GOVERNMENT BUILDING SAFETY PROGRAMME – UPDATE AND ADVICE FOR BUILDING OWNERS ON LARGE SCALE TESTING

Summary

- Government is acting to support owners and residents of high rise buildings to ensure fire safety in the light of the Grenfell Tower tragedy.
- Building owners are engaging in a checking and testing process for Aluminium Composite Material (ACM) cladding.
- The testing process is identifying whether the filler material in ACM submitted for testing is of a type that would meet the limited combustibility requirements of current Building Regulations guidance.
- Following expert advice further large scale tests will be undertaken over the coming weeks. The tests will provide further information that building owners can use to take decisions about any further action needed.
- Building owners should take their own professional advice on any further action, reflecting their own particular circumstances.
- Building owners have been given advice on interim measures they should take while they are awaiting further information and advice, and if necessary, before any remedial action is carried out. We encourage them to follow that advice.
- The government will work with industry to support building owners undertake any remedial work needed.

Introduction

1. Following the Grenfell Tower tragedy the government has been working urgently to identify any other buildings that might be of concern.

2. The current Building Regulations guidance requires that external walls on all buildings adequately resist fire spread. It identifies the use of combustible materials in a cladding system – insulation product, filler materials, etc - as a risk to fire spread in tall buildings. External walls in a tower block over 18m can meet the Building Regulations requirement for resisting fire spread in two ways:
    - The first is for each individual component of the wall (insulation, filler, etc) to be of limited combustibility[1].
    - The second is to ensure that all the combined elements of a wall, when tested as a whole installed system, adequately resist the spread of fire to meet a set standard.

[1] In line with definitions in building regulations guidance (set out in table A7 in Approved Document B)

3. In line with advice from a panel of independent experts, the first step in the process of ensuring other high rise buildings are safe, has been the initial screening tests undertaken by the Building Research Establishment (BRE) on ACM cladding samples, which are identifying which blocks have cladding which is not of limited combustibility.

4. The screening tests have identified whether the core (or filler) of samples of ACM panels would be classified as a material of limited combustibility for an individual element of a wall in a tall building. A category 1 result meets the limited combustibility classification, whereas category 2 and category 3 results do not, though category 2 materials would be expected to perform better in a fire as they typically contain materials that can contribute to some limitation of fire development.

5. Where samples are found to have failed the limited combustibility test, the government has advised buildings owners on the immediate interim measures they can take to ensure the safety of residents while building owners consider whether any further action is required, and if it is, before that action is taken (Safety checks following the Grenfell Tower fire: 22 June 2017).

6. On 6 July 2017, having also spoken to a group of technical experts from a wide range of professions and organisations, the Expert Panel recommended further large scale testing of cladding systems to understand better how different types of ACM panels behave with different types of insulation in a fire (these tests can be used to show compliance with the Building Regulations guidance). This will then help building owners make decisions about any further action they need to take to make buildings safe, and or assure themselves that existing cladding systems are already safe.

Next steps on large scale tests

7. It will take a few weeks for these tests to be completed. They include building a series of 9 metre high walls to be tested and it is important that the specification and construction are done properly.

8. The tests are being carried out under BS 8414-1 and tested against the criteria in BR135, in line with current Building Regulations guidance. This involves a 9 metre high demonstration wall with a complete cladding system – including panels and insulation – fixed to it, being subjected to a fire that replicates a severe fire in a flat breaking out of a window. The tests look at whether the system resists fire spread up the wall.

9. The tests will look at illustrative combinations of cladding and insulation, which are commonly used in tower blocks. However, they won't cover every combination of cladding and insulation, so it will be important for building owners to take their own professional advice based on their specific circumstances. What the tests will provide is further information that building owners and their professional advisers can use to take decisions about any further action needed – including whether or not cladding and / or insulation needs to be removed.

What is being tested?

10. In line with advice from the Expert Panel, six tests are being undertaken, in the following order, with six different combinations of insulation and cladding materials which are commonly used in high rise buildings. Each of the three types of ACM are being tested with two types of insulation – one that meets the limited combustibility criteria, and one that does not:

    - ACM with unmodified polyethylene filler (category 3 in screening tests) with PIR foam[2] insulation
    - ACM with unmodified polyethylene filler (category 3 in screening tests) with mineral wool insulation
    - ACM with a fire retardant polyethylene filler (category 2 in screening tests) with PIR foam insulation
    - ACM with a fire retardant polyethylene filler (category 2 in screening tests) with mineral wool insulation
    - ACM with a limited combustibility filler (category 1 in screening tests) with PIR foam insulation
    - ACM with a limited combustibility filler (category 1 in screening tests) with mineral wool insulation

11. Each of these tests are being specified and constructed according to the Building Regulations guidance - including fire stopping between floors and the required cavity barriers in place.

What will the results show?

12. The tests will result in a series of data that will determine whether or not the wall system has passed the requirements of BR135, which is set out in current Building Regulations guidance i.e. the system will either pass or fail BR135. If the tests fails then that specific combination of materials would not meet current Building Regulations guidance, and therefore is unlikely to be safe for use on high rise buildings (buildings over 18m).

Timetable for further advice

13. We expect to see the first test results in the week commencing 24 July 2017. As soon as results are available they will be shared first with local authorities and housing associations who have confirmed that their properties are clad in the same combination of material types tested. This will allow them to properly communicate the results to residents. The results will then be made publically available, via DCLG's website.

14. Subject to the tests being carried out as planned, the high level timetable for when government expects to be able to provide more advice on testing results is:

[2] PIR or rigid polyisocyanurate foam

Week commencing	Advice expected on:
24 July 2017	ACM with unmodified polyethylene filler with PIR foam insulation
31 July 2017	ACM with unmodified polyethylene filler with mineral wool insulation
	ACM with a fire retardant polyethylene filler with PIR foam insulation
7 August 2017	ACM with a fire retardant polyethylene filler with mineral wool insulation
14 August 2017	ACM with a limited combustibility filler with PIR foam insulation
	ACM with a limited combustibility filler with mineral wool insulation

15. The testing and advice schedule is based on needing to design and construct each of the six demonstration walls in BRE's burning facility. The testing cycle is around eight days for each wall - including construction, setting up and undertaking the test, and deconstructing the wall.

What should building owners do following test results and further advice?

16. The tests that government is undertaking are only illustrative examples of how different systems might behave. Building owners will still need to take their own professional advice on what steps to take depending on the materials they have on their buildings. As a first step building owners should identify the cladding and insulation materials on their buildings.

17. Professional advice may be obtained from a qualified engineer with relevant experience in fire safety, including fire testing of building products and systems, such as a chartered engineer registered with the Engineering Council by the Institution of Fire Engineers[3]. Alternatively, this professional advice may be obtained from an assessor employed by a test laboratory accredited by the United Kingdom Accreditation Service (UKAS) to carry out BS8414 and classify results to BR135 (the required standard in current Building Regulations guidance).

18. If owners decide, on the basis of professional advice and in light of further tests results, to remove their cladding and / or insulation, then this needs to be properly planned, and may take some time. In these instances it is even more important that building owners implement the interim measures on fire safety that have been set out by DCLG on 22 June 2017 to help ensure the safety of residents during that period.

19. Alongside this, DCLG has also issued guidance to building control bodies on ensuring that any remedial work is carried out safely.

20. The government will work with industry to support building owners to undertake any remedial work needed to ensure buildings are safe. This will include engaging with construction and property professionals to mobilise the supply chain, so any increase in work is managed effectively.

[3] Chartered fire engineers are engineers who have been through a verification process (overseen by the Engineering Council) to establish that they have the adequate education, training and experience to work as fire engineers.

Finding out more

21. The government has created a dedicated webpage for all advice for landlords and building owners. Anyone can sign up for alerts and will receive an update when further advice is posted following test results.

22. We are aware that councils and other building owners are also seeking clarification of actions they should take in relation to buildings with materials other than ACM. The Expert Panel will consider these issues after the systems tests are addressed. There is a requirement in the Building Regulations guidance that only materials of limited combustibility should be used unless they are part of a system which has been tested using the BS8414 test.