

Explanatory Memorandum to the Building (Amendment) (Wales) Regulations 2025

This Explanatory Memorandum has been prepared by the Building Regulations Policy Team and is laid before Senedd Cymru in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1.

Cabinet Secretary's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Building (Amendment) (Wales) Regulations 2025. I am satisfied that the benefits justify the likely costs.

Rebecca Evans MS
Cabinet Secretary for Economy, Energy and Planning

19 June 2025

PART 1

1. Description

- 1.1 The Building (Amendment) (Wales) Regulations 2025 (“the Instrument”) amend the Building Regulations 2010 (“the Building Regulations”) to:-
- amend the definition of “specified attachment” to include reference to solar shading devices;
 - insert new definitions of “relevant metal composite material” and “solar shading device”;
 - prohibit relevant metal composite material becoming part of the external wall or a specified attachment when building work is undertaken;
 - add to the list of exemptions from the requirement of materials to meet the reaction to fire classification standard in regulation 7(2) of the Building Regulations;
 - amend the definition of “relevant building” in regulation 7(4) of the Building Regulations with the effect that the combustible materials prohibition in regulations 6(3) and 7(2) of the Building Regulations now applies to hostels, hotels, and boarding houses;
 - reduce the height of buildings to which regulation 6(1)(c) of the Building Regulations applies, from 15m to 11m.
- 1.2 The Instrument also includes transitional provision.

2. Matters of special interest to the Legislation, Justice and Constitution Committee

- 2.1 None.

3. Legislative background

- 3.1 The Building Regulations were made under powers in the Building Act 1984 (“the 1984 Act”) and section 2(2) of the European Communities Act 1972.
- 3.2 The Building Regulations impose requirements on people carrying out building work and are supported by Approved Documents, approved and issued under section 6 of the 1984 Act, which set out detailed practical guidance on compliance. The 1984 Act and the Building Regulations set out procedures for the supervision and control of building work.
- 3.3 The Instrument is made under powers in section 1(1) of, and paragraphs 7, 8 and 10 of Schedule 1 to, the 1984 Act. These powers are conferred on “the appropriate national authority” which is defined in section 126 of the 1984 Act, in relation to Wales, as the Welsh Ministers.
- 3.4 Section 14(5) of the 1984 Act requires the Welsh Ministers to appoint a committee to be known as the Building Regulations Advisory Committee

for Wales (BRACW) for the purpose of advising them on the exercise of their power to make building regulations and any other subjects connected with building regulations. Section 14(7) of the 1984 Act requires the Welsh Ministers to consult BRACW (and any such other bodies as appear to them to be representative of the interests concerned) before making any building regulations containing substantive requirements.

3.5 The majority of the Secretary of State's functions conferred by or under the 1984 Act were, so far as exercisable in relation to Wales, transferred to the Welsh Ministers on 31st December 2011, by the Welsh Ministers (Transfer of Functions) (No.2) Order 2009 and, in relation to excepted energy buildings in Wales, on 1 April 2018 by section 54 of the Wales Act 2017.

3.6 The Instrument is being made under the negative resolution procedure.

4. Purpose and intended effect of the legislation

4.1 The Building (Amendment) (Wales) Regulations 2019 ("the 2019 Regulations") made amendments to the Building Regulations which came into force in January 2020. The 2019 Regulations introduced a ban on the use of combustible materials in external walls and specified attachments based on their fire risk (the ban).

4.2 The ban applied to building work, including erection of new buildings and a material change of use. It applied to buildings with a floor at 18 metres or more above ground level that contained one or more dwellings, an institution, or a room for residential purposes (excluding hostels, hotels, or a boarding house). Since this time, officials have become aware of further evidence gathered by UK Government during their review of the Combustible Materials Ban in the autumn of 2019 and from other stakeholders on the ban, and have considered its application to Wales.

4.3 Having considered this evidence, the Welsh Government issued a consultation (see paragraph 5.1 below). The consultation proposed a number of amendments to the Building Regulations including:

- broadening the scope of the ban to bring hostels, hotels and boarding houses within its scope,
- banning certain metal composite materials from use in the external walls and specified attachments of all buildings,
- including solar shading devices whose primary function is to provide shade or deflect sunlight within the ban;
- adding to the exemptions from the ban by including fibre optic cables and insulation up to 300mm from ground level, and

- changing the height at which a building must comply with the relevant standard on external fire spread on walls where there is a material change of use of the building from 15 to 11 metres.

4.4 The Instrument amends the Building Regulations to make the changes proposed in the Consultation which aim to reduce the risk of combustion due to flammable materials and improve fire safety where applicable building work is carried out on certain buildings.

5. Consultation

5.1 In line with the Government's policy on consultation, a 12 week consultation ran from 17 October 2023 to 9 January 2024 on proposals to amend the Building Regulations. The consultation document 'Amendments to Part B (Fire Safety) of the Building Regulations and associated statutory guidance documents, including a call for evidence' sought public consideration of the proposals as set out within the consultation documents (link below in 5.2) and asked for positive or negative or alternative responses to the questions laid-out in the consultation. The consultation was drawn to the attention of a wide audience of key stakeholders such as Approved Inspectors, Local Authority Building Control Bodies and professional bodies such as Chartered Association of Building Engineers (CABE), Royal Institute of Chartered Surveyors (RICS), and the Chartered Institute of Building (CIOB).

5.2 The consultation received 51 responses. The consultation documents and a summary of the responses are available at: [Amendments to Part B \(Fire Safety\) of the Building Regulations and associated statutory guidance documents, including a call for evidence.](#)

5.3 The majority of respondents supported the proposals set out in the consultation.

5.4 In addition, BRACW were consulted during the consultation stage and subsequently the consultation response stage regarding the proposed changes to the Building Regulations and associated guidance. They raised no objections to the changes.

6. PART 2 – REGULATORY IMPACT ASSESSMENT

- 6.1 As well as changes made by the Instrument, changes will be made to Approved Document B which provides practical guidance on Part B Fire Safety of the Building Regulations. The changes to Approved Document B will cover changes made by the Instrument and changes to other areas of the guidance. The impact of the changes has been assessed collectively as the changes together represent the collective fire safety measures being introduced through the Instrument and amendments to Approved Document B. The figures and analysis provided below are therefore not solely a result of those changes set out in this instrument.
- 6.2 This document sets out approach, methodology, assumptions, and results of the cost-benefit modelling exercise.

Background

- 6.3 Currently, a ban on combustible cladding applies in Wales for certain buildings. Welsh Government proposes changes to requirements of the Building Regulations which in-effect extent the ban the use of combustible materials in and on the external walls of certain buildings and in specified attachments to the external walls. We also propose to make amendments to require evacuation alert systems, secure information boxes and wayfinding signage.

Summary Impacts

Benefits

- 6.4 The benefits of the proposals have not been monetised, The types of benefit attributable to each element of the policy proposals are set out below.

Evacuation Alarms

- 6.5 In the case of a severe fire, one that spreads beyond the initial flat or compartment of origin, in which evacuation beyond the flat of origin is necessary, evacuation alert systems (EASs) will be in place which will enable an increase in the speed and efficiency at which residents are alerted regarding the need to evacuate the building.
- 6.6 The availability of an EAS will also provide the Fire and Rescue Services with an additional tool which can be used where they deem it necessary. For example, the system gives Fire and Rescue Services the option of triggering the evacuation of the building in a phased manner so that escape routes are not overwhelmed.

Wayfinding Signage

- 6.7 The main benefits of increased wayfinding signage in residential blocks of flats are those of reducing the time for the FRS to a) get to the source of the fire, and b) to help evacuate residents. Wayfinder signage helps reduce the risk of the FRS becoming disorientated in a building if there is heavy smoke build up. Also, increasing consistency of signage between buildings through requiring a standardised size and numbering system further helps reduce the risk of dis-orientation of FRS personnel. As such, it is expected that standardised, clear and consistent wayfinding signage will increase the operational performance of firefighters during a fire, thus resulting in reduced fire spread/size and reduced casualties

Secure Information Boxes

- 6.8 Secure information boxes are easily identifiable repositories for documents intended for use by the fire and rescue service during a fire. Documents that can be stored includes hard copy building plans which can help first attending fire service crew to be able to understand the layout of the building and to respond effectively through use of these plans in a dynamic environment without having to rely on technology. This will help the fire service operational response and the impact will be on reducing fire spread/size and reducing casualties.

Combustible Ban

- 6.9 The Government's Building Safety Programme has identified buildings that have combustible external wall systems that did not meet the requirements of the Building Regulations and its guidance at the time of construction thereby increasing the risk that the external wall systems do not prevent fire spread in the event of a fire.
- 6.10 As a result of non-compliance with the building regulations, affected buildings have had to undergo costly remediation works that would not have been incurred if the external wall systems had met the provision of the Building Regulations. The proposed changes to the guidance will make it clearer what materials can and cannot be used in the external walls of buildings within scope, thus reducing non-compliance and avoiding costly remediation work.
- 6.11 Widening the scope of the ban by including hotels, hostels and dormitories in boarding schools with a storey more than 18 metres in height, including solar shading devices and a complete ban on metal composite materials with unmodified polyethylene core, will also reduce non-compliance through making it crystal clear to designers, installers and building control bodies what is and isn't allowed.

- 6.12 The proposed changes to Approved Document B (ADB) will also clarify the provisions in ADB for the external walls of buildings between 11 and 18m in height. This will provide a clearer route to compliance for designers and developers and reduce the potential for non-compliance.
- 6.13 Better compliance will ensure that fire safety risks are better identified and managed by developers, which will reduce the level of risks in buildings and make buildings safer, reducing the risk of fire spread and reducing the costs associate with the spread of fire, such as a whole building loss.

Costs

- 6.14 The table below sets out the estimated present value costs of each of the proposals over a 10 year period, 2025 to 2034.

Summary Table – 10 yr PV Costs (Central Estimate)	
	£m
Familiarisation Costs	0.10
Combustible cladding ban: 18m+	1.83
Limiting use of combustible materials: 11-18m	5.98
Wayfinding Signage	0.47
Evacuation Alarm	5.34
Secure Information Boxes	0.03
Total Policy Costs	13.74

Outline of Proposals

Ban on combustible cladding

- 6.15 Changing the Building Types Covered by the Ban
- We propose including hotels, hostels and boarding houses within the scope of the ban.
- 6.16 Ban on the Use of Metal Composite Materials with a Polyethylene Core
- We propose extending the ban to all buildings, regardless of height, purpose or use, only in relation to the use of metal composite materials with a polyethylene core in and on external walls and in specified attachments.
- 6.17 Including Solar Shading Products Within the Ban

- We propose extending the ban to include solar shading products, including but not limited to blinds and shutters.

6.18 Changing the List of Exemptions

- We propose several changes to the list of exemptions in Regulation 7(3) including to enable fibre optic cables, extend the use of insulation/waterproofing materials.

Requirements for buildings between 11-18m

- We propose new statutory guidance which sets clearer, stronger standards which will set limits on the combustibility of materials used in the external walls of buildings above 11m while still allowing flexibility in design.

Evacuation alert systems

- 6.19 We propose provision is introduced for Evacuation Alert System (EAS) to be provided in accordance with BS 8629 in blocks of flats (purpose group 1(a)) with a top storey over 18m above ground level. These will help fire and rescue services to alert residents to a change in evacuation strategy during an incident, alongside existing communication methods.

Secure information boxes

- 6.20 We propose provision is introduced for Secure Information Boxes in all new blocks of flats over 11 metres in height. These boxes provide a secure facility to store information about a building and will further assist fire and rescue service during an incident.

Wayfinding signage.

- 6.21 We propose floor identification and flat indication signage within blocks of flats with storeys over 11m.

Requirements

- 6.22 A consultation and final cost benefit analysis of the proposals to extend fire safety provisions.

Approach and Methodology

Overall approach

- 6.23 The overall objectives are to:

- Identify, quantify and monetise the main costs of the policy proposals;
- Identify the main societal benefits and monetise where possible;
- To compare the costs and benefits to identify if the benefits outweigh the costs, or if the policy is cost neutral, or if there is a net policy cost.

6.24 This involves a two-step process:

- Estimating the costs and benefits for each element of the policy per dwelling type
- Scaling these per dwelling costs and benefits up, to the level of Wales and over the length of the appraisal period

Policy Costs

6.25 The four policy proposals are costed separately, these are:

- Combustible Ban
- Evacuation Alert Systems
- Secure Information Boxes
- Wayfinding Signage

Building types

6.26 The analysis considers the impact of the policies on several different building types of different heights. The building types that have been assessed are:

- Apartments and student accommodation
- Care Homes
- General Hospital
- Hotels
- Hostels

6.27 The building height categories are:

- 11-18m
- 18m+

Appraisal period

6.28 The appraisal assumes a 10 year policy implementation period.

Present value

6.29 All costs are presented in 2023 prices, in 2025 present values using discount rates as set out in the HMT Green Book.

Sequence of Calculations

- 6.30 Table 4.1 sets out the sequence of calculations undertaken and assumptions.

Table 4.1: Cost Modelling Methodology			
Step 1	Spec of buildings in scope	Agree buildings in scope	
Step 2		Agree new build and refurbishment rate per annum rates	
Step 3	Appraisal period	Agree start date, price year, policy appraisal period and benefits appraisal period	2025, 10-year policy period, 60-year benefits period = 70-year appraisal period
Step 4	PV Discount rates	Costs discounted over a 10 year period	As in HMT Green Book
Step 5	Building impacts	Prepare baseline specification for typical building in scope	
Step 6		Estimate the proportion of buildings with components that would be in scope of the policy	
Step 7		Define types of impacts on building design to be costed	Material costs – uplift in component costs; new components Maintenance costs Running Costs
Step 8		Unit costs	MGAC (cost consultants) costed the spec
Step 9		Define types of benefits to be assessed	Improved safety – reduced fires; reduced evacuation times, improved fire fighting
Step 10		Improved safety	Literature review and paper to identify metrics
Step 11	Counterfactual	Estimate the proportion of buildings meeting requirements under the counterfactual and policy	
Step 12	Transition	Agree transition assumptions	Standard assumptions for new-build housing
Step 13		Agree proportion of schemes that are exempt	none
Step 14		Familiarisation costs	

Step 15	Scale up	See sequence of steps in 'Calcs_Mid Scenario' tab	
Step 16	High and low scenarios	High/low estimates of costs modelled	

Assumptions – Buildings in Scope

6.31 The proposals being costed are that policy applies to new builds dwellings with internal staircases only.

Building Types

6.32 Table 5.1 shows the building types adopted for the cost modelling.

Table 5.1: Building Types
Apartments (including student accommodation)
Care Homes
General Hospital
Hotels
Hostels

6.33 Impacts were considered for buildings of different heights.

Table 5.2: Height Bands
11-18m
18m+

Number of new builds per annum

6.34 Table 5.2 shows the number of new builds per annum.

Table 5.3: Estimated Current Stock of Buildings in 2024				
	0-11m	11-18m	18m+	Source
Apartments and student accommodation	50,223	449	171	Welsh Government
Care Homes	1,005	21	0	Welsh Government (total number of care homes) Consultants estimate that 2% of buildings are 11-18m based on profile of buildings in England
General Hospital	122	14	5	Welsh Government (total number of hospital buildings over 18m) Valuation Office Data (total number of buildings) Consultants estimate that 10% of buildings are 11-18m based on profile of buildings in England
Hotels	464	87	29	Valuation Office Data (total number of buildings) Consultants estimate that 20% of buildings are 11-18m based on profile of buildings in England
Hostels	1,121	47	12	Valuation Office Data (total number of buildings) Consultants estimate that 5% of buildings are 11+m and 1% are 18m+ based on profile of buildings in England

Table 5.4: Estimated New Build and Refurbishment Rates (as a % of stock p.a.)				
	New Build Rates		Refurbishment Rates	
	11-18m	18m+	11-18m	18m+
Apartments	1.3	3.0	2.0	4.0
Care Homes	2.5	3.0	2.0	3.0
General Hospital	1.5	1.5	3.0	2.0
Hotels	2.7	2.5	2.5	2.3
Hostels	2.5	3.0	2.0	3.0

Assumptions –Amount of external wall material on new buildings

6.35 The table below illustrates the estimated average amount of material that is installed on the reference buildings.

Table 6.1: Amount of Material per Building				
	All buildings (except hospitals ¹)			
	Units	0-11m	11-18m	18m+
Facades	sqm	1,656	2,070	3,450
Structural timber frame	Storeys	3	4	10
Cavity trays in façade	m	480	533	1,600
Waterproofing and insulating material at ground level	sqm	60	60	60
Balconies	number	15	17	64
Solar Shading	Sqm	48	48	72
Glass balustrades	Sqm	168	192	704
Awnings	number	2	2	2

Source: PRP Architects (based on reference building designs)

6.36 The table below illustrates the estimated proportion of material that is replaced on the reference buildings during a refurbishment.

Table 6.2: Proportion of Components Replaced During Refurbishment			
	Apartments		
	0-11m	11-18m	18m+
Facades - type 1 (brickwork)	0%	0%	0%
Facades - type 2 (rainscreen)	100%	100%	100%
Facades - type 3 (mix of type 1 and 2) – i.e. rainscreen element	15%	15%	15%
Structural timber frame	0%	0%	0%
Cavity trays in façade	0%	0%	0%
Waterproofing and insulating material at ground level	0%	0%	0%
Balconies	20%	20%	20%
Solar Shading	100%	100%	100%
Glass balustrades	20%	20%	20%
Canopies	100%	100%	100%

Source: PRP Architects based on industry experience

¹ Hospitals are assumed to have significantly large façade area of 12,000sqm for 0-11m buildings and 16,000sqm for 11-18m buildings.

Assumptions – Options

6.37 Three options have been considered for the combustible cladding ban.

Table 7.1: Policy Option – Combustible Cladding Ban	
Option 1	Do nothing
Option 2	The application of the ban on combustible cladding (including regulation 7.3) to buildings (the addition of hotels, hostels and boarding houses to the existing categories of flats, hospitals, residential care premises and student accommodation) of 18m and over
Option 3	The same as Option 2 but including an amendment to AD B for buildings between 11m-18m that would limit the use of combustible materials (this would replicate the amendment in England https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1080214/ADB_amendment_booklet_June_2022.pdf)

6.38 For the other proposed changes, one policy option has been considered against the counterfactual

Table 7.2: Policy Options – Evacuation Alarm Systems, Secure Information Boxes and Wayfinding Signage	
Evacuation Alarms	Evacuation Alert System (EAS) to be provided in accordance with BS 8629 in blocks of flats (purpose group 1(a)) with a top storey over 18m above ground level.
Secure Information Boxes	Secure Information Boxes in all new blocks of flats over 11 metres in height
Wayfinding Signage	floor identification and flat indication signage within blocks of flats with storeys over 11m

Assumptions – Cladding Counterfactual

Combustible Ban

- 6.39 The profile of the amount of combustible materials anticipated to be used on 18m+ Hotels and Hostels under the counterfactual has been estimated based on i) how commonly components are used on buildings and ii) how likely they are to have combustible elements.
- 6.40 The table below illustrates the assumptions used for 18m+ Hotels and Hostels.

	New Build	Refurbishment
Facades - type 1 (brickwork)	0%	n/a
Facades - type 2 (rainscreen)	30%	75%
Facades - type 3 (mix of type 1 and 2)	15%	8%
Structural timber frame	0%	n/a
Cavity trays in façade	30%	0%
Waterproofing and insulating material at ground level	100%	0%
Balconies	0%	0%
Solar Shading	4%	16%
Balcony balustrades	1%	20%
Awnings	4%	0%

Source: PRP Architects based on industry experience

Limiting the use of combustible material on buildings 11-18m

- 6.41 The profile of the amount of combustible materials anticipated to be used on 11-18m Apartment buildings under the counterfactual has been estimated based on i) how commonly components are used on buildings and ii) how likely they are to have combustible elements.

Table 8.2: Estimated Proportion of 11-18m Apartment Buildings Using Combustible Materials in External Walls

	New Build	Refurbishment
Facades - type 1 (brickwork)	40%	0%
Facades - type 2 (rainscreen)	10%	10%
Facades - type 3 (mix of type 1 and 2)	25%	4%
Structural timber frame	1%	0%
Cavity trays in façade	85%	0%
Waterproofing and insulating material at ground level	100%	0%
Balconies (decking area)	20%	4%
Solar Shading (assume 75% of area is combustible materials)	7%	7%
Balcony Balustrades - Laminated Glass	20%	4%
Awnings	5%	5%

Note: the items indicated as n/a are not assumed to be replaced as part of refurbishment works

Source:

- Consultant's judgment, based on portfolio of current live projects (PRP industry experience)

Assumptions – Alarms, Secure information boxes and signage counterfactual

6.42 The analysis assumes a proportion of new buildings will already be compliant (or in the case of signage, partially compliant) with the proposed policy under the counterfactual. The following tables set out these assumptions.

Evacuation Alarms

6.43 The analysis assumes a small proportion of buildings will install evacuation alarms under the counterfactual.

Table 9.1: Proportion of New Buildings Installing Evacuation Alarms under the counterfactual

	% of new buildings	
11 to 18m	5%	
18 to 30m	5%	
30m+	5%	

Source: PRP Architects based on industry experience

Wayfinding Signage

- 6.44 Most buildings are expected to install wayfinding signage under the counterfactual. However, this is typically standard vinyl signage and not reflective signage as required by the proposed policy.

Table 9.2: Proportion of New Buildings Installing Wayfinding Signage (Vinyl) under the counterfactual

	% of new buildings	
11 to 18m	80%	
18 to 30m	80%	
30m+	80%	

Source: PRP Architects based on industry experience

Secure information boxes

- 6.45 It is assumed that 50% of new buildings will install secure information boxes.

Table 9.3: Proportion of New Buildings Installing Secure Information Boxes under the counterfactual

	% of new buildings	
11 to 18m	50.0%	
18 to 30m	50.0%	
30m+	50.0%	

Source: PRP Architects based on industry experience

Assumptions – Transition

Phase-in – timing assumptions

6.46 Table 10.1 shows the phase-in assumptions used in the cost modelling.

Table 10.1: Transition Phase-in Assumptions		
	Year 1	Year 2 onwards
	2025	2026
Secure Information Boxed, Evacuation Alarms and Signage	50%	100%
Combustible Ban	100%	100%

Source:

- Source: Consultants working assumption

Assumptions: Unit Cost – Combustible Cladding

- 6.47 The unit costs² for the counterfactual and policy options have been estimated by RLF based on specification prepared by PRP.
- 6.48 Table 11.1 summarises the specification of the materials used under each option.

Table 11.1: Specification of Combustible and Non-Combustible Materials in External Walls		
	Counterfactual	Policy
Facades	Including combustible insulation / materials	non-combustible façade, insulation, and other materials
Structural timber frame	Structural timber frame (concrete ground floor)	concrete frame only
Cavity trays in façade	Polypropylene	Stainless Steel
Waterproofing and insulating material at ground level	PIR	Mineral Fibre Board
Balconies	Timber Joists and Decking	Steel Frame with Aluminium decking
Solar Shading	Horizontal Steel frame with timber slats	Horizontal Aluminium frame and slats
Balcony balustrades	Laminated Glass	PPC Steel
Awnings	Fabric	None

- 6.49 Each element of the external wall has been costed for both the counterfactual and policy options. These figures are presented in the table below:

² Material costs are estimated based on UK average prices and labour costs are estimated based on Wales average rates.

Table 11.2: Unit Cost of Combustible and Non-Combustible Materials in External Walls				
	Units	Counterfactual	Policy	Difference
Facades (excluding cavity tray) - type 1 (brickwork)	Per sqm	£1,801	£1,809	+£8
Facades (excluding cavity tray) - type 2 (rainscreen)	Per sqm	£1,724	£1,799	+£75
Facades (excluding cavity tray) - type 3 (mix of type 1 and 2)	Per sqm	£1,790	£1,807	+£17
Structural timber frame	Per floor	£772,578	£855,523	+£82,946
Cavity trays in façade	Per sqm	£4	£16	+£12
Waterproofing and insulating material at ground level	Per sqm	£76	£94	+£17
Balconies	Per balcony	£4,946	£6,112	+£1,166
Solar Shading	Per sqm	£703	£523	-£180
Balcony balustrades	Per sqm	£1,410	£970	-£439
Awnings	Per awning	£1,684	£0	-£1,684

6.50 The costs estimates for the impact of the policy on 11-18m buildings using AD B route to demonstrate compliance, includes a different range of materials for the policy option.

Table 11.3: Unit cost of combustible and non-combustible materials on external walls to meet AD Route to compliance

	Units	Counterfactual	Policy	Difference
Facades (including cavity tray)- type 1 (brickwork) – linear route	Per sqm	£1,805	£1,824	+£19
Facades (including cavity tray) - type 2 (rainscreen) – linear route	Per sqm	£1,728	£1,767	+£39
Facades (including cavity tray) - type 1 (brickwork) – BR135	Per sqm	£1,805	£1,788	-£17

6.51 The analysis assumes that most projects (60%) will use a linear route to compliance – i.e. using non-combustible materials. This includes all rainscreen facades and a proportion of brick facades. For projects that use the alternative approach (i.e. submitting a BR135 classification report to demonstrate compliance), there are additional costs and the analysis assumes that projects will use either of the 3 alternative approaches:

- 5% will commission an 8414 test to demonstrate that a new wall system meets the requirement
- 25% will use existing test data and commission an assessment in lieu of test (AILOT) to demonstrate compliance
- 10% will use test data and a BR135 report from previous wall systems to demonstrate compliance.

Table 11.4: Additional Unit Cost to Demonstrate AD B Compliance (BR135)

	Additional Cost	% of buildings
Cost of 8414 test + BR135	£50,000	5%
Cost of AILOT + BR135	£5,000	25%
Cost of BR135	£1,200	10%

Assumptions – Unit Costs – Evacuation Alarms, Wayfinding Signage and Secure Information Boxes

6.52 The analysis unit costs have been estimated for the reference buildings based on the number of dwellings and floors. The costs exclude VAT but include materials, installation costs, prelims, overheads and profits³.

Evacuation Alarms

6.53 The installation costs for alarms is based on the specification and estimate for one reference building and adjusted for different building sizes based on the estimated number of flats per building.

6.54 The annual operating cost includes an estimate of the cost of briefing residents on how to respond to an alarm (either through residents meeting, or information leaflet) and the electricity costs for the system.

6.55 The annual maintenance cost is assumed to be 1% of the installation costs based on industry experience.

Table 12.1: Installation, Operating and Maintenance Costs for Evacuation Alarms per Building

	Alarms (installation cost)	Alarms (annual operating cost)	Alarms (annual maintenance cost)
11 to 18m	£67,668	£ 395	£ 677
18 to 30m	£118,419	£ 440	£ 1,184
30m+	£157,892	£ 440	£ 1,579

Wayfinding signage

6.56 The counterfactual wayfinding signage is assumed to be in standard vinyl format, which is estimated to be 50% of the cost of the reflective vinyl standard under the proposed policy.

6.57 Installation costs are calculated based on the number of signs required per floor and multiplied by the number of floors in the buildings of different heights.

6.58 Maintenance costs are assumed to be 1% of installation costs based on industry experience.

³ Material costs are estimated based on UK average prices and labour costs are estimated based on Wales average rates.

Counterfactual (Vinyl)

Table 12.2a: Installation, Operating and Maintenance Costs for Wayfinding Signage (Vinyl) per Building

	Signage - Vinyl (installation cost)	Signage - Vinyl (annual operating cost)	Signage - Vinyl (annual maintenance cost)
11 to 18m	£ 2,836	£0	£ 28
18 to 30m	£ 4,538	£0	£ 45
30m+	£ 8,509	£0	£ 85

policy (Reflective Vinyl)

Table 12.2b: Installation, Operating and Maintenance Costs for Wayfinding Signage (Reflective Vinyl) per Building

	Signage – Reflective Vinyl (installation cost)	Signage – Reflective Vinyl (annual operating cost)	Signage – Reflective Vinyl (annual maintenance cost)
11 to 18m	£ 5,672	£0	£ 57
18 to 30m	£ 9,076	£0	£ 91
30m+	£ 17,017	£0	£ 170

Secure Information Boxes

- 6.59 Secure information boxes have been costed based on a standard design – it is assumed that there is one box per building irrespective of height.
- 6.60 Maintenance costs are assumed to be 1% of installation costs based on industry experience.

Table 12.3: Installation, Operating and Maintenance Costs for Secure Information Boxes per Building

	Secure information Box (installation cost)	Secure information Box (annual operating cost)	Secure information Box (annual maintenance cost)
11 to 18m	£ 551	£0	£6
18 to 30m	£ 551	£0	£6
30m+	£ 551	£0	£6

Central, High Low Assumptions

- 6.61 The assumptions presented in the tables are for the central estimate of costs. The high and low costs have been estimated assuming +/- 20% to reflect uncertainty.

Source:

- Specification by PRP and costing prepared by MGAC

Aggregated Costs

6.62 The estimated policy costs of the proposed changes are set out below.

Evacuation Alarms, Wayfinding Signage and Secure Information Boxes

Table 13.1: 10 Year PV Policy Costs (£m 2023 prices) - Signage, Alarms, Secure Boxes

Option 1	Height Threshold	Transition Period	Low	Mid	High
Familiarisation Costs			£0.03	£0.04	£0.05
Wayfinding Signage	11m+	6 months	£0.38	£0.47	£0.56
Evacuation Alarm	18m+	6 months	£4.07	£5.34	£6.69
Secure Information Boxes	11m+	6 months	£0.03	£0.03	£0.04
Total policy costs			£4.50	£5.88	£7.34

Combustible Cladding Ban

6.63 The analysis assesses the costs of extending the combustible cladding ban to hotels, hostels and boarding houses over 18m. The central estimate of the costs is presented in Table 13.2 below.

Table 13.2: 10 Year PV Policy Costs (£m 2023 prices) - Combustible Cladding Ban – Hotels, Hostels and Boarding Houses Over 18m

	New Build	Refurbishment	New build and Refurbishment
	18m+	18m+	18m+
Hotels	£0.67	£0.53	£1.20
Hostels and Boarding Houses	£0.33	£0.29	£0.62
Total Policy Costs (central estimate)	£1.00	£0.82	£1.83
Total Policy Costs (low estimate)			£1.46m
Total Policy Costs (high estimate)			£2.19m

6.64 The analysis also assesses the costs of amending AD B for 11-18m to limit the use of combustible materials in external walls. The central estimate of the costs is presented in Table 13.3 below.

Table 13.3: 10 Year PV Policy Costs (£m 2023 prices) - Amend AD B for 11-18m Buildings to Limit the Use of Combustible Materials in External Walls			
	New Build	Refurbishment	New build and Refurbishment
	11-18m	11-18m	11-18m
Apartments	£1.05	£0.64	£1.69
Care Homes	£0.10	£0.03	£0.13
Hospitals	£0.43	£0.55	£0.98
Hotels	£1.21	£0.95	£2.16
Hostels and Boarding Houses	£0.60	£0.41	£1.01
Total Policy Costs (central estimate)	£3.39	£2.58	£5.98
Total Policy Costs (low estimate)			£4.78
Total Policy Costs (high estimate)			£7.17

Familiarisation costs

6.65 The analysis estimates familiarisation costs using the following approach:

- Estimate the number of employees that need to become familiar with each of the proposed changes. The analysis estimates the number of employees using employment data from the Annual Population

Survey and applying consultants assumptions about the proportion of employees that a) work on buildings in scope b) use AD B

- An estimate by the consultants about the number of hours required to become familiar with the changes
- An employment cost per hour based on salary estimates from the ASHE dataset + 20% to allow for other non-salary employment costs.

Table 13.4	Number of employees	Familiarisation time	Hourly rate	Employment Cost
Limiting combustible cladding on buildings over 11m (general)	5,900	30 mins	£25.33	£75,000
Signage, alarms and Secure Information Boxes (general)	5,900	10 mins	£25.33	£25,000
Alarms (engineers)	500	60 mins	£31.08	£16,000
Total				£116,000

6.66 Familiarisation Costs for the amendments to limit the use of combustible material is estimated to be 0.5hr for those involved in the design and construction of buildings over 11m – 5,900 persons. £75,000

Table 13.4: Summary Table – 10 yr PV Costs	
	£m
Familiarisation Costs	0.10
Combustible cladding ban: 18m+	1.83
Limiting use of combustible materials: 11-18m	5.98
Wayfinding Signage	0.47
Evacuation Alarm	5.34
Secure Information Boxes	0.03
Total Policy Costs	13.74

Table 13.5	2025	2026	2027	2028	2029	2030	2031	2032	2034	2035
Familiarisation Costs	0.116									
Combustible cladding ban: 18m+	0.189	0.194	0.200	0.205	0.210	0.216	0.222	0.228	0.234	0.240
Limiting use of combustible materials: 11-18m	0.617	0.636	0.656	0.676	0.697	0.712	0.726	0.741	0.757	0.773
Wayfinding Signage	0.024	0.050	0.051	0.053	0.055	0.057	0.058	0.060	0.062	0.064
Evacuation Alarm	0.299	0.593	0.594	0.593	0.625	0.657	0.690	0.724	0.759	0.795
Secure Information Boxes	0.002	0.004	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004
Total Policy Costs	1.248	1.478	1.504	1.531	1.591	1.645	1.700	1.757	1.816	1.875

Benefits

- 6.67 The types of benefit attributable to each element of the policy proposals are set out below

Evacuation Alert Systems

- 6.68 In the case of a severe fire, one that spreads beyond the initial flat or compartment of origin, in which evacuation beyond the flat of origin is necessary, evacuation alert systems (EASs) will be in place which will enable an increase in the speed and efficiency at which residents are alerted regarding the need to evacuate the building.
- 6.69 The availability of an EAS will also provide the Fire and Rescue Services with an additional tool which can be used where they deem it necessary. For example, the system gives Fire and Rescue Services the option of triggering the evacuation of the building in a phased manner so that escape routes are not overwhelmed.

Wayfinding Signage

- 6.70 The main benefits of increased wayfinding signage in residential blocks of flats are those of reducing the time for the FRS to a) get to the source of the fire, and b) to help evacuate residents. Wayfinder signage helps reduce the risk of the FRS becoming disorientated in a building if there is heavy smoke build up. Also, increasing consistency of signage between buildings through requiring a standardised size and numbering system further helps reduce the risk of dis-orientation of FRS personnel. As such, it is expected that standardised, clear and consistent wayfinding signage will increase the operational performance of firefighters during a fire, thus resulting in reduced fire spread/size and reduced casualties

Secure Information Boxes

- 6.71 Secure information boxes are easily identifiable repositories for documents intended for use by the fire and rescue service during a fire. Documents that can be stored includes hard copy building plans which can help first attending fire service crew to be able to understand the layout of the building and to respond effectively through use of these plans in a dynamic environment without having to rely on technology. This will help the fire service operational response and the impact will be on reducing fire spread/size and reducing casualties.

Combustible Ban

- 6.72 The Government's Building Safety Programme has identified buildings that have combustible external wall systems that did not meet the requirements of the Building Regulations and its guidance at the time of

construction thereby increasing the risk that the external wall systems do not prevent fire spread in the event of a fire.

- 6.73 As a result of non-compliance with the building regulations, affected buildings have had to undergo costly remediation works that would not have been incurred if the external wall systems had met the provision of the Building Regulations. The proposed changes to the guidance will make it clearer what materials can and cannot be used in the external walls of buildings within scope, thus reducing non-compliance and avoiding costly remediation work.
- 6.74 Widening the scope of the ban by including hotels, hostels and dormitories in boarding schools with a storey more than 18 metres in height, including solar shading devices and a complete ban on metal composite materials with unmodified polyethylene core, will also reduce non-compliance through making it crystal clear to designers, installers and building control bodies what is and isn't allowed.
- 6.75 The proposed changes to Approved Document B (ADB) will also clarify the provisions in ADB for the external walls of buildings between 11 and 18m in height. This will provide a clearer route to compliance for designers and developers and reduce the potential for non-compliance.
- 6.76 Better compliance will ensure that fire safety risks are better identified and managed by developers, which will reduce the level of risks in buildings and make buildings safer, reducing the risk of fire spread and reducing the costs associate with the spread of fire, such as a whole building loss.

The benefits have not been monetised in the assessment

- 6.77 The benefits have not been monetised for two reasons:
- Regarding the benefits that derive from Evacuation Alert Systems, Wayfinder Signage and Secure Information Boxes, there is insufficient robust evidence to allow the assessment to reliably quantify the extent and value of these benefits, particularly regarding the value of residents feeling safer
 - Regarding the combustible ban, this has not been monetised because it does not represent a net change to the building regulations, but rather additional measures designed to ensure better compliance through making it crystal clear what are and are not acceptable materials to use.

Switching Value analysis – combustible cladding

- The average cost of remediating non-compliant external wall systems is reported at £1,634 per sqm of cladding remediated⁴. The reference 11-18m buildings are estimated to have an average of 2,070sqm of façade. The amount of rainscreen cladding on the reference buildings varies from 15% to 100% of the façade. This would mean the cost of remediating the cladding would be between £500,000 and £3,400,000.
- The policy cost for 11-18m buildings is estimated at £2.58m over 10 years. Therefore preventing one full façade remediation project at £3.4m (or 7 partial remediation projects and £3.5m) would mean that the policy would be cost neutral. The estimated costs are based on 15 full facades and 20 partial facades being installed that are impacted by the policy proposals. To be cost neutral, 5% of the full facades installed per annum would need to be found to be non-compliant or 25% of partial facades.
- For 18m hotels and hostels, the policy cost is estimated at £0.2m p.a. the reference buildings have an average of 3450sqm of façade – therefore the remediation cost would be between £0.8m and £5.6m depending on the amount of EWS that needs to be remediated. Therefore the policy would be cost neutral is just one full remediation project is avoided across 10 years worth of building or 3 partial remediation projects. The policy costs are estimated based on 1 project every 2 years.

⁴ [Cladding remediation unit costs: analysis of high-rise non-ACM buildings - GOV.UK](#)