

## Next Steps.....

- Judith Hackitt – Building a Safer Future

The Hackitt Report made 53 recommendations that the Government are adopting.



### Main Points

- Non-Combustible materials
- Significantly restrict Desk Top Studies
- New Joint Competent Authority
- A new regulatory framework, initially focused on HRRBs
- A set of rigorous dutyholder roles and responsibilities
- An overarching body to assess competence requirements (WG8)
- Obligating the creation of a digital record for new HRRBs
- Etc...
- Changes and Language to Approved Document B

# Building Regulation Standards and Guidance Amendments

- New Amendments to Approved Documents B and Regulation 7

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Home [Home and Communities](#) [Planning and Building](#) [Building Regulation](#)

**Fire safety: Approved Document B**

Building regulation in England covering fire safety matters within and around buildings.

# Approved Document B (fire safety) volume 2: buildings other than dwellinghouses (2006 edition incorporating the 2010 and 2013 amendments)  
 Ref: ISBN 978-1-85946-485-2  
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**Documents**

- Approved Document B (fire safety) volume 2: buildings other than dwellinghouses (2006 edition incorporating the 2010 and 2013 amendments)**  
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- November and December 2018 amendments to Approved Document B, Volume 1 and Volume 2**  
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- November 2018 amendment to Approved Document B (fire safety) volume 2: buildings other than dwellinghouses**  
 PDF, 314KB, 12 pages  
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**Material and workmanship: Approved Document 7**

Statutory guidance

Building regulation for England setting out the standards of the building materials and skills used.

Published 3 January 2013  
 Last updated 29 November 2018 — see all updates  
 From: [Ministry of Housing, Communities & Local Government](#)

**Documents**

- Approved Document 7: material and workmanship**  
 Ref: ISBN 978-1-85946-490-1  
 PDF, 2.29MB  
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- 2018 amendment to Approved Document 7: material and workmanship**  
 PDF, 50KB, 4 pages  
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# Building Regulation Standards and Guidance Amendments

- New Amendments to Approved Documents B and Regulation 7

## Requirement

### External fire spread

- B4.** (1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another having regard to the height, use and position of the building.
- (2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.

## Regulation

### Materials and workmanship

- 7.** (1) Building work shall be carried out—
- (a) with adequate and proper materials which—
    - (i) are appropriate for the circumstances in which they are used,
    - (ii) are adequately mixed or prepared, and
    - (iii) are applied, used or fixed so as adequately to perform the functions for which they are designed; and
  - (b) in a workmanlike manner.
- (2) Subject to paragraph (3), building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or Class A1, classified in accordance with BS EN 13501-1:2007+A1:2009 entitled "Fire classification of construction products and building elements. Classification using test data from reaction to fire tests" (ISBN 978 0 580 59861 6) published by the British Standards Institution on 30th March 2007 and amended in November 2009.

### Limits on application

- (3) Paragraph (2) does not apply to—
- (a) cavity trays when used between two leaves of masonry;
  - (b) any part of a roof (other than any part of a roof which falls within paragraph (iv) of regulation 2(6)) if that part is connected to an external wall;
  - (c) door frames and doors;
  - (d) electrical installations;
  - (e) insulation and water proofing materials used below ground level;
  - (f) intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;
  - (g) membranes;
  - (h) seals, gaskets, fixings, sealants and backer rods;
  - (i) thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or
  - (j) window frames and glass.
- (4) In this regulation—
- (a) a "relevant building" means a building with a storey (not including roof-top plant areas or any storey consisting exclusively of plant rooms) at least 18 metres above ground level and which—
    - (i) contains one or more dwellings;
    - (ii) contains an institution; or
    - (iii) contains a room for residential purposes (excluding any room in a hostel, hotel or boarding house); and
  - (b) "above ground level" in relation to a storey means above ground level when measured from the lowest ground level adjoining the outside of a building, to the top of the floor surface of the storey.

# Building Regulation Standards and Guidance Amendments

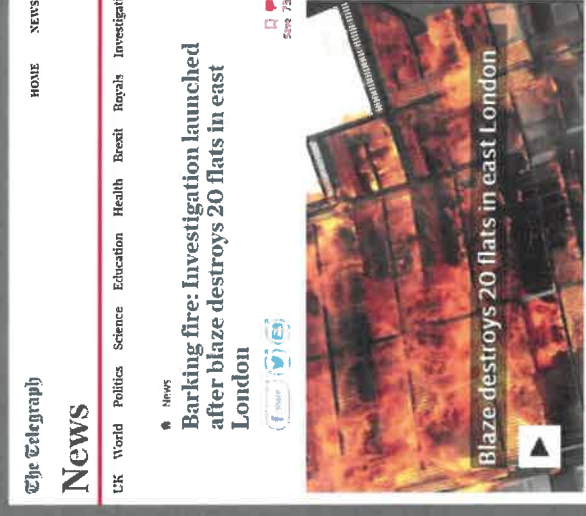
- New Amendments to Approved Documents B and Regulation 7

**12.10** Regulation 7(2) applies to any building with a storey at least 18m above ground level (as measured in accordance with Diagram C6) and which contains one or more dwellings; an institution; or a room for residential purposes (excluding any room in a hostel, hotel or a boarding house). It requires that all materials which become part of an external wall or specified attachment achieve European Class A2-s1, d0 or Class A1, other than those exempted by Regulation 7(3).

**Note 1:** The above includes student accommodation, care homes, sheltered housing, hospitals and dormitories in boarding schools.

**12.11** External walls and specified attachments are defined in Regulation 2 and these definitions include any parts of the external wall as well as balconies, solar panels and sun shading.

- Need to agree glass balustrades with BCO due to laminated glass.
- Therefore, there is current consultation on ban exemptions running to 13<sup>th</sup> April 2020.



# Building Regulation Standards and Guidance Amendments

- Consultation on Sprinkler Provision, Wayfinding Signage and Evacuation Alarms

## Trigger Height Options

15. Following the call for evidence, the Government is considering the appropriate trigger height for sprinkler provision in new high-rise blocks of flats. A reduction in the trigger height from 30 metres to 18 metres would be consistent with the ban on combustible materials in external walls and the proposed scope of the building safety regime, so this is the Government's preferred option.

## Wayfinding Signage for Fire and Rescue Services

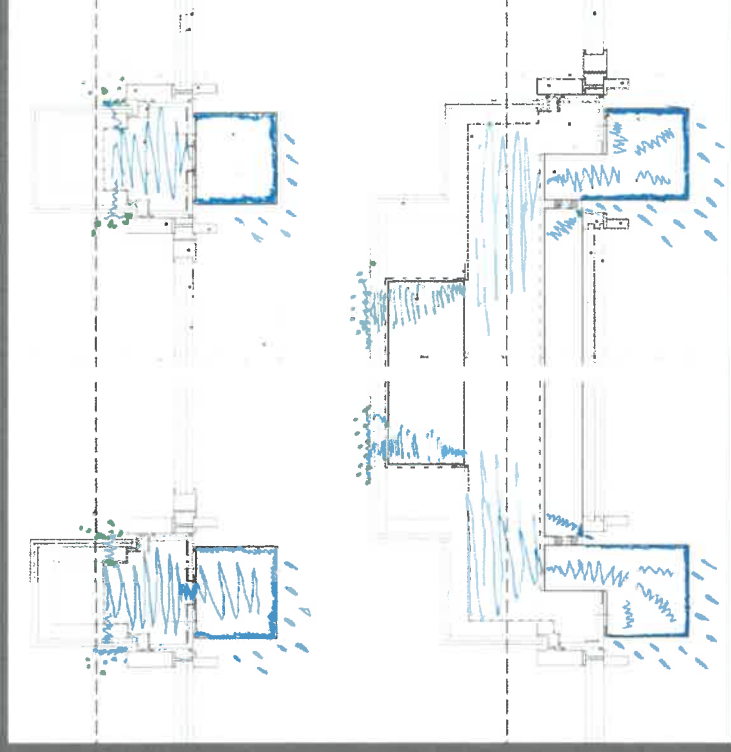
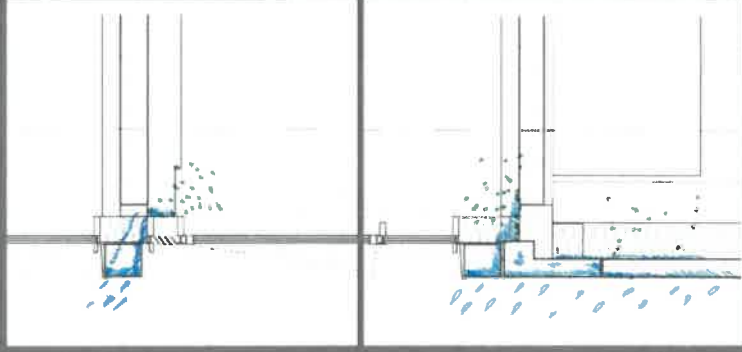
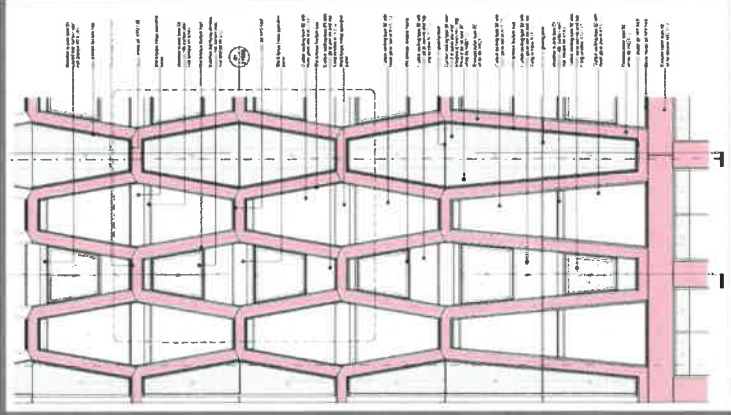
27. The options we have identified range from simple, large, painted on numbers through to photo luminescent numbering that would be visible even where smoke has entered the stairwells. We believe that these could be provided at relatively low cost but would be an important contribution to building safety. BS 9991 already recommends that signage numerically indicating the floor level should be provided

## Evacuation Alert Systems

34. There was some interest expressed in the call for evidence on the provision of an emergency evacuation alert system to be used in high-rise blocks of flats. The system would provide the fire and rescue services with an option to initiate a change in evacuation strategy via an alarm. Such a requirement is being introduced in Scotland shortly, and the standard for the system is still being developed.

# Building Design – Design Responsibility

- Lead Designer – Main Contractor – Fire Engineer – Specialist Subcontractor – BCO ?



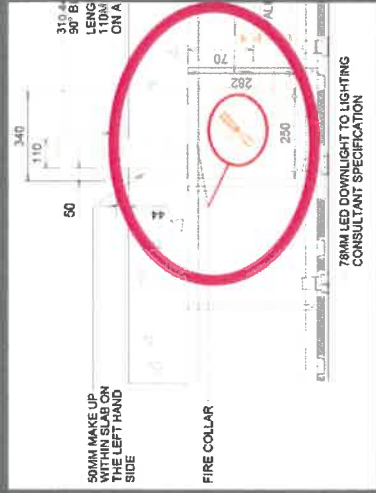
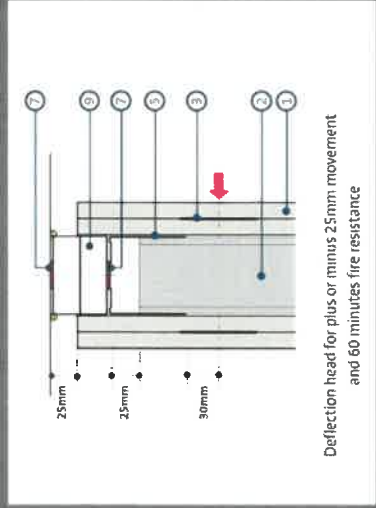
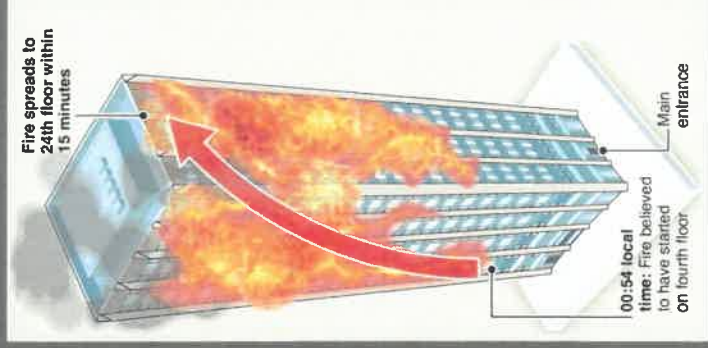
- Prior to June 2017 this approach would have been to façade fire design also.

## Building Design Responsibility

- Specialist Subcontractor Considerations
- Even though they are specialists, they can only make work the building design they have been given. Sometimes they are expected to be specialist 'miracle workers'.
- Specialist Subcontractors are selected on lowest quote — perhaps that reflects on their abilities?
- What if the Specialist Subcontractors are on the brink of administration?
- What if the Specialist Subcontractors can only use cheaper products that they can get on credit?
- What if the Specialist Subcontractors cannot afford suitably qualified designers?
- Their design still needs to be checked and approved by Lead Designer and Building Control Officer.

# Building Quality and Installations

- Building Quality and Quality of Specialist Subcontractors





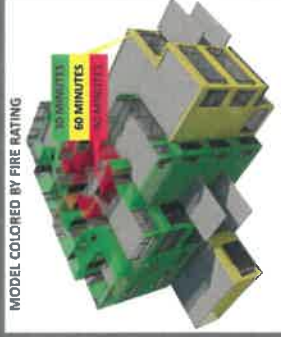


# The Golden Thread

- From the Hackitt Report the need for the Golden Thread has been recommended
- The use of BIM in fire design is recommended as the Golden Thread Section 8

## Recommendation 8.1

- a. Government should mandate a digital (by default) standard of record-keeping for the design, construction and during the occupation of new HRRBs. This is to include any subsequent refurbishments within those buildings.
- b. Digital records are to be in a format which is appropriately open and non-proprietary with proportionate security controls.



## Part 1 – The digital record across the building life cycle

**8.12** The review recommends that for new builds, a Building Information Modelling (BIM) approach should be phased in. BIM takes the digital techniques pioneered in other industries such as aerospace and automotive and applies them to construction. It is a process of designing, constructing or operating a building or infrastructure asset using electronic, object-orientated information.



**8.16** A BIM system will enable the dutyholder to ensure accuracy and quality of design and construction, which are crucial for building-in safety up front. Having BIM enabled data sets during occupation means that dutyholders will have a suitable evidence base through which to deliver their responsibilities and maintain safety and integrity throughout the life cycle of a building. Information can be updated as and when changes are made during the building life cycle.



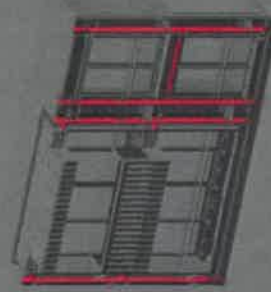
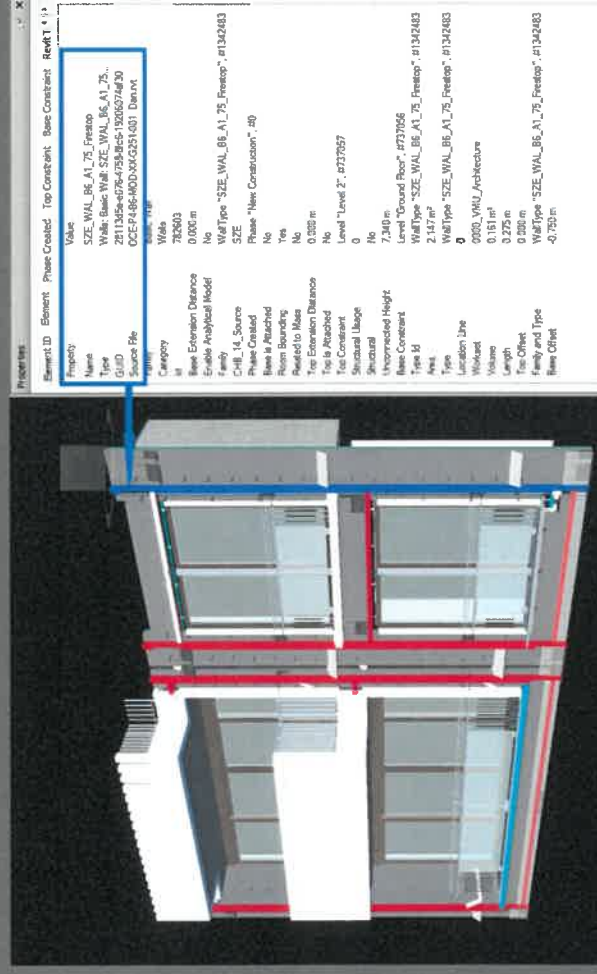
- The Hackitt Final Report – Building a Safer Future.

# The Golden Thread

- From the Hackitt Report the need for the Golden Thread has been recommended

**8.1** The review heard almost unanimous concern surrounding the ineffective operation of the current rules around the creation, maintenance and handover of building and fire safety information. Where building information is present, it is often incomplete or held in paper form and is not accessible to the people who need to see it.

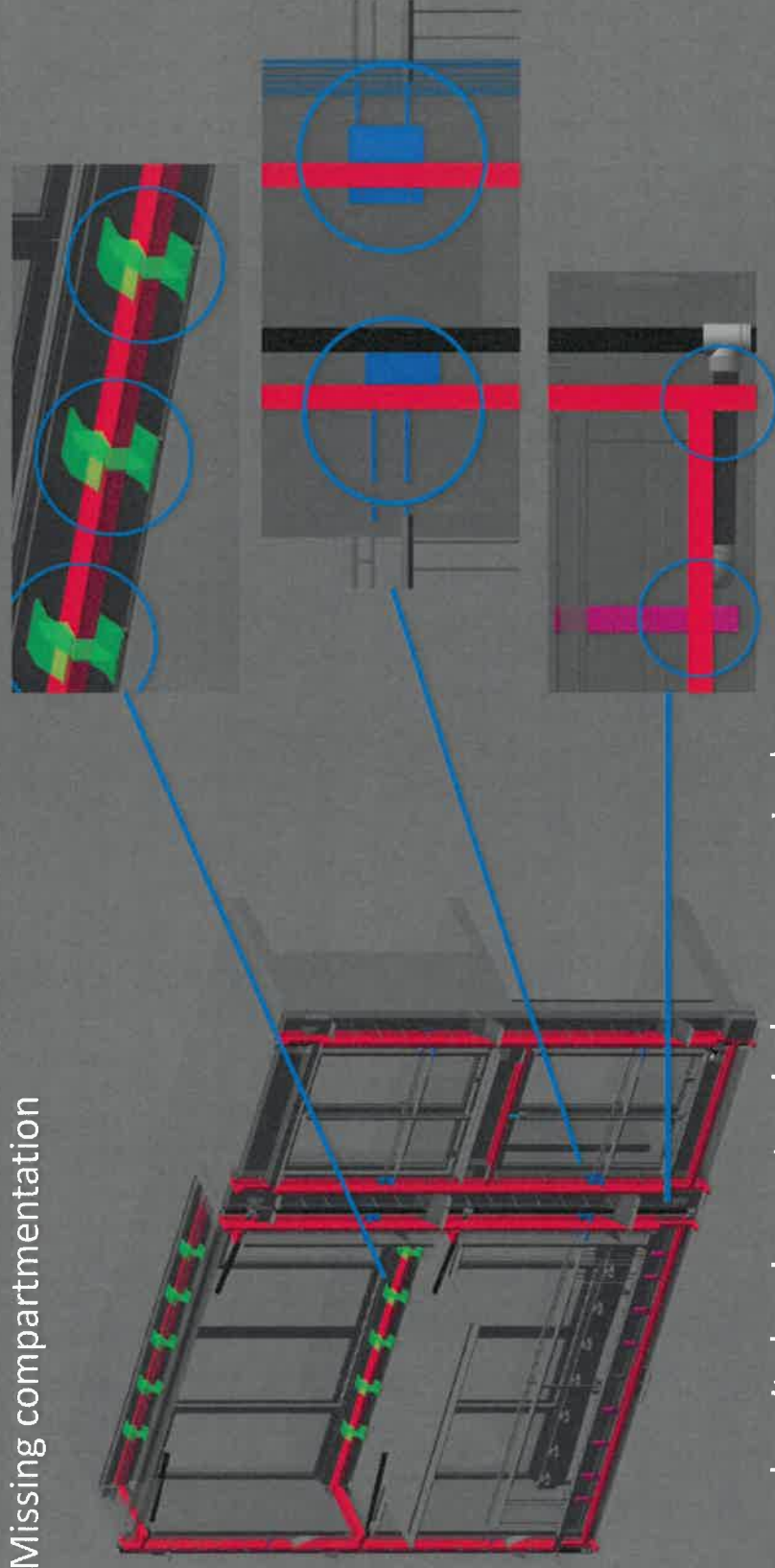
**8.4** The interim report identified the need for a 'golden thread' of information for all higher risk residential buildings (HRRBs), so that their original design intent is preserved and changes can be managed through a formal review process. Equally, access to up-to-date information is crucial when effectively carrying out a fire risk assessment of a building and determining whether any action is required.



- The Hackitt Final Report – Building a Safer Future.

## Building Fire Design and BIM

- *Traditional Design Still Falling Short – But Uncovered by BIM Software*
- Missing compartmentation



- ... and cavity barriers extensively compromised.

# The Golden Thread – Existing Buildings

- From the Hackitt Report the Golden Thread recommends for Existing Buildings:

## Recommendation 8.3

- a. Government should work with industry to agree the type of information to be collected and maintained digitally (by default) to enable the safe building management of existing HRRBs.
- b. Dutyholders must identify and record where gaps in the above information exist and the strategy for updating that relevant information.

## Part 2 – Existing buildings

### Information requirements

**8.27** The review has heard that data collection attempts have been hampered by the lack of building safety information held for existing buildings. Access to this information will support the dutyholder to identify and evaluate risks. This will go on to assist the dutyholder to demonstrate to the JCA the safety of that building. The review therefore recommends that a set of minimum building data for existing buildings is included in the safety case as set out in Chapter 3. Where information is not available and cannot be collected, the dutyholder will need to explain why this is reasonable and what steps they have taken in mitigation against the (potentially unknown) risks, so far as is reasonably practicable.

**8.28** A non-exhaustive list of the types of information that should be recorded, available and maintained for existing buildings are:

- size and height of the building;
- structure;
- fabric;
- escape and fire compartmentation information;
- systems in operation; and
- permanent fixtures and fittings.

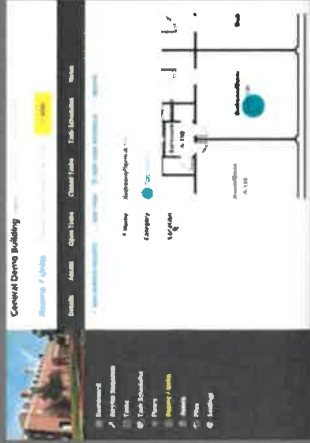


## Recommendation 8.4

- a. Dutyholders must hold, transfer and update information throughout the life cycle of the HRRB.
- b. Information from this record is to be provided to the JCA in the event that this may be required.

# The Golden Thread – Utilising the Internet of Things?

- Dutyholder data collection of building fire safety systems with significant benefits.

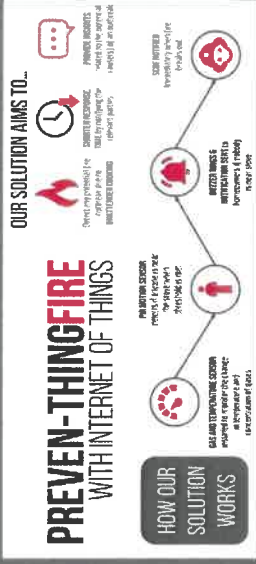
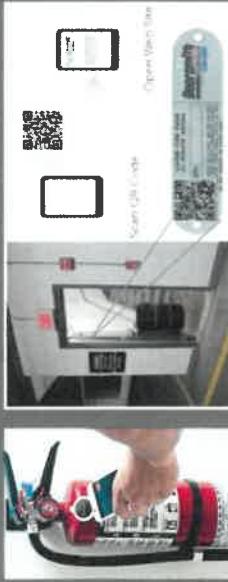


## Maintaining compliance in a complex estate

The Fire engineering team at the University of Central Lancashire (UCLan) School of Engineering have recently turned their attention to how best practice IT service solutions can help reduce the risks from fire; to life, property, assets, service continuity and the environment.

**But what if the door could talk to them and explain how it works, how to use it, how to improve performance and what its life cycle is?**

IoT systems can be used to monitor and maintain fire safety systems, allowing anomalies to be detected and reduce the time spent on fire safety systems. This can be achieved by using IoT systems to monitor and maintain fire safety systems, allowing anomalies to be detected and reduce the time spent on fire safety systems. This can be achieved by using IoT systems to monitor and maintain fire safety systems, allowing anomalies to be detected and reduce the time spent on fire safety systems.



- Recording of maintainable fire assets.
- Notification of damaged, failing (or failed) fire safety systems.
- Digital register of building occupants in the event of fire.
- Providing better data for intelligent facilities management.

# And finally ... Aluminium Composite Material (ACM) Panel Measures

- With the current issues and concerns associated with ACM panels the UK Government have released an Information and Advice website for Building Owners and Landlords.

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Home Housing, local and community Planning and building Building regulation

## Guidance

### Aluminium composite material cladding

Information and advice for building owners, landlords and leaseholders where aluminium composite cladding is present on their building.

Published 21 November 2018  
Last updated 10 January 2019 — see all updates  
From: [Ministry of Housing, Communities & Local Government](#)

Contents

- ▢ [Advice for building owners](#)
- ▢ [Information note for building owners](#)
- ▢ [Action for private sector residential landlords](#)
- ▢ [ACM remediation data](#)
- ▢ [2017 ACM fire test reports](#)

**Related content**

- ▢ [Detailed guidance Building Safety Programme](#)

Ministry of Housing, Communities & Local Government **ADVICE NOTE 11**  
MHCLG/BSP/Advice Note/11/280216

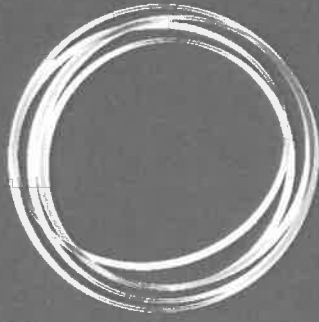
### Test results for buildings in England

Aluminium Composite Material (ACM) with...	Insulation		
	PIR Foam	Phenolic Foam	Stone Wool
Unmodified polyethylene filler (Cat. 3 in screening tests)	Test 1 failed 81 Buildings <a href="#">Report and Advice</a>	N/A	Test 2 failed 107 Buildings <a href="#">Report and Advice</a>
Fire retardant polyethylene filler (Cat. 2 in screening tests)	Test 3 failed 8 Buildings <a href="#">Report and Advice</a>	Test 7 failed 21 Buildings <a href="#">Report and Advice</a>	Test 4 passed 12 Buildings <a href="#">Report and Advice</a>
Limited combustibility filler (Cat. 1 in screening tests)	Test 5 passed 0 Buildings <a href="#">Report and Advice</a>	N/A	Test 6 passed 0 Buildings <a href="#">Report and Advice</a>

**Advice for building owners on the large scale wall system tests**

24. The government initially commissioned six tests on the advice of the Expert Panel, testing three types of ACM cladding with two commonly used types of insulation; and published the accompanying [explanatory note](#) on 20 July 2017. A seventh test was subsequently commissioned, to test one of the types of cladding with a third kind of insulation.

Available at: <https://www.gov.uk/guidance/aluminium-composite-material-cladding>



**One**

## Questions and Discussions

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