

THE ROUTE TO BUILDING ENVELOPE FIRE SAFETY COMPLIANCE



England Edition

Published by Kingspan Limited | January 2025

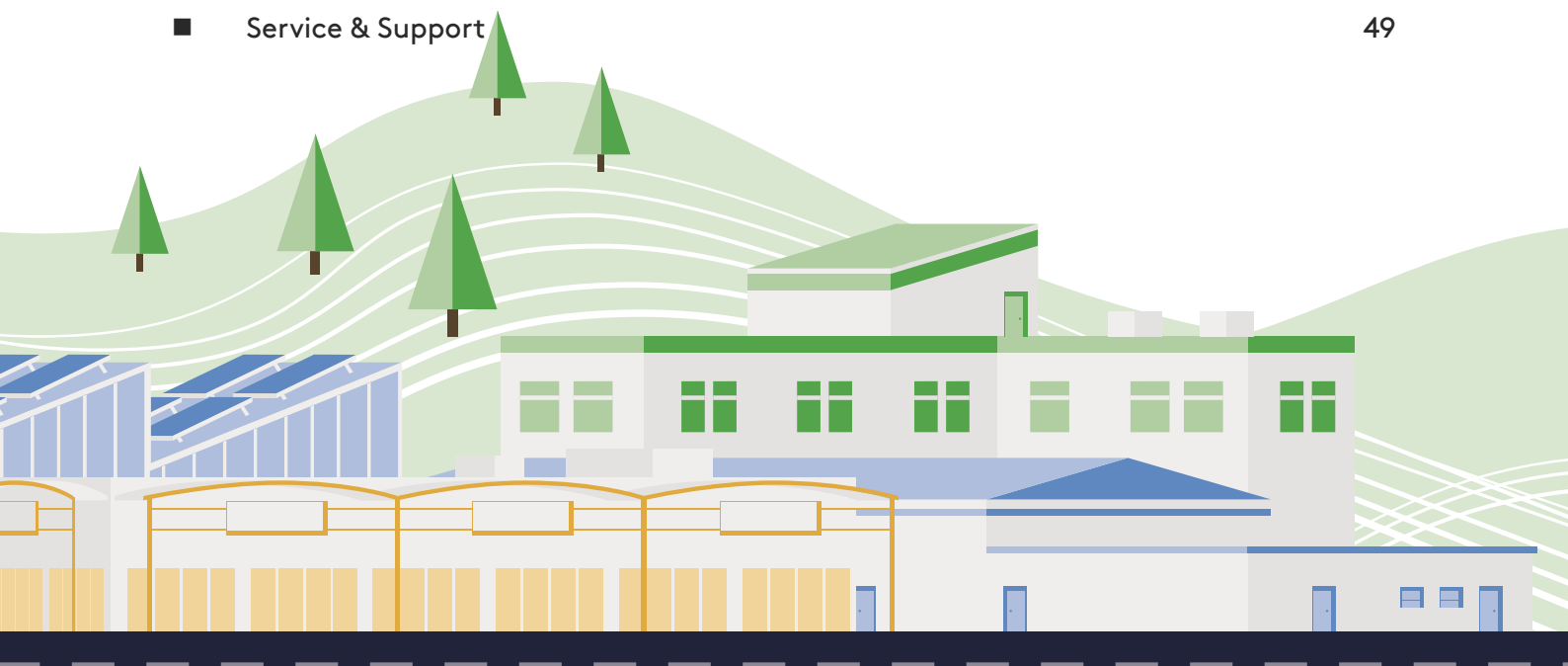


CONTENTS

■ Building Regulations 2010: Approved Document B (ADB) England	4
■ Legal, Statutory, Regulatory, Insurer & Industry Documentation	10
■ The Building Safety Act 2022	12



■ Product Range & Performance	15
Features, Benefits & Performance	16
Minimising Building Fire Risk Through System Selection	18
Recommended Roof Systems	20
Recommended External Walls: Fire resistance	24
Recommended External / Boundary Walls: Fire resistance	26
Recommended External Wall Systems	28
Recommended Rainscreen Support Panels	38
Integrated External Firewall Systems	42
Internal Compartmentation Systems	43
■ Introducing the Kingspan Insulated Panels Product Selector	44
■ RIBA Work Stages 2020 Kingspan Support	46
■ Service & Support	49



BUILDING REGULATIONS 2010: APPROVED DOCUMENT B (ADB) ENGLAND

It is important to note that this guidance refers to new buildings subject to current building regulations as they are described as follows. Should enquires be received in relation to projects that had been commenced under preceding regulations, these need to be subject to review by design team and qualified structural and fire engineers.

Building works in England are subject to the Building Regulations 2010 and, amongst other things, must comply with the requirements stated in Schedule 1 of the Building Regulations.

The Building Regulations are supplemented by Approved Documents which provide guidance on how the requirements of the Building Regulations may be met for common building situations. Approved Document B (ADB) concerns Fire Safety.

The current versions of ADB are:

- **Approved Document B - Volume 1: Dwellings (2019 + 2020 + 2022 amendments)**
- **Approved Document B - Volume 2: Buildings other than dwellings (2019 + 2020 + 2022 amendments)**

In addition to the above, the **Building Safety Act 2022** introduced a new building safety regime for certain buildings.

The Building Regulations

Regulation 7(1A) prohibits metal composite materials (MCM) with a 100% polyethylene core from becoming part of an external wall of any building. This covers the type of MCM used on Grenfell Tower (which was an ACM – Aluminium Composite Material with a PE core) and includes similar panels with different facing materials (such as zinc).

An external wall includes any part of a pitched roof at an angle of more than 70° to the horizontal if that part of the roof adjoins a space within the building to which persons have access for other than just maintenance. This includes the roof-facing elements of parapet walls where there is a set-back external wall of 'penthouse' accommodation or where the roof is accessible by persons for non-maintenance related activities. For instance, use as a sun-terrace, etc.

Regulation 7(2) has made it a legal requirement that, for Relevant Buildings, external wall materials (all the way through the wall to the internal decoration) have a reaction to fire performance classification of either A2-s1,d0 or A1.

Relevant Buildings are defined in Regulation 7(4) as buildings with a storey at least 18 metres above ground level and which contain a dwelling, institution or room for residential purposes. The height of the building is measured from the lowest ground level adjacent to the building to the top habitable storey of the building which provides a simple measurement that is not affected by complex building geometries.

Approved Document B

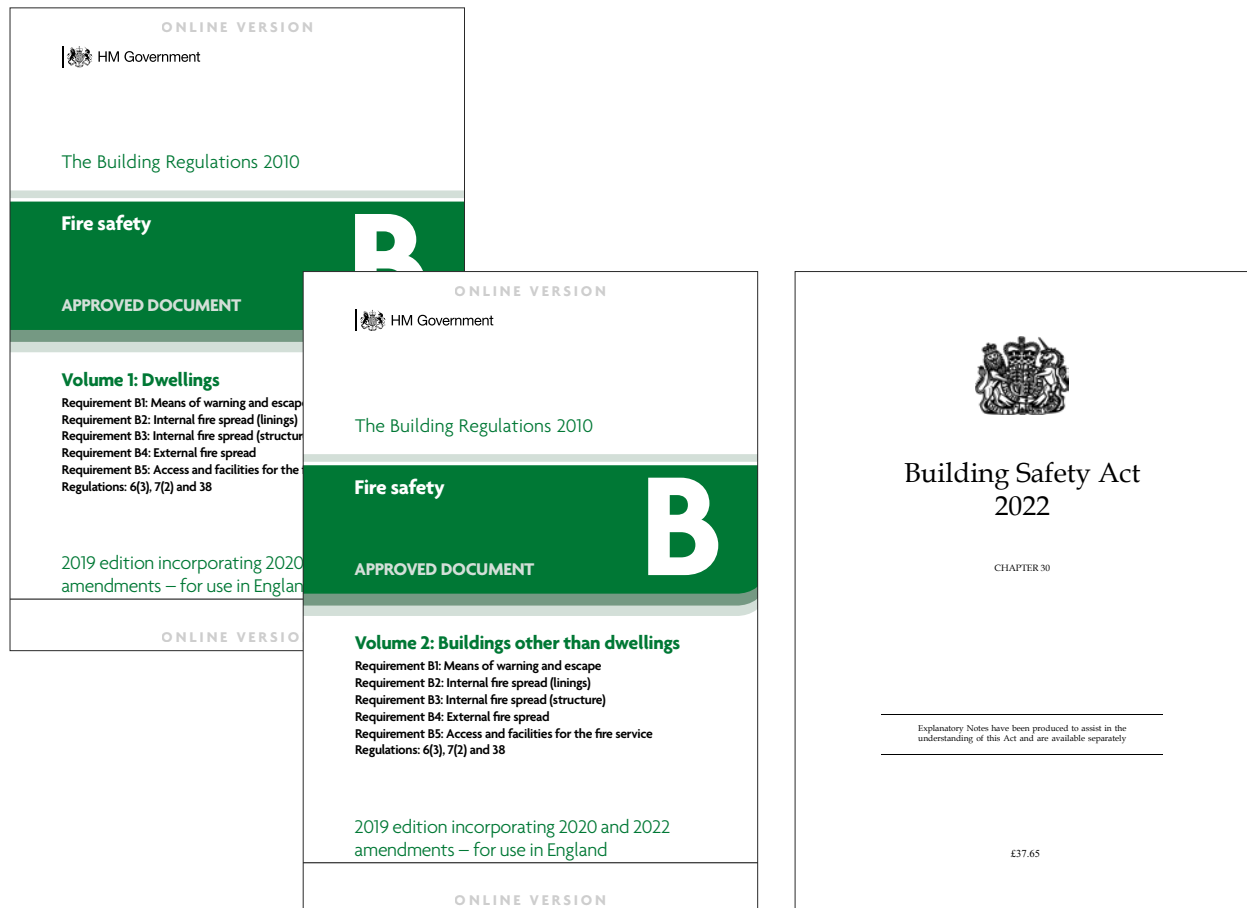
ADB makes recommendations applicable to the reaction to fire performance of materials used in the construction of external walls of a building.

The recommendations made by ADB relating to combustibility of materials are based on the use of the building and height of the top storey of the building above ground level on the lowest side of the building.

For a new building that contains no sleeping accommodation, where the height of the top storey is 18 metres or greater ADB recommends that the external wall construction of the building should either be constructed using materials with at least a A2-s3,d2 fire performance or the wall construction should achieve the performance criteria of BR 135 under the large scale fire test to BS 8414.

For a new building which contains any sleeping risk accommodation, where the height to the top storey is 11 metres or greater but less than 18 metres ADB recommends that either the external wall is constructed with materials with at least a A2-s3,d2 fire performance or the wall construction achieves the performance criteria of BR 135 under the large scale fire test to BS 8414. Where the height to the top storey is 18 metres or greater the new building is a 'Relevant Building' and is required by Regulation 7(2), and for compliance with ADB, to be constructed with external wall materials achieving a minimum A2-s1,d0 reaction to fire performance.

Where the new building does not meet these storey height thresholds, ADB guidance does not make any recommendations relating to combustibility of materials.



The corollary of the absence of recommendations for the lower building is that the use of materials not achieving at least A2-s3,d2 or a BR 135 classification could reasonably be considered as ADB-compliant. However, it is incumbent on the designer to consider whether the design of the external wall including materials not achieving such performance satisfies the requirement of B4(1) of the Building Regulations which is expressed in functional terms.

Irrespective of the materials permitted as described above in relation to the height of the floor of the top storey of the building, the outermost external surface of the external wall construction may also need to achieve a minimum reaction to fire performance depending on the distance of the relevant boundary from the external wall and/or overall height of the building to its roof level. Also, the position of the relevant boundary and whether or not the building is sub-divided into fire compartments or provided with sprinkler protection determines the amount of the external wall construction (if any) that requires to be provided as fire resisting to prevent fire spread to or from adjacent properties. These are matters that are dependent on competent assessment of the detailed design and, accordingly, typically require input from a suitably qualified fire engineer.

Building Safety Legislation

Under the Building Safety Act 2022 and the Building (Higher Risk Buildings Procedures) (England) Regulations, Higher Risk Buildings (HRBs) are now the subject of a 'gateway' process enforced by a new **Building Safety Regulator** (the BSR) which is part of the HSE.

An HRB is a building that is at least 18 metres in height or has at least 7 storeys and contains at least two residential units or is a care home or hospital that meets these same height requirements.

The definition of an HRB is different to that of a Relevant Building. It is therefore possible that an HRB may not be a Relevant Building (e.g. a block of flats with seven storeys from ground level with a height to the top storey less than 18 metres). Accordingly, in assessing applications for an HRB, the BSR may have to consider Relevant Buildings and some buildings which are not Relevant Buildings.

BUILDING REGULATIONS 2010: APPROVED DOCUMENT B (ADB) ENGLAND

The Gateway Process

The term 'Gateway' has been introduced by the Building Safety Regulator (BSR) to describe the points in the new regulatory process for HRBs where the BSR's permission is needed to progress to the next stage of the project.

Gateway 1 is the planning application stage which includes the BSR as a statutory consultee. An application for planning permission for an HRB must include a fire statement that sets out, amongst other things, the site layout, the approach applied to external wall systems, and some of the characteristics of the external wall system.

Gateway 2 requires building control approval to be granted by the BSR before work can commence. An application for approval must include such plans as are necessary to show that the HRB would comply with the Building Regulations. Essentially, the fire performance specification of construction materials for the external wall construction has to be made for an HRB at the start of the project at the planning stage which is subject to Gateway 1 approval by the BSR before being allowed to proceed to detailed design (that will be subject to approval at Gateway 2 before then being permitted to go forward to construction).

Gateway 3 is the final review at a building's completion stage. A building cannot be occupied or registered with the BSR until it has passed through Gateway 3.

To demonstrate compliance with Gateway 3, once the work has been 'completed', an application must be made in writing, signed by the client, to the BSR, for a completion certificate. The client must also sign and submit a statement confirming that, to the best of their knowledge, the building complies with all applicable requirements of the Building Regulations, and submit a compliance declaration signed by each principal contractor and each principal designer.

No later than the date the work is completed, the client must give to the relevant person the 'BFLO information' and the 'Golden Thread information'.

The BSR will assess the application and carry out final inspection(s) of the works. If the BSR approves the application, they will issue a completion certificate, which then allows the building to be registered with the BSR and occupied.

The BSR has eight weeks (or longer as agreed in writing) to determine an application. In reality, as with Gateway 2, if the BSR needs more time, the parties will have no choice but to agree.

For both Gateway 2 and 3 applications, the BSR must give reasons if it rejects the application, and there is a right of review.

As the Gateway Process and BSR are parts of a new regulatory process, it will inevitably take some time to understand how the rules will be applied in practice. However, it is possible that the BSR may adopt a strict approach. For example, it may require further justification beyond reference to ADB for the use of materials which do not achieve at least A2-s1,d0 or, where a development comprises multiple buildings only some of which are HRBs, treat the development as a single building and therefore part of the HRB regime.

Therefore, at present, where any new building is proposed that falls into the HRB category, it should be considered as a significant approvals risk and an appropriately professionally qualified fire engineer should be engaged to advise on the specification and submission for approval process.

Golden Thread

The Golden Thread aims to give the right people the right information at the right time to keep buildings safe, and support duty holders and accountable persons in managing fire and structural risks. It is a process and an approach to delivering an outcome, not a product or 'software solution'.

The term 'Golden Thread', as defined, includes the fire statement, plans, evidence to show compliance with building regulations, change control documents and mandatory occurrence reporting.

The information must be kept in a secure electronic format with consistent language and terminology. Documents created in the course of the project must be included in the Golden Thread as soon as practicable, and the Gateway 2 application documents must be included before construction commences.

"The Golden Thread is the information that allows you to understand a building and the steps needed to keep both the building and people safe, now and in the future."

RICS - The impact of the Golden Thread on
Property Managers 27 September 2021.



BUILDING REGULATIONS 2010: APPROVED DOCUMENT B (ADB) ENGLAND

Envelope solutions ready-reckoner

The following is a proposed 'ready-reckoner' table that allows insulated panel options to be identified relatively quickly at the enquiry stage. The table shows Kingspan's understanding of how likely it is that a particular product would be approved. However, it remains incumbent on the designer to assess and confirm compliance with all relevant regulations and standards. As stated previously, if any building in a development is an HRB building, the approval risk identified in this table could apply to all the other buildings in the development even if they are not HRB buildings and the recommendation should be that an appropriately professionally qualified fire engineer should be engaged in the specification and submission for approval process.

- Low design and approval risk.
- Medium design and approval risk as it will depend on the project team developing an as-built design approved by Building Control that is covered by a BR 135 classification report.
- High design and approval risk requiring involvement by qualified professional fire engineer as, notwithstanding that it is compliant with ADB guidance, it will be subject to approval by the BSR who may require further justification than simply ADB compliance.

Building typology	Key height parameters		External wall: Recommended Kingspan systems
■ Development is for a large portal frame industrial / warehouse building, or ■ any other situation not listed in the building typologies below).	Height of top storey < 18 metres		■ QuadCore®*, or K-Roc™
	Height of top storey ≥ 18 metres		■ QuadCore®* in a BR 135 compliant design, or ■ K-Roc™
■ Building contains two or more units of residential accommodation (i.e. flats - including for students or in a school environment), or ■ hospital / care home.	Height of top storey < 11 metres		■ QuadCore®*, or K-Roc™
			■ K-Roc™
	HRB	Height of top storey < 18 metres and at least 7 storeys above ground storeys (including ground)	■ QuadCore®* in a BR 135 compliant design, or ■ K-Roc™
	HRB and Relevant Building	Height of top storey ≥ 18 metres	■ K-Roc™
■ Building contains a single dwelling or single room for residential purposes, or ■ building is a place of lawful detention (e.g. prison), or ■ building is a hotel, boarding house or hostel. - i.e. anything else in Purpose Groups 1 and 2.	Height of top storey < 11 metres		■ QuadCore®*, or K-Roc™
	Height of top storey ≥ 11 metres and < 18 metres		■ QuadCore®* in a BR 135 compliant design, or ■ K-Roc™
	Relevant Building	Height of top storey ≥ 18 metres	■ K-Roc™

* With a suitable external wall coating. Please refer to table on page 19 with regard to external wall coating options.

**Roofs up to 70° or roofs over 70° if access is for maintenance only.



Roof: Recommended Kingspan systems			Higher Risk Building (HRB) Gateway Process applies?
■ QuadCore®			No
Roof pitch > 70° and access for other than just maintenance	■ QuadCore® in a BR 135 compliant design		
Other**	■ QuadCore®		
■ QuadCore®			No
Other**	■ QuadCore®		
Roof pitch > 70° and access for other than just maintenance	■ QuadCore® in a BR 135 compliant design		Yes Application of QuadCore® insulated panels will require Fire Engineering justification and BSR approval.
Other**	■ QuadCore®		
Roof pitch > 70° and access for other than just maintenance	No solution		
Other**	■ QuadCore®		
■ QuadCore®			No
Roof pitch > 70° and access for other than just maintenance	■ QuadCore® in a BR 135 compliant design		
Other**	■ QuadCore®		
Roof pitch > 70° and access for other than just maintenance	No solution		
Other**	■ QuadCore®		

LEGAL, STATUTORY, REGULATORY, INSURER & INDUSTRY DOCUMENTATION

The following tables document national sources specifying construction practices that are deemed to satisfy regulatory requirements related to fire along with the documents including national and European standards that are particularly relevant. Also included are relevant non-regulatory and sector specific documents that pertain to fire performance.

Core national documents	Standards referred to
Approved Document B Volume 2: Buildings other than dwellings 2019 edition incorporating 2020 and 2022 amendments – for use in England	EN 13501-1 – Reaction to fire of construction materials
	EN 13501-2 – (Fire Resistance) Fire classification of construction products and building elements
	EN 13501-5 – Reaction to fire (Roofs) Fire classification of construction products and building elements
	BS 476-22 – Fire tests on building materials and structures
	BS 8414-2 and BR 135
	BS 8414-2020 and BR 135
Other testing	
BS EN ISO 11925-2 – Single flame source ignitability test	-
BS EN 13823 – SBI test	-
EN ISO 1716 – Reaction to fire test for products (gross heat of combustion)	-
EN ISO 1182 – Non-combustibility	-
EN 1364-1 – Fire Resistance	-

For the most up-to-date version of the test standards referenced above, refer to Appendix F of Approved Document B.

Insurer approvals	
LPCB LPS 1181 Part 1 EXT B	-
LPCB LPS 1181 Part 1 EXT-A15	-
LPCB LPS 1181 Part 1 EXT-A30	-
FM 4880 – Approval standard for class 1 fire rating of building panels or interior finish materials	-
FM 4881 – Approval standard for class 1 exterior wall systems	-
FM 4882 – Approval standards for class 1 interior wall and ceiling materials or systems for smoke sensitive occupancies	-
FM 4471 – Approval standard for class 1 roof panels	-

Standard applicable to the manufacture of insulated panels	
EN 14509 – Self Supporting Double Skinned Metal Faced Insulating Panels	-
Sector specific documents	Relevant referenced documents
Healthcare	HTM-05 series
Schools	Building Bulletin 100
SCI Publications	SCI-P313
Manufacturing plant quality systems	
ISO 37301 – Compliance management systems	-
ISO 9001 – Quality Management Systems	-
ISO 14001 – Environmental Management Systems	-
ISO 45001 – Occupational Health & Safety	-
ISO 50001 – Energy Management Systems	-

This is not intended to be an exhaustive list and other legal, statutory, regulatory, insurer and industry documentation may be applicable.

Third Party Certification

Insurer-developed test standards are a useful performance indicator as they require the products to be installed in similar quantities and applications to how they would be used in everyday field constructions. One such organisation that has developed a significant number of these tests for insulated panel systems is FM Approvals.



For more information scan the code or [click here](#).

Euroclass System

The Euroclass system is the leading standard in Europe for fire safety classification of building materials. The standard defines a harmonised procedure for the classification of reaction to fire of construction materials.

Euroclass system certification is mandatory.



For further information see page 16, scan the code or [click here](#).

THE BUILDING SAFETY ACT 2022

Overview of the duties of the Client, Principal Designer and Principal Contractor in relation to the design and construction programme for Higher Risk (HRBs) and Non-higher Risk Buildings.



HRBs

Building over 18 metres in height and / or 7 storeys or more, containing at least 2 residences; or hospitals and care homes over 18 metres in height and / or 7 storeys or more (Gateways 2 and 3 only).

BUILDING SAFETY REGULATOR (BSR)

Gateway Process: MANDATORY.

Potentially extends programme length with **less risk** to duty holders.



Non-HRBs

All buildings controlled by the Building Regulations that are not HRBs.

BUILDING CONTROL APPROVER OF CHOICE

Gateway Process: NOT APPLICABLE.

Design & Build contract can be used.

Potentially shorter programme time with **greater risk** for duty holders.



DESIGNING

GATEWAY 2

Work cannot start until design approved

RIBA STAGES 0 - 4

Principal Designer (PD) and Principal Contractor (PC) must be appointed prior to Gateway 2 application, and they must submit a complete, compliant design to the BSR along with:

- Competence declaration;
- Building Regulations compliance statement;
- Fire and emergency file;
- Construction control plan;
- Change control plan;
- Mandatory occurrence reporting plan; and
- Partial completion strategy.

RIBA STAGES 0 - 4

RIBA STAGES 5 & 6

The overlap of RIBA Stages 4 and 5 present additional risks to principal duty holders in fulfilling their duties.

The PD and PC should have appropriate processes and evidence of planning, managing and monitoring design and construction.

The prescribed documents below provide a good guide to the evidence / documentation duty holders need to indicate they have fulfilled their duty:

- Competence of all designers and contractors employed;
- Building Regulations compliance statement;
- Fire and emergency file;
- Construction control plan;
- Change control plan; and
- Partial completion strategy.

The Building Safety Act (BSA) introduces the Gateway Process for the Higher Risk Buildings. There will be no choice of Building Control provider and all building works, new build, extension, refurbishments will be subject to the control of the BSR and the Gateway Process.



CONSTRUCTION



OCCUPATION

GATEWAY 3

Completion certificate

Client registers building for occupation

RIBA STAGES 5 & 6

RIBA STAGES 6 & 7

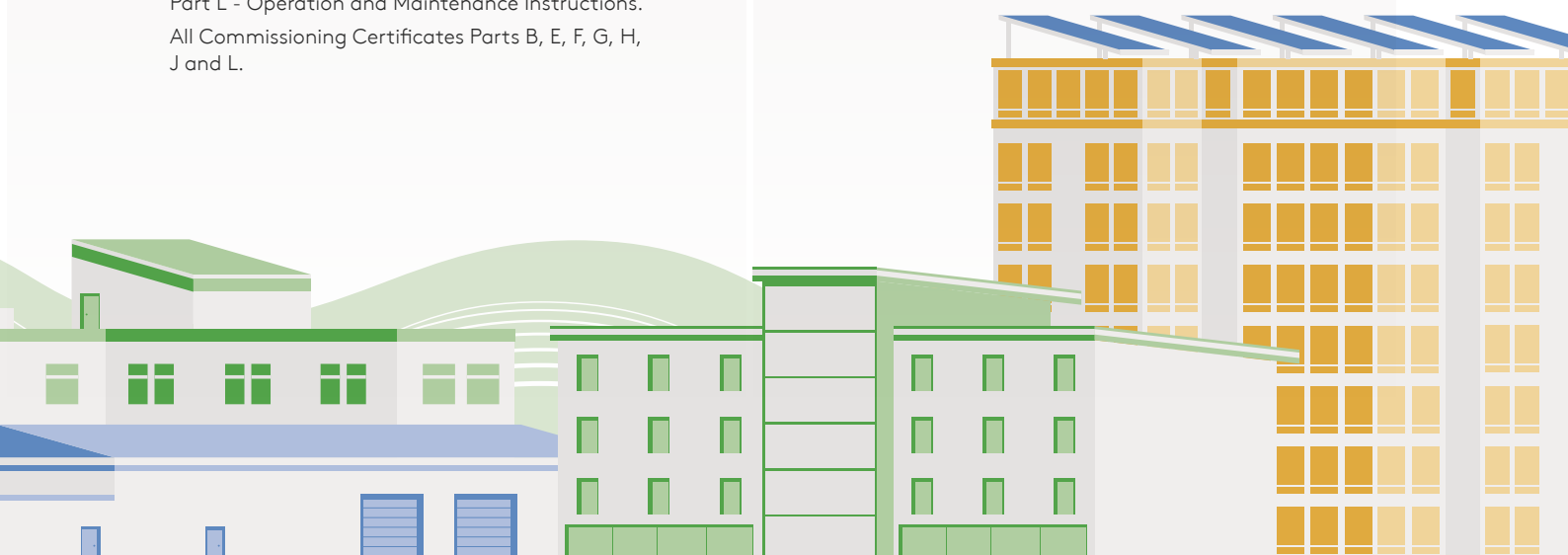
Declaration of compliance provided by all construction phase principal duty holders including client provision of 'Golden Thread' including updated fire and emergency file, construction control plan and change control plan.

Client has duty to have Building Safety Plan in place prior to occupation.

RIBA STAGES 6 & 7

Declaration of compliance by all construction phase principal duty holders including client.
Provision of information required under the Building Regulations.
Regulation 38 Fire Safety Information.
Part F - Information on Ventilation System.
Part L - Operation and Maintenance Instructions.
All Commissioning Certificates Parts B, E, F, G, H, J and L.

Client fulfils duty in managing the building if under the RRO through Fire Risk Assessment.





PRODUCT RANGE & PERFORMANCE

■	Features, Benefits & Performance	14
■	Minimising Building Fire Risk Through System Selection	16
■	Recommended Roof Systems	18
■	Recommended External Walls: Fire resistance	24
■	Recommended External Wall Systems	26
■	Recommended Rainscreen Support Panels	36
■	Integrated External Firewall Systems	40
■	Internal Compartmentation Systems	41

FEATURES, BENEFITS & PERFORMANCE

Kingspan insulated panels are single component, factory pre-engineered systems available in a choice of high-performing insulation cores offering a wide range of performance benefits.

The panels comprise a high-performance 'continuous' insulation core sandwiched between two layers of metal sheets – one the external weather side, the other a pre-finished internal liner. The result is a single component solution that replaces multi-part construction and eliminates the design, build and in-use 'performance gap'*.



Single component

Accelerated build speed reduces time on site

Air-tightness

Factory-engineered joints achieve an air-tightness performance of 3 m³/hr/m²

Moisture resistant

No water / moisture ingress or mould growth

Exterior metal skin

Provides lifetime weatherability performance, and available in a wide choice of profiles, colours and coatings

High performance insulation

Choice of core technologies offering a range of performance options - thermal, fire and acoustic

Interior metal skin

Perfect vapour barrier available in a wide range of coatings

Durability

Whole life design, build and in-use performance - warranties available for panels and cohesive systems

Lower Embodied Carbon options

Enables core and shell 'lean design'

Kingspan insulated roof and wall systems offer significant advantages over conventional site-assembled systems. Manufactured under rigorous quality control standards, they provide rapid, single-fix installation with unrivalled thermal performance, insulation continuity, superior air-tightness and the elimination of interstitial cavity condensation and cold bridging.

The insulated roof, wall and façade systems ranges feature the following high-performing core technologies:

POWERED BY
QuadCore®
TECHNOLOGY

QuadCore® Technology is Kingspan's next generation of self-blended hybrid insulation core. This innovation with its distinctive grey microcells powers the global industry's highest combined performance and is backed, for up to 25 years, by our industry-leading warranty - **QuadCore® Assured**.

Thermal and Air-tightness Performance

Industry-leading thermal and air-tightness performance providing operational energy savings.

QuadCore® insulation technology can achieve thermal conductivities as low as 0.018 W/m.K which means that it can deliver compliant buildings with reduced heat loss and excellent thermal performance – helping to lower energy bills, reduce carbon emissions and enhance occupier comfort.

Fire Performance

QuadCore® insulated panels have been subjected to rigorous large-scale tests and a range of systems are insurer approved to FM and / or LPCB standards.

In terms of reaction to fire, and in accordance with the Euroclass system, Kingspan QuadCore® insulated panel systems can be classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

Environmental Performance

QuadCore® is a low Global Warming Potential solution which is also CFC and HCFC-free. Its superior material efficiency and ease of disassembly can contribute towards credits in BREEAM® and other green building rating systems.

QuadCore™ LEC
LOWER EMBODIED CARBON SOLUTIONS

QuadCore™ LEC has been developed specifically to help reduce the carbon footprint of the buildings it is used on. Using comparative Lifecycle Assessment Data (LCA) data to the EN 15804-A2 standard, this breakthrough in insulated panel technology demonstrates a 21% reduction** in embodied carbon in modules A1-A3 (product stage) for QuadCore® AWP in a 100 mm thickness.

The QuadCore™ LEC insulated panel range has all relevant independent testing and certification for UK & Irish markets.



K-Roc™ is a European Classification (Euroclass) A1 rock mineral fibre insulation used as the insulation core in the K-Roc™ range of insulated panels which are classed as A2-s1,d0 with standard coating options. Please contact Kingspan Tech-eXchange for information relating to the internal face.

K-Roc™ is a rock mineral fibre insulation suitable for use in almost all buildings regardless of building typology, height, construction and location in respect of fire performance.

* A Review of the Energy Performance Gap and its Underlying Causes in Non-Domestic Buildings. Dronkelaar et al, January 2016.

** QuadCore™ AWP LEC LCA shows a 21% reduction in LCA modules A1 – A3 (product stage) when compared to existing QuadCore® AWP LCA to the EN 15804-A2 standard for a 100 mm thickness. The EPDs for QuadCore™ AWP LEC, QuadCore™ KS1000RW LEC and QuadCore™ Coldstore LEC are verified by a third party and available for download on EPD Hub's website. The 21% reduction for QuadCore™ AWP LEC is achieved through raw material changes to the steel. When comparing modules A-C (product stage, construction process stage, use stage, end of life stage) the overall reduction is 15%.

MINIMISING BUILDING FIRE RISK THROUGH SYSTEM SELECTION

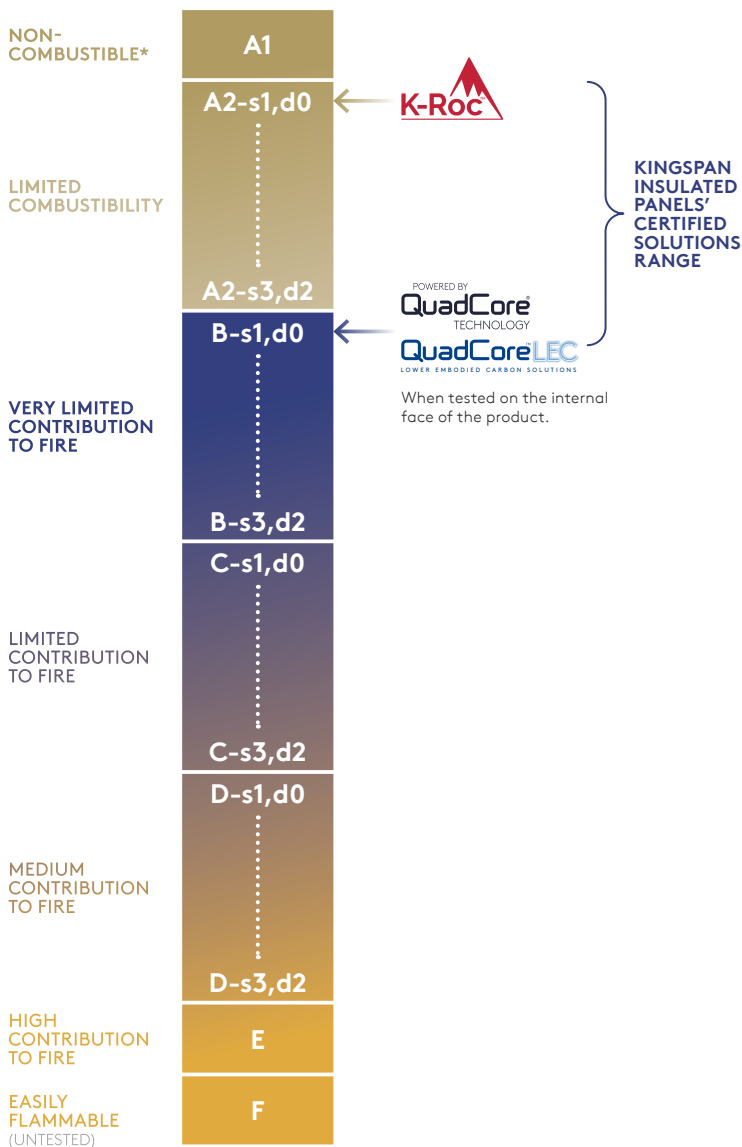
Understanding the Euroclass reaction to fire classification system to enhance fire safety.

All insulation materials, including insulated roof, wall and façade panel systems, are given a Euroclass reaction to fire classification in accordance with *BS EN 13501-1: Fire Classification of construction products and building elements*. This enables specifiers to understand how much ‘fuel’ will be added to the building (fire load) as well as how a material will contribute to the development stages of a fire when evacuation is crucial.

Testing is carried out to determine the performance of materials in terms of fire behaviour, smoke production and flaming droplets, giving a range of classification possibilities as indicated in the diagram below.

A wide range of our insulated panel solutions have been tested for use in a variety of fire-resistant applications, providing fire resistance periods ranging from 30 to 240 minutes to enable the fire safe design of buildings. See page 26 for further information.

Kingspan insulated panel Euroclass reaction to fire classification (EN 13501-1) based on core technology



* Changes made to Regulation 7 of the Building Regulations have made it a requirement of the law that, for Relevant Buildings defined in Regulation 7(4), external wall materials (all the way through the wall to the internal decoration) are required to have a classification of either A2-s1,d0 or A1.



Kingspan External Coatings Classification

The table below illustrates which insulated wall panel external coatings are applicable based on building typology, storey height and distance to relevant boundary, as indicated in Table 12.1 of ADB.

Available external coatings and their EN 13501-1 Reaction to Fire classification when tested in isolation

- Any Kingspan external coating:
Kingspan Spectrum (A1); Kingspan XL-Forté (C-s2,d0); Colorcoat Prisma® (A1); and Kingspan Altaris (A2-s1,d0).
- Kingspan Spectrum (A1); Colorcoat Prisma® (A1); and Kingspan Altaris (A2-s1,d0).

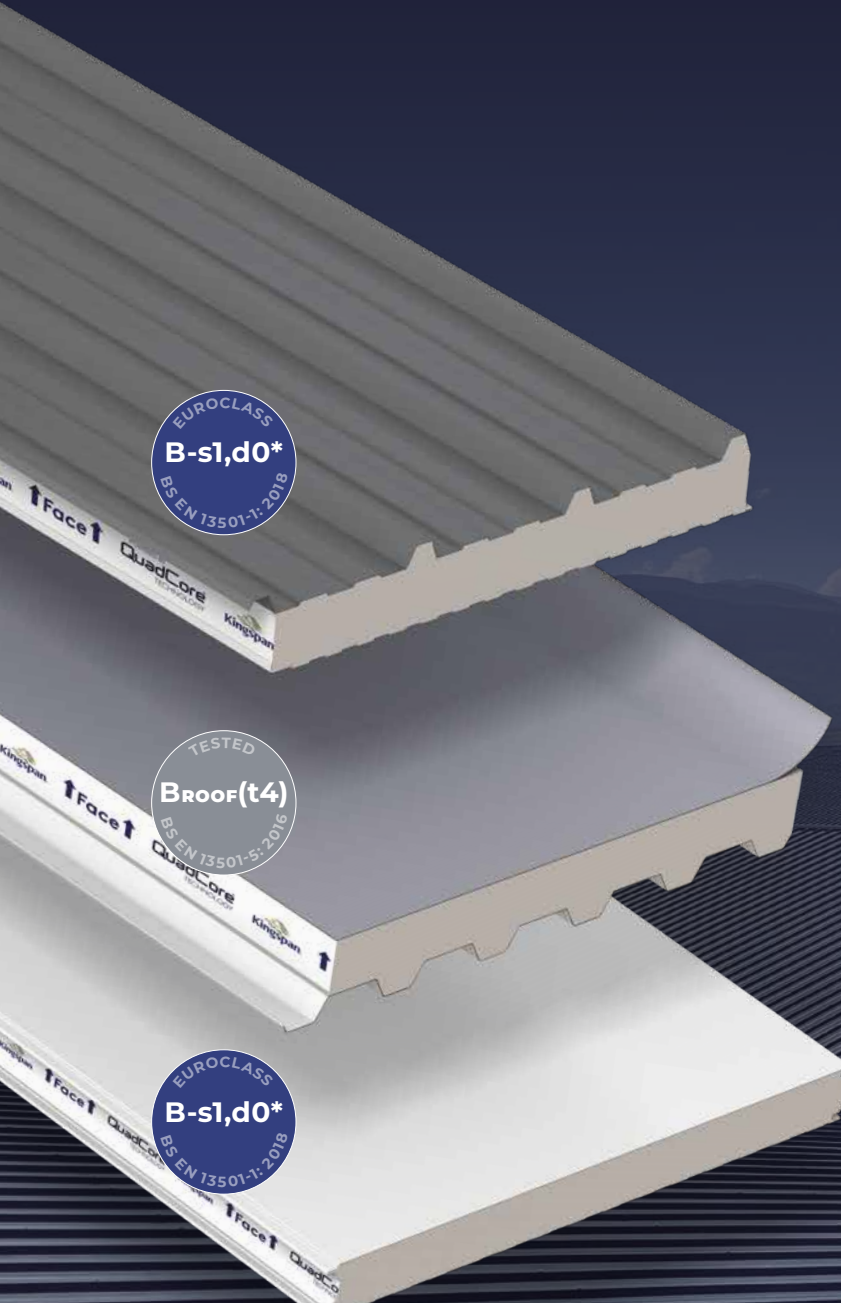
Building Typology	Building Height	Less than 1 m from Relevant Boundary	1 m or More from Relevant Boundary
Relevant Buildings*	–	A2-s1,d0 or better	A2-s1,d0 or better
All residential purpose groups (Purpose Group 1 & 2)	> 11 metres	A2-s1,d0 or better	A2-s1,d0 or better
	≤ 11 metres	B-s3,d2 or better	No performance requirement
Assembly and recreation	> 18 metres	B-s3,d2 or better	B-s3,d2 or better
	≤ 18 metres	B-s3,d2 or better	C-s3,d2 or better
Any other building	> 18 metres	B-s3,d2 or better	B-s3,d2 or better
	≤ 18 metres	B-s3,d2 or better	No performance requirement

* (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:

- contains one or more dwellings;
- contains an institution; or
- contains a room for residential purposes; 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.

RECOMMENDED ROOF SYSTEMS



QuadCore® KS1000RW // QuadCore™ KS1000RW LEC Roof Panels

For building applications with roof pitches of 4° or more after deflection.



QuadCore® Topdek Roof Panel

For flat and pitched roofs above 1:80 (0.72°) after deflection.



QuadCore® Roofliner Roof Panel

Insulated composite roof deck for use under site-applied single-ply membranes or fully supported or self-supported metallic cladding systems.



Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Buildings of any height when measured from ground level. ■ Roof pitch to be $\leq 70^\circ$ or $> 70^\circ$ if access is for maintenance only. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey height <18 metres. ■ Roof pitch is to be less than 70°. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings of any height when measured from ground level. ■ Roof pitch is to be less than 70°. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

PDS [Link to Product Data Sheet](#)

EPD [Link to Environmental Product Declaration](#)

NBS [Link to NBS Source Specification](#)

* Product(s) classified as B-s1,d0 when tested on the internal face of the product.

RECOMMENDED ROOF SYSTEMS



QuadCore® Lo-Pitch Roof Panel

Secret-fix, profiled, insulated roof panels for pitches of 1.5° or more after deflection.

PDS

QuadCore® KS1000SRW Roof Panel

A through-fix roof panel with smooth repetitive oscillating curves suitable for pitches of 4° or more after deflection.

PDS

Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Buildings of any height when measured from ground level. ■ Roof pitch to be $\leq 70^\circ$ or $> 70^\circ$ if access is for maintenance only. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey height <18 metres. ■ Roof pitch is to be less than 70°. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings of any height when measured from ground level. ■ Roof pitch is to be less than 70°. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product.

RECOMMENDED EXTERNAL WALLS: FIRE RESISTANCE

Approved Document B (2022 amendments)

Appendix B: Performance of materials, products and structures

This appendix provides information on fire resistance. Fire resistance is a measure of:

- resistance to collapse (load bearing capacity), which applies to load bearing elements only denoted **R** in the European classification of the resistance to fire performance;
- resistance to fire penetration (integrity), denoted **E** in the European classification of the resistance to fire performance; and / or
- resistance to the transfer of excessive heat (insulation), denoted **I** in the European classification of the resistance to fire performance.

The standards of fire resistance necessary for a particular building are based on assumptions about the severity of fires and the consequences of failure of an element.

Fire severity is estimated in broad terms from its purpose group, on the assumption that the building contents are similar for buildings with the same use.

Performance in terms of the fire resistance to be achieved by elements of the structure and forms of construction are classified in accordance with one of the following:

- BS EN 13501-2;
- BS EN 13501-3; or
- BS EN 13501-4.

Fire resistance is measured in minutes. This relates to the time elapsed in a standard test and should not be confused with real time.

Periods of fire resistance are given in ADB Table B3 which gives specific recommendations / guidance for each element of structure. ADB Table B4 sets out minimum periods of fire resistance for elements of structure.

External Walls	Minimum provisions when tested to the relevant European standard (minutes)	Minimum provision when tested to the relevant part of BS 476 (minutes)		Type of Exposure
		Integrity	Insulation	
Any part a minimum of 1 metre from the relevant boundary	Integrity (E) = see table 3 Insulation (I) = 15 minutes	See table 3	15 minutes	From inside the building
Any part a maximum of 1 metre from the relevant boundary	See table 2	See table 2	See table 2	Each side separately

Table 1: Based on data from ADB Table B3 Specific provisions of the test for fire resistance of elements of structure, etc.

Amount of the External Wall needing to be provided with Fire Resistance

The amount of the external wall construction which is recommended by ADB to be provided with fire resistance in terms of integrity and insulation performance depends on the use of the building, distance of the external wall to the relevant boundary, the reaction to fire performance of the external surface of the wall, and internal fire protection measures including fire compartmentation and sprinkler protection. These factors are combined according to ADB to determine the amount of the external wall that can be provided without this fire resistance (i.e. as Unprotected Area). In some cases the factors will be such that the external wall can be provided as 100% Unprotected Area (walls that are loadbearing will still need to be provided with fire resistance in terms of load bearing capacity).

The complexity of the assessment is such that it should be carried out by a competent person such as a qualified fire engineer.

It is important to note that there is always a *Relevant Boundary* opposite any external wall. This is a term defined in ADB guidance as follows:

“The boundary or notional boundary that one side of the building faces and / or coincides with, and that is parallel or at an angle of a maximum of 80° to that side of the building.”

The position of the relevant boundary can be set by the legal site boundary of the building or the centre of a public roadway, railway or waterway which abuts the legal site boundary. Where there are two buildings on the same site, ADB provides that there will be an assumed notional boundary if either building is a residential or assembly / recreation building, or if the buildings are managed or operated by different organisations.

External Walls	Minimum Periods of Fire Resistance (mins)				
	Height of Top Floor above Ground or Separated Part of a Building				
Purpose Group	Single storey or height of top floor up to 5 m	< 11 m	< 18 m	≥ 18 m to 30 m	≥ 30 m
Industrial without sprinkler	60	90	90	120	Not permitted
Industrial with sprinkler	30	60	60	90	120
Storage without sprinkler	60	90	90	120	Not permitted
Storage with sprinkler	30	60	60	90	120
Shop and commercial without sprinkler	60	60	60	90	Not permitted
Shop and commercial with sprinkler	30	60	60	60	120
Assembly and recreation without sprinkler	60	60	60	90	Not permitted
Assembly and recreation with sprinkler	30	60	60	60	120
Office without sprinkler	30	60	60	90	Not permitted
Office with sprinkler	30	30	30	60	120
Residential institutional or other residential (2a/b)	30	60	60	90	120
Residential block of flats without sprinkler	30	60	Not permitted	Not permitted	Not permitted
Residential block of flats with sprinkler	30	60	60	90	120

Table 2: Integrity and insulation - maximum 1 metre from the relevant boundary (based on data from ADB table B4 Minimum periods of fire resistance).

External Walls	Minimum Periods of Fire Resistance (mins)				
	Height of Top Floor above Ground or Separated Part of a Building				
Purpose Group	Single storey or height of top floor up to 5 m	< 11 m	< 18 m	≥ 18 m to 30 m	≥ 30 m
Industrial without sprinkler	60	90	90	120	Not permitted
Industrial with sprinkler	30	60	60	90	120
Storage without sprinkler	60	90	90	120	Not permitted
Storage with sprinkler	30	60	60	90	120
Shop and commercial without sprinkler	60	60	60	90	Not permitted
Shop and commercial with sprinkler	30	60	60	60	120
Assembly and recreation without sprinkler	60	60	60	90	Not permitted
Assembly and recreation with sprinkler	30	60	60	60	120
Office without sprinkler	30	60	60	90	Not permitted
Office with sprinkler	30	30	30	60	120
Residential institutional or other residential (2a/b)	30	60	60	90	120
Residential block of flats without sprinkler	30	60	Not permitted	Not permitted	Not permitted
Residential block of flats with sprinkler	30	60	60	90	120

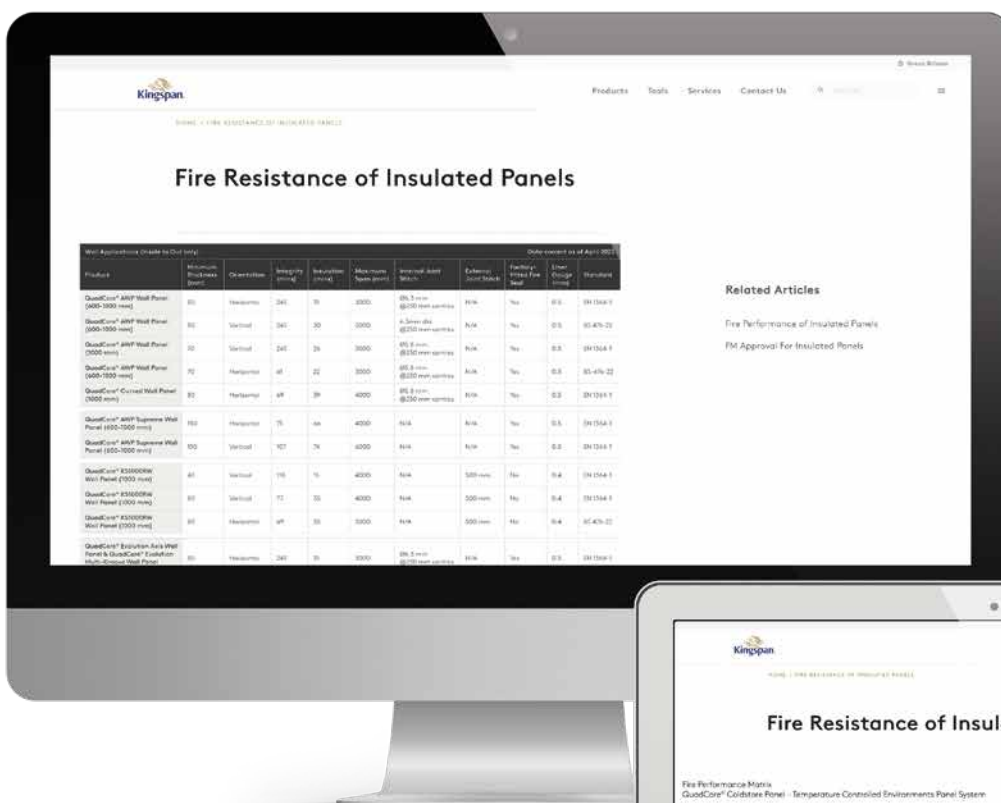
Table 3: Integrity - minimum 1 metre from the relevant boundary (based on data from ADB table B4 Minimum periods of fire resistance).

 QuadCore® and K-Roc™ products
  K-Roc™ products only

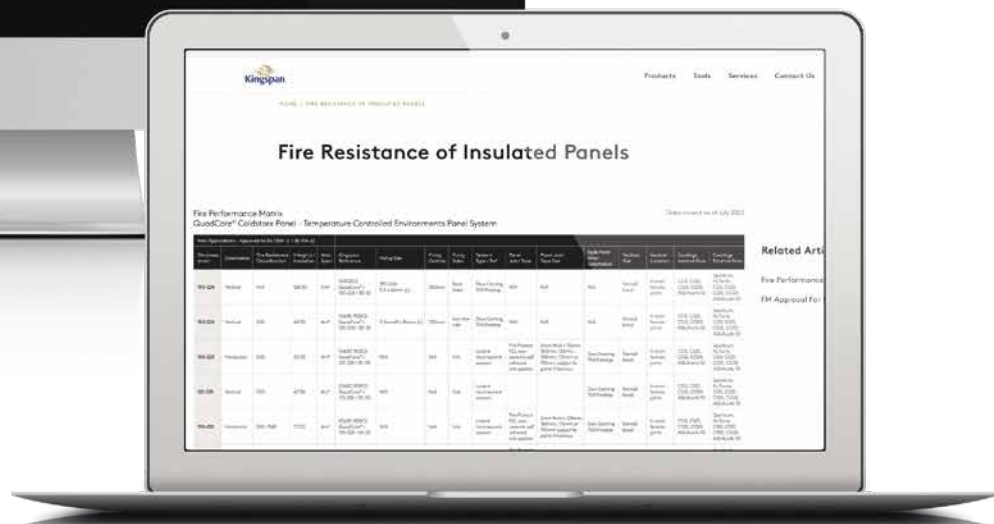
RECOMMENDED EXTERNAL / BOUNDARY WALLS: FIRE RESISTANCE

The period of fire resistance, in terms of integrity and insulation, required by external / boundary walls for a project is outlined in the relevant regulatory guidance.

Kingspan's online Knowledge Base provides an overview showing which panels achieve which performance plus a high-level view of the installation criteria required to achieve the specified fire resistance.

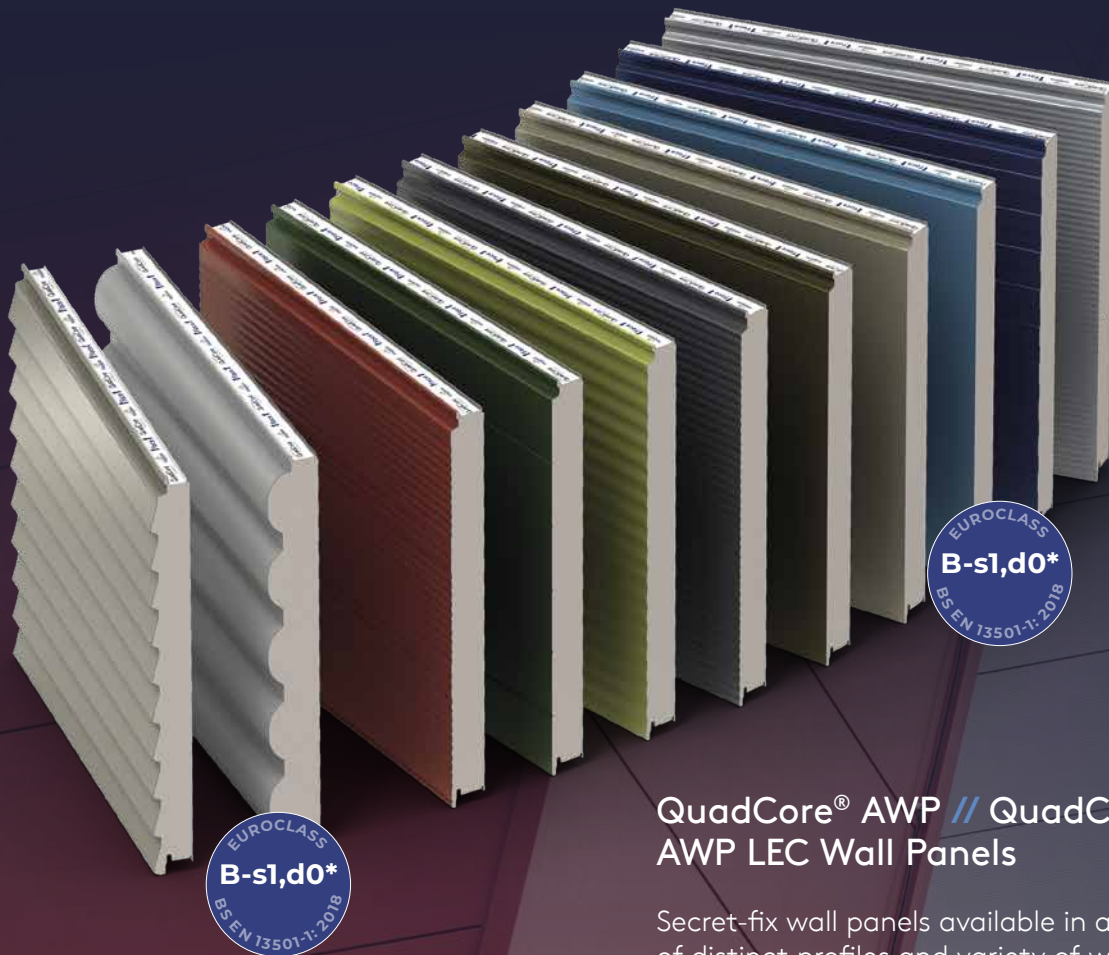


Visit Knowledge Base
or scan the code





RECOMMENDED EXTERNAL WALL SYSTEMS



QuadCore® AWP // QuadCore™ AWP LEC Wall Panels

Secret-fix wall panels available in a range of distinct profiles and variety of widths for both horizontal and vertical application.



QuadCore® Louvre Wall Panels

Secret-fix wall panel with a distinctive fin profile for both horizontal and vertical application.



QuadCore® Curved Wall Panels

Secret-fix wall panel with a rolling profile for both horizontal and vertical application.



POWERED BY
QuadCore®
TECHNOLOGY

QuadCore™ LEC
LOWER EMBODIED CARBON SOLUTIONS

Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Single storey buildings of any height or buildings with a top storey <18 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

Kingspan Coatings

QuadCore® AWP / QuadCore™ AWP LEC Wall Panels

- Kingspan Spectrum.**
- Kingspan XL-Forté.

QuadCore® Curved Wall Panels

- Kingspan Spectrum.

QuadCore® Louvre Wall Panels

- Kingspan Spectrum.
- Kingspan XL-Forté.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

** QuadCore™ AWP LEC Wall Panels are only available in Kingspan Spectrum.

RECOMMENDED EXTERNAL WALL SYSTEMS



QuadCore® KS1000RW // QuadCore™ KS1000RW LEC Wall Panels

Through-fix, trapezoidal profiled insulated wall panels for both horizontal and vertical application.



POWERED BY
QuadCore®
TECHNOLOGY

QuadCore™ LEC
LOWER EMBODIED CARBON SOLUTIONS

QuadCore® KS1000SRW Wall Panel

Through-fix, sinusoidal profiled insulated wall panel for both horizontal and vertical application.



QuadCore® Evolution Wall Panels

A range of secret-fix insulated wall panels delivering a clean and aesthetically appealing modern solutions. Options include **Axis**, **Recess** and **Multi-Groove**.



Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Single storey buildings of any height or buildings with a top storey <18 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

Kingspan Coatings

QuadCore® KS1000RW / QuadCore™ KS1000RW LEC Wall Panels

- Kingspan Spectrum.**
- Kingspan XL-Forté.

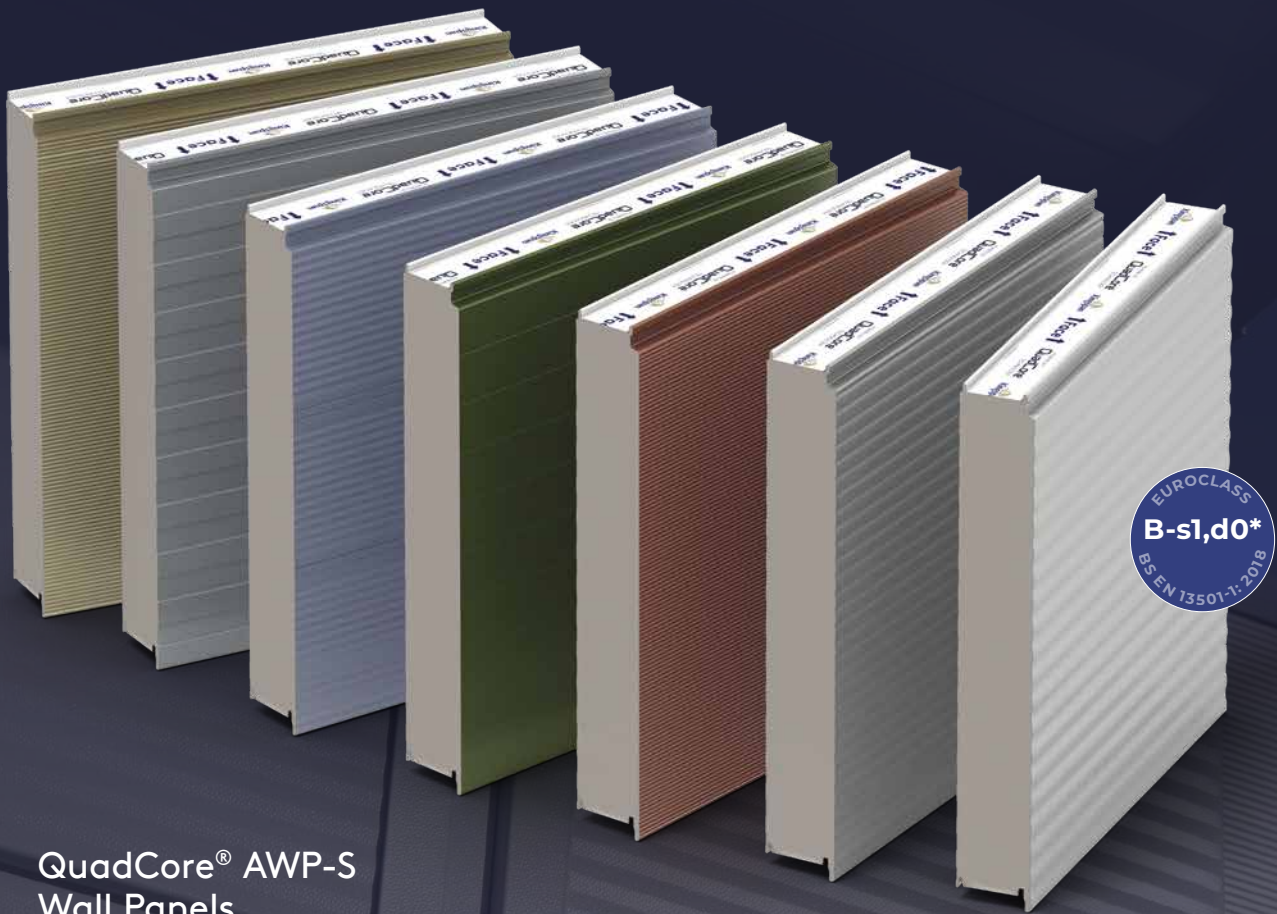
QuadCore® Evolution Wall Panels

- Kingspan Spectrum.
- Kingspan Altaris.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

** QuadCore™ KS1000RW LEC Wall Panels are only available in Kingspan Spectrum.

RECOMMENDED EXTERNAL WALL SYSTEMS



QuadCore® AWP-S Wall Panels

A range of insulated wall panels that are characterised by an extremely high fire resistance. These panels achieve this without additional installation requirements.



POWERED BY
QuadCore
TECHNOLOGY

Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Single storey buildings of any height or buildings with a top storey <18 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

Kingspan Coatings

QuadCore® AWP-S Wall Panels

- Kingspan Spectrum.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

RECOMMENDED EXTERNAL WALL SYSTEMS



QuadCore® Coldstore // QuadCore™ Coldstore LEC Wall Panels

A range of insulated panels that can be installed vertically or horizontally and are suitable for both internal and external applications.



POWERED BY
QuadCore®
TECHNOLOGY

QuadCore™ LEC
LOWER EMBODIED CARBON SOLUTIONS

Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Single storey buildings of any height or buildings with a top storey <18 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

Kingspan Coatings

QuadCore® Coldstore / QuadCore™
Coldstore LEC Panels

- Kingspan Spectrum.**
- Kingspan XL-Forté.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

** QuadCore™ ColdStore LEC Panels are only available in Kingspan Spectrum.

RECOMMENDED EXTERNAL WALL SYSTEMS

K-Roc™ AWP Wall Panel

Secret-fix insulated wall panel suitable for façades with specific fire and acoustic performances. Can be installed horizontally or vertically.

PDS

K-Roc™ Longspan Wall Panel

Insulated wall panel with a through-fix joint detail to minimise construction time. Can be installed in both vertical and horizontal orientation.

PDS

K-Roc™ Evolution Wall Panel

An architectural wall panel that delivers an aesthetically appealing building solution suitable for façades with specific fire and acoustic performances. Can be installed horizontally or vertically.

PDS

NBS



Building Typologies	Height
WAREHOUSE E-COMMERCE MANUFACTURING DATA CENTRE PHARMACEUTICAL RETAIL OFFICES LEISURE CENTRE / CINEMA FREEZE, CHILL & CLEAN EDUCATION TRANSPORT UTILITIES HOSPITAL CARE HOME STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL HOTEL JUSTICE	■ Any building to any height.

Kingspan Coatings

K-Roc™ AWP Wall Panels

- Colorcoat Prisma® by Tata Steel.

K-Roc™ AWP Longspan Wall Panels

- Colorcoat Prisma® by Tata Steel.

K-Roc™ Evolution Wall Panels

- Colorcoat Prisma® by Tata Steel.

* Product(s) classified as A2-s1,d0 when tested with standard coatings.
Please contact Kingspan Tech-eXchange for alternative internal coating options.

RECOMMENDED RAINSCREEN SUPPORT PANELS



QuadCore® Karrier Wall Panels

Factory-engineered, high-performance insulated panels designed to support a range of external façades, including: Dri-Design, Hook-on, Recessed Fixed and Interlocking Plank cassettes; shingle, brick slip and ceramic granite finishes.



External façade
finish (Dri-Design
Flat shown)

QuadCore®
Karrier Panels

Glass wool insulation
between Kingspan
Kingframe SFS studs

Internal
plasterboard

Note: Cavity barriers are
relevant to prevent the spread
of fire and smoke within the
cavity of rainscreen façade
system assemblies.

POWERED BY
QuadCore®
TECHNOLOGY

Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Single storey buildings of any height or buildings with a top storey <18 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.
 HOTEL  JUSTICE	■ Buildings with a top storey <11 metres. ■ If the roof pitch is greater than 70° and access is available for means other than maintenance then it should be treated as a wall.

See link on page 26 for Fire Resistance Periods for Wall Applications. Please note the QuadCore® Karrier panel system with an external metallic rainscreen has not been subjected to any fire resistance testing to either BS EN 1364 or BS476-22, however the QuadCore® Karrier panel in isolation has been tested under the certified name of KS1100CS to achieve a notional period of fire resistance.

Kingspan Coatings

QuadCore® Karrier Wall Panels

- Kingspan Spectrum.

* Product(s) classified as B-s1,d0 when tested on the internal face of the product. Please refer to table on page 19 with regard to external wall coating options.

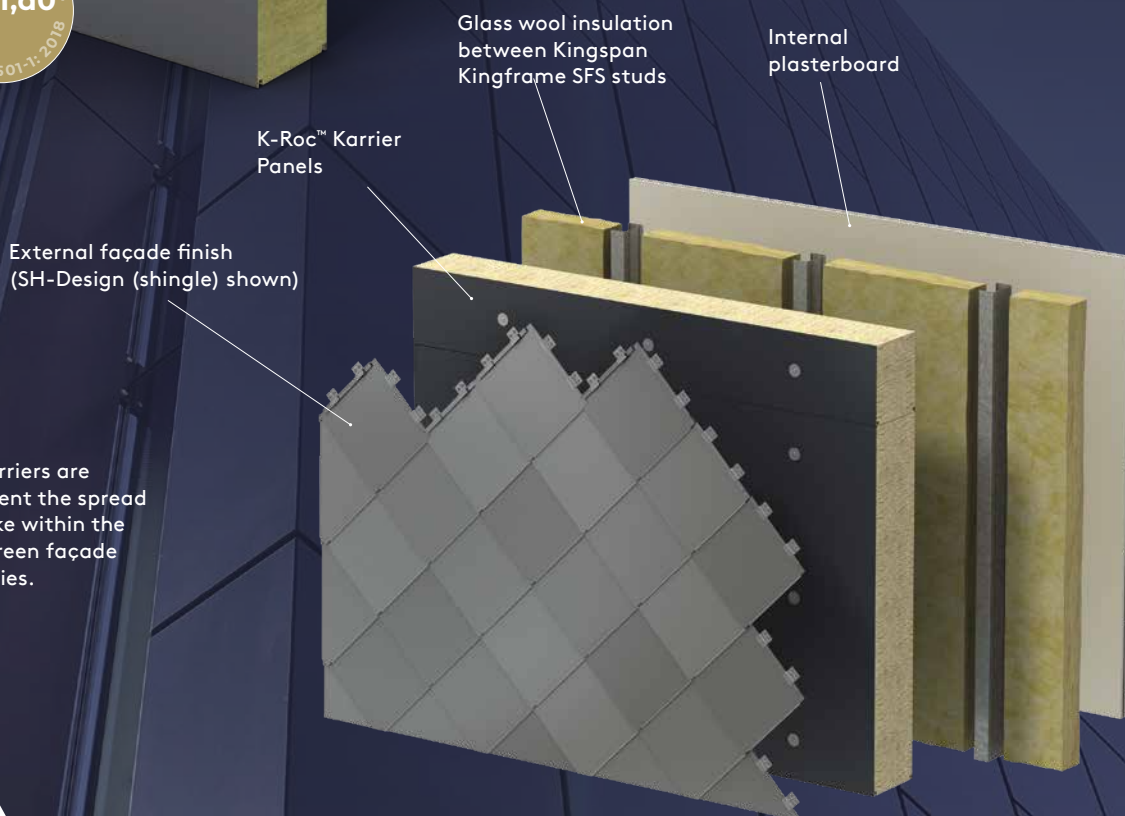
RECOMMENDED RAINSCREEN SUPPORT PANELS



K-Roc™ Karrier Wall Panels

Factory-engineered, high-performance insulated panels designed to support a range of external façades, including: Dri-Design, Hook-on, Recessed Fixed and Interlocking Plank cassettes; shingle, brick slip and ceramic granite finishes. Suitable for all building applications.

NBS



Building Typologies	Height
 WAREHOUSE  E-COMMERCE  MANUFACTURING  DATA CENTRE  PHARMACEUTICAL  RETAIL  OFFICES  LEISURE CENTRE / CINEMA  FREEZE, CHILL & CLEAN  EDUCATION  TRANSPORT  UTILITIES	■ Any building to any height.
 HOSPITAL  CARE HOME  STUDENT ACCOMMODATION & MULTI-STOREY RESIDENTIAL	
 HOTEL  JUSTICE	

See link on page 26 for Fire Resistance Periods for Wall Applications. Please note the K-Roc™ Karrier panel system with an external metallic rainscreen has not been subjected to any fire resistance testing to either BS EN 1364 or BS476-22, however the K-Roc™ Karrier panel in isolation has been tested under the certified name of Eurobond Rainspan to achieve a notional period of fire resistance.

Kingspan Coatings

K-Roc™ Karrier Wall Panels

- Colorcoat Prisma® by Tata Steel.

* Product(s) classified as A2-s1,d0 when tested with standard coatings.
Please contact Kingspan Tech-eXchange for alternative internal coating options.

INTEGRATED EXTERNAL FIREWALL SYSTEMS

In collaboration with your design and fire engineering teams, Kingspan Tech-eXchange can assist with holistic, project-specific solutions packages for external firewall construction applications.

Featuring both our Multibeam side rails and insulated wall panels, these single-source envelope solutions enable designers, structural and fire engineers, building control, construction teams, and property insurers to easily specify and build to project-specific criteria with a range of high-performing integrated firewall systems.

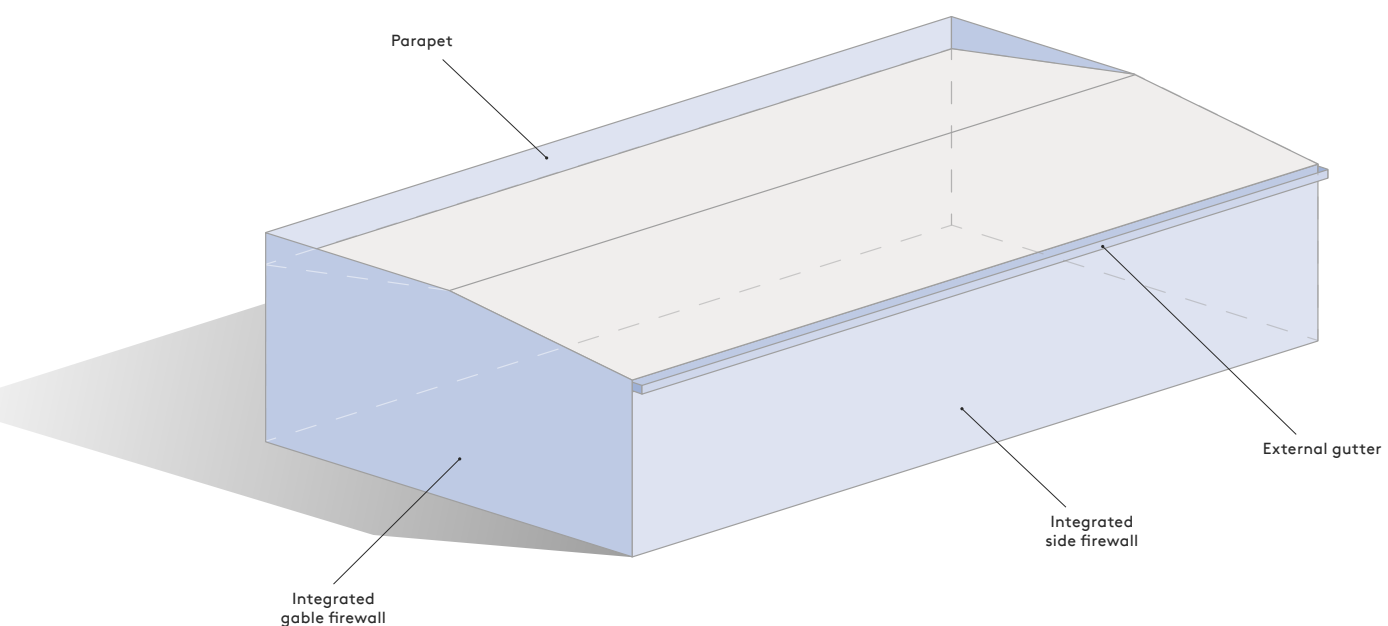
Contact Kingspan Tech-eXchange at:
technical@kingspanpanels.com

Note: Main structure fire protection compliance by others.

Fire Resistance Criteria

Any wall within 1 metre from a relevant boundary should have fire resistance 'inside to outside' and 'outside to inside'.

For minimum periods of fire resistance, please refer to 'Table 2: Based on data from ADB table B4 Minimum periods of fire resistance' on page 25.



INTERNAL COMPARTMENTATION SYSTEMS

In collaboration with your design and fire engineering teams, Kingspan Tech-eXchange can assist with project-specific solutions for internal compartment firewall and associated roof / wall construction interfaces.

Additional liaison with designers, structural and fire engineers, building control, and construction teams is necessary to provide robust construction solutions.

Contact Kingspan Tech-eXchange at:
technical@kingspanpanels.com

Note: Main structure fire protection compliance by others.

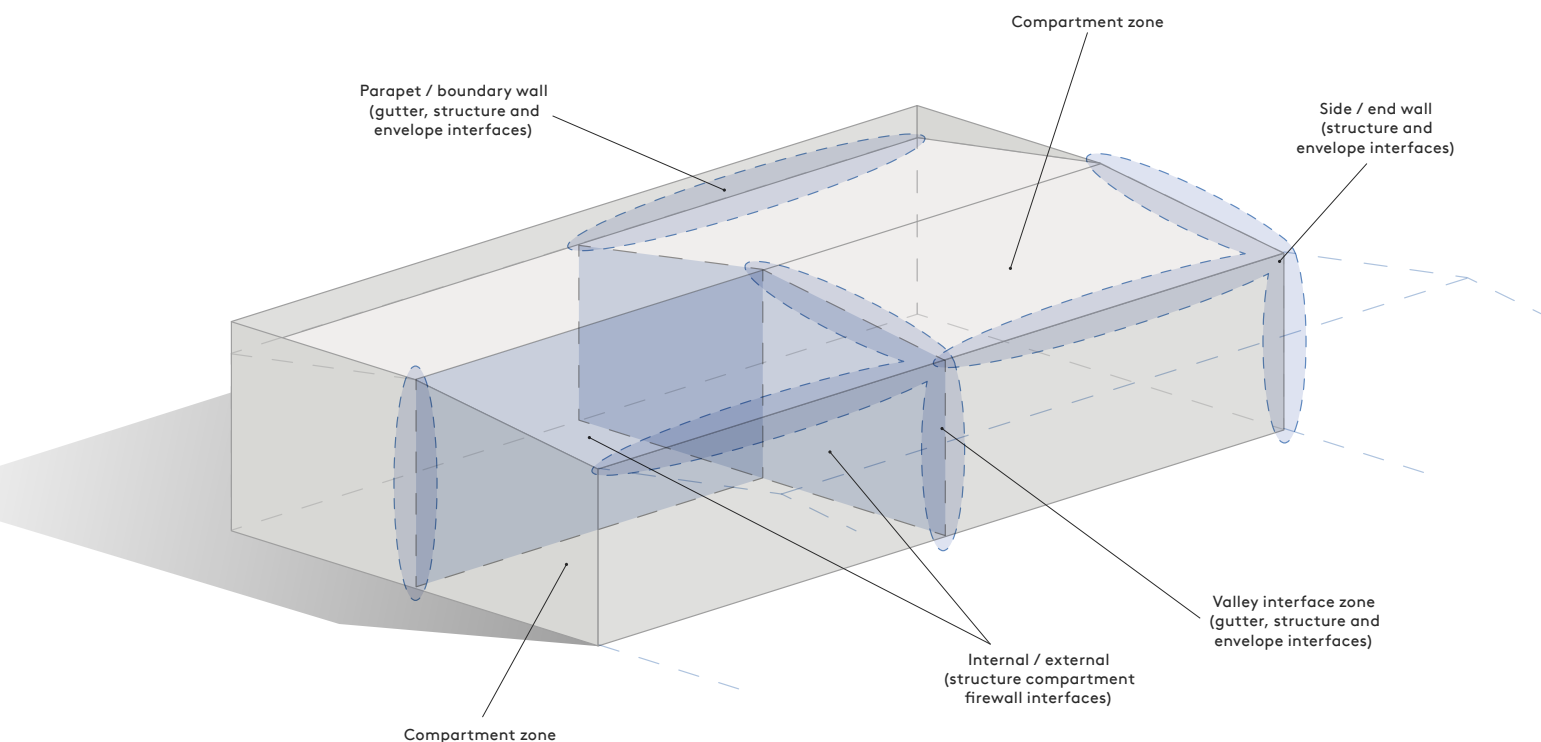
Internal Firewall Compartment Construction

- Kingspan QuadCore® Coldstore / QuadCore™ Coldstore LEC Wall Panels vertically installed and fixed to both sides of internal compartment steel structure.
- Kingspan K-Roc™ AWP Panels vertically installed and fixed to both sides of internal compartment steel structure.

Fire Resistance Criteria

Fire resistance is required from 'both sides' but is also dependent upon building use, occupancy, building height, use of sprinklers, etc.

For minimum periods of fire resistance, please refer to 'Table 2: Based on data from ADB table B4 Minimum periods of fire resistance' on page 25.



INTRODUCING THE KINGSPAN INSULATED PANELS PRODUCT SELECTOR

Specify the right product for your building

Our new online and free to use Product Selector tool has been developed to help you make the right product choice to meet fire performance needs for your building.



QuadCore™ AWP LEC Wall Panel

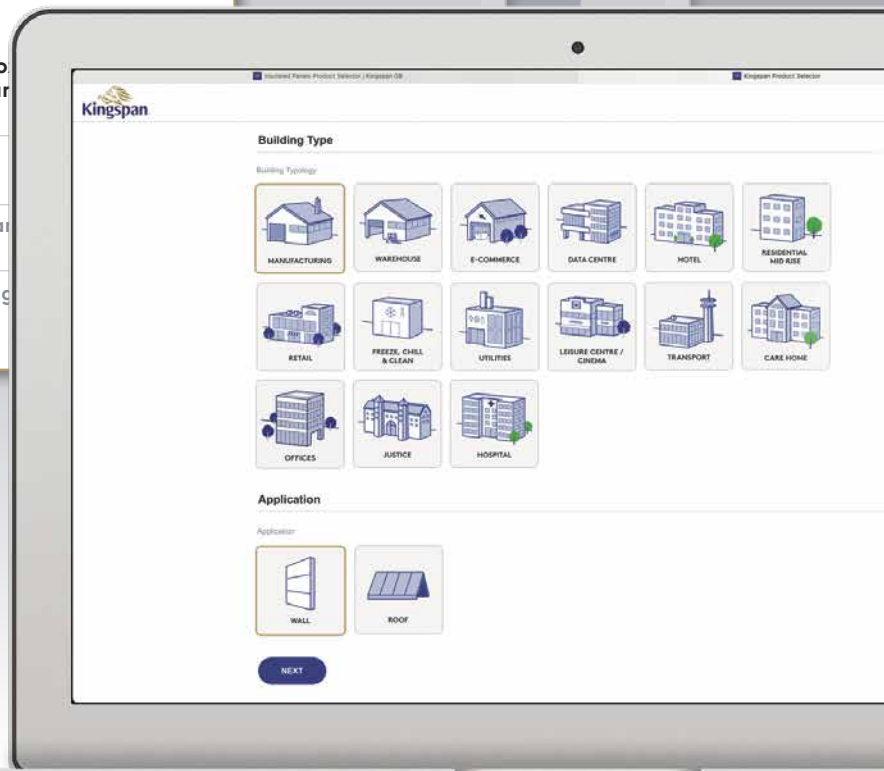
Profile(s)
**Micro-Rib, Euro-Bo
Convex, Wave, Plan
Flat-Stucco**

Fix
Secret-fix

U-Value (W/m²K) range
0.46 - 0.12

Weight (kg/m²) range
10.3 - 14.2

FIND YOUR PANELS





RIBA WORK STAGES 2020

KINGSPAN SUPPORT

		0 STRATEGIC DEFINITION	1 PREPARATION & BRIEFING	2 CONCEPT DESIGN
Kingspan Solutions	External Kingspan insulated panels			
	Internal Kingspan insulated panels (cold / chill / clean)			
	Kingspan structural products (secondary steelwork)			
Kingspan Support to Project Team Stakeholders	Kingspan Insulated Panels Service & Support Package	■ Introduction to Kingspan envelope systems and solutions ■ Regulatory guidance and recommendations ■ Product data sheets to confirm performance and business case ■ Product / solutions, application and specification ■ WLCB: building decarbonisation (embodied and operational energy) ■ Rooftop solar PV systems	■ Access to fire testing certification and approvals ■ Envelope details support ■ Confirmation of product performance ■ Property insurer approved products ■ Geographical and market specific guidance on envelope solutions availability ■ Lifetime warranty package	■ Access to fire testing certification and approvals ■ Envelope details support with access to 3D Viewer ■ Confirmation of product performance ■ Property insurer approved products ■ U-Value, air-tightness and condensation risk analysis ■ WLCB: building decarbonisation (embodied and operational energy) ■ EPDs: life cycle information ■ Rooftop solar PV system package(s) ■ Samples: colours and finishes
Regulatory, Industry Guidance & Compliance	Building Regulations (England)			
	Building Safety Act 2022			
	Building Control			
	Building Safety Regulator (HRBs)		GATEWAY 1: PRE-PLANNING	GATEWAY 2:
Stakeholders	Client / investor / developer			
	Property insurer			
Project Design Team	Lead architect			
	Project manager			
	Cost planner			
	Planning consultant		MAIN PLANNING APPLICATION	
	Structural and civil engineer			
	Fire engineer			
	Acoustic engineer			
	M&E engineer			
	Environmental / sustainability			
	Building envelope / daylighting / fenestration specialist(s)			
	Rooftop-mounted solar PV specialist			
	Main or Design & Build contractor			
	Structural steelwork fabricator			
	Cladding installer			
	Door manufacturer			
	Daylighting / fenestration sub-contractor			
	Prowall dock leveller / loading docks			
	Passive fire protection specialist			
	Active fire protection specialist (sprinklers)			

Applicable to typical 'core and shell' non-domestic building projects.

[illegible]



SERVICE & SUPPORT

- Tech-eXchange
- QuadCore® Assured Warranty
- EasyOrder
- Additional Products & Services

SERVICE & SUPPORT

Our customers are at the heart of everything we do and one of our strengths is the extensive range of services available.

For more information on the below services, scan the QR code or visit our **website**.



Tech-eXchange

Our Tech-eXchange team are here to support you from the earliest design and specification stages right through to installation and post-occupancy.

The Tech-eXchange team provide a range of tools and services.

- Tailored services for architects and contractors - FastTrack Calculations, sample requests and quotations.
- Collaborate digitally, explode and assemble products with our **3D Viewer**.
- Discuss your specific project requirements through our **technical appraisals and video consultations**.
- Gain instant access to our LOD200 **Revit content** for the most recent and relevant data for you to incorporate into your project specification.
- We offer a variety of options for **BIM360 collaboration**.
- Developed by Kingspan to help roofing and cladding contractors, **KingCADD** is a three-dimensional detailing-focused software plugin for Tekla Structures.

QuadCore® Assured Warranty

QuadCore® protects from the first day it's installed, right through your building's lifetime, which is how we can offer the industry's leading warranty: **QuadCore® Assured**.

QuadCore® Assured is our robust warranty, underpinned by third party independently tested products and externally audited processes, which along with internal management systems, enables product traceability.

This warranty provides reassurance that your building will perform over its lifetime across following key areas:

- 25 years insurance backed thermal performance;
- 25 years insurance backed fire performance;
- 25 years structural performance;
- 25 years environmental performance;
- Up to 40 years coating performance.

Two options are available - QuadCore® Assured Panel Warranty and QuadCore® Assured System Warranty - both offering up to 25 years protection. For FM approved specifications, please contact the Tech-eXchange team.

Kingspan EasyOrder

EasyOrder is our online ordering tool, making it possible for you to place your panel and flashing orders with ease 24/7.

- **Easier to order** - simplified detailing of complex flashing details.
- **Reduces risk of error** - with the real-time detailing of your products directly into the system, you reduce human error and eliminate the need to draw details manually.
- **Saves time** - once the product has been detailed in EasyOrder, it automatically gets submitted for review and can be directly sent to production.
- **Training** - available to teams interested in using EasyOrder. Tutorial training videos are also available on our website.

Additional Products & Services

Kingspan Insulated Panels offers a comprehensive range of high-performance systems and solutions, including:

- **Architectural Facades:** Advanced through-wall façade systems for a multitude of performance applications and architectural styles.
- **Daylighting:** Integrated daylighting solutions for both roof and wall applications.
- **Rooftop Solar PV:** PowerRail solutions for the quick and easy mounting of solar PV modules on flat or pitched roofs and PowerCanopy solar car port systems.
- **Controlled Environments:** Insulated panel systems and ancillaries for chill / coldstore and cleanroom applications.
- **Fabrications:** Insulated gutters, highline gutters, preformed corners, flashings and bespoke fabrications.
- **Structural Products:** market-leading range of cold roll-formed structural steel solutions featuring our Multideck LEC, Multibeam LEC and Multichannel LEC ranges.
- **Steel Building Solutions:** Kingframe SFS (steel framing), KingBuild System and mezzanine floor solutions.
- **Insulated Panel samples:** Roof and wall product samples featuring detailing as applicable with colour swatches to help visualise your project.



Visit the Kingspan Insulated Panels **website** or scan the QR code for further information.

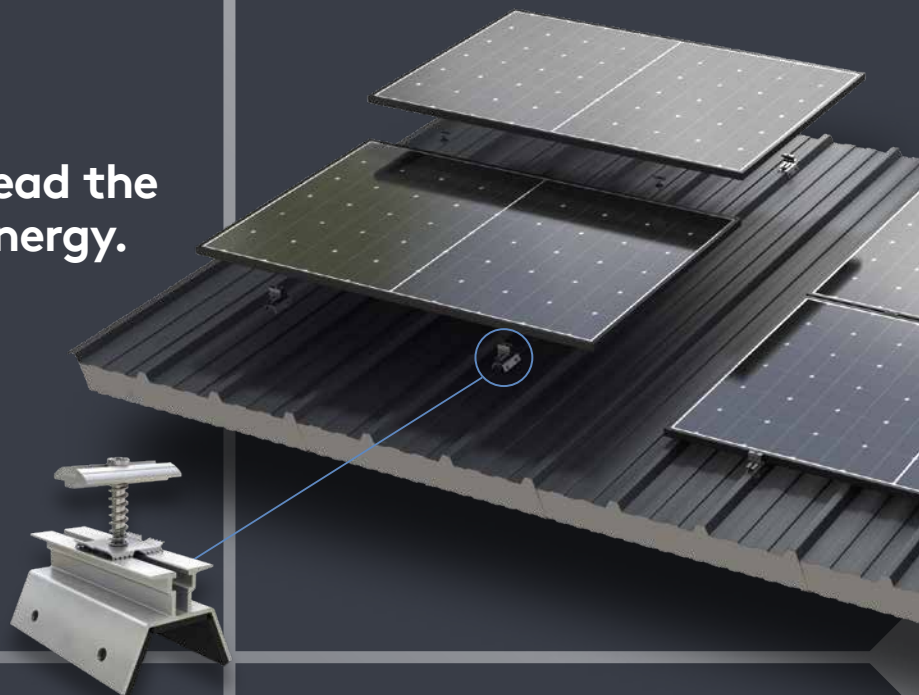
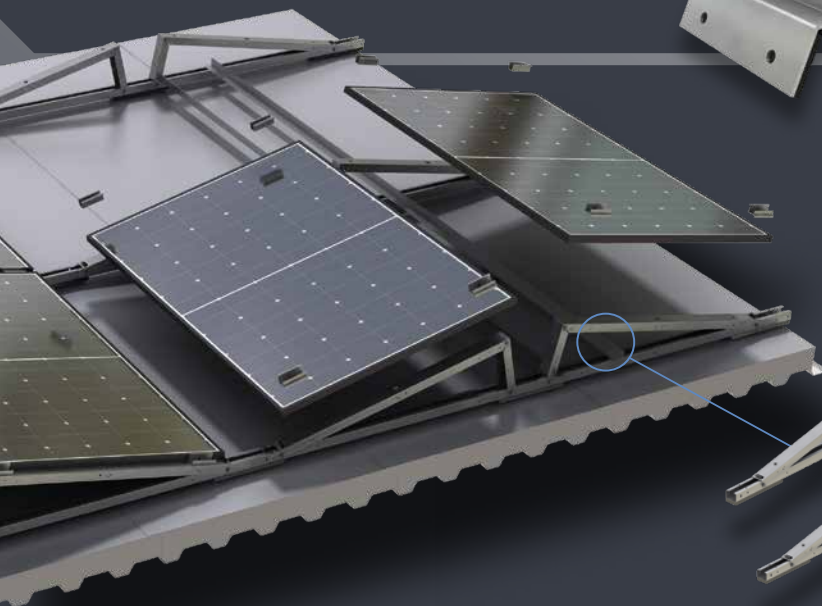
ROOFTOP SOLAR PV SYSTEMS

Make the switch and lead the charge to renewable energy.

Kingspan PoweRail RW

Rooftop Solar PV Mounting Solution

Specially developed for the mounting of solar PV modules on to QuadCore® KS1000RW Roof Panels – for quicker, easier installation.



Kingspan PoweRail TD

Rooftop Solar PV Mounting Solution

Kingspan PoweRail TD has been developed for the mounting of solar PV modules on to QuadCore® Topdek Roof Panels.



Kingspan PowerCanopy

Integrated Solar PV Carport Solution

A cost-effective, modular solution offering the ability to generate electricity at source and deliver it to charge vehicles.

For further information, please contact us on:

kingspansolar@kingspan.com

Contact Details

UK

Kingspan Limited

Greenfield Business Park No. 2
Greenfield | Holywell | Flintshire
North Wales | CH8 7GJ

T: +44 (0) 1352 716100

E: info@kingspanpanels.com

www.kingspanpanels.co.uk

Ireland

Kingspan Limited

Carrickmacross Road | Kingscourt
Co. Cavan | A82 E897

T: +353 (0) 42 96 98500

E: info.ire@kingspanpanels.com

www.kingspanpanels.ie



The information provided in this document is for information and illustrative purposes only, and is intended to be used as an aid for projects intending to utilise Kingspan products. Kingspan cannot guarantee the accuracy of the information provided, or that information that has been supplied by third parties is up to date and accurate. All information, data and / or technical advice provided must be checked and approved by a suitably qualified technical engineer, fire engineer, structural engineer and / or construction engineer (as necessary) before it is relied upon and / or incorporated into any construction project. Save for any liability which cannot be limited by law, Kingspan accept no liability for any losses, damage and / or causes, whatsoever and of any nature, that may arise by relying upon any of the information and data provided, or by any omissions or errors that may occur. Any and all information, data and / or technical advice provided concern solely the use of Kingspan products unless otherwise stated.

