data due to the vast number of variables, size, type, specification. However, if the scope of the ban were to include the structural wall as well as the cladding wall then costs would certainly rise. By limiting the materials allowed, the system would have constraints imposed which would mean increased demand for the limited supply, thus leading to price rises and lack of availability.</p>
<p>f. Please provide any further comments on the likely impact of this change for construction (e.g. supply chains)</p>	<p>If the scope of then ban were to include the structural wall as well as the cladding wall then for the emerging engineered timber industry, the impact of proceeding as purposed would be likely to severely curb the adoption of the technology with the following effects:</p> <ul style="list-style-type: none"> • Clean growth - this form of timber construction allows carbon negative homes and can make a considerable contribution towards reducing emissions in the construction industry. Reducing or eliminating its use would set back achieving carbon reduction targets. • Housing - engineered timber (CLT) makes a significant contribution to expediting the delivery of new homes and any restrictions on its use could harm housing developments.

	<ul style="list-style-type: none"> • Innovation - the UK leads the world in the adoption and development of CLT design and construction and is exerting the knowledge and experience overseas, which would be lost if the use was curtailed. • Industrial/economic investment - there is huge investment in equipment and business to meet the growing demand and use of CLT. • Forestry - the economic value of forestry as an alternative to agriculture post-CAP, is enhanced by the substantial long term market generated by demand for engineered timber. The loss of this market could severely devalue the attempts to grow new forests and the forestry sector, with a consequential loss of employment opportunities. • Skills - the use of CLT requires substantially fewer personnel to construct. With the current workforce crisis in the construction sector, any reduction in the use would have a disproportionate effect on construction capacity.
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Summary:

For reasons stated above:

1. Changes should focus on high risk buildings over 18m, without impacting on buildings less than 18m, which have a different compliance and design approach, where risk is lower and fire safety performance generally improving, year on year. This includes the messaging, unintended consequences and long term direction of travel.
2. For buildings over 18metres tall, all cladding systems should be constructed of materials classed as either:
 - Euroclass A1 to EN13501-1
 - Euroclass A2 to EN13501-1
 - The whole system should be compliant with the test regime set out in BS8414.
3. EXCEPTION: Materials used as non-structural decorative fascia/rain-screen on the lower three stories of such buildings may be classed as Euroclass B to

EN13501-1 or better, where fixed to Class A2 or better backing substrate lining or encapsulated structure. For example, flame retardant treated timber boarding (tested and classified to Euroclass B).

4. The construction industry needs flexibility to deliver holistic solutions, whilst raising fire safety standards and public confidence, be that A2 or better &/or BS8414 testing.
5. MHCLG should avoid prescriptive standards and encourage best practise, good fire design, verification, construction and inspection, providing several compliance routes with validated outcomes.

6. Material changes (over 18m) need to be balanced with other fire design and safety compliance changes, as a packaged standards review and not in isolation i.e. sprinklers, escape stairs, evacuation principles etc