

Insulated Panels
UK

RetroFIT for the Future

POWERED BY
QuadCore[®]
TECHNOLOGY



Whether you are a landlord, a developer or simply a building owner, there are many reasons to upgrade an existing building. From meeting regulatory requirements to improving asset value, cutting operational costs or helping to tackle climate change, whatever the motivation there is a simple solution available through improving the building envelope.

WHY RETROFIT?

Regulatory

- ✓ MEES / Section 63
- ✓ ADL2 / Section 6
- ✓ Future Building Standards

Economic

- ✓ Energy costs and security
- ✓ Higher rental revenue
- ✓ Asset Value

Environmental

- ✓ Cuts carbon emissions
- ✓ Facilitates use of renewables
- ✓ Tackles Climate Change

Societal

- ✓ Healthy buildings
- ✓ Thermal comfort
- ✓ Better for living and working

Energy Efficient
Buildings =
Futureproofed
Buildings

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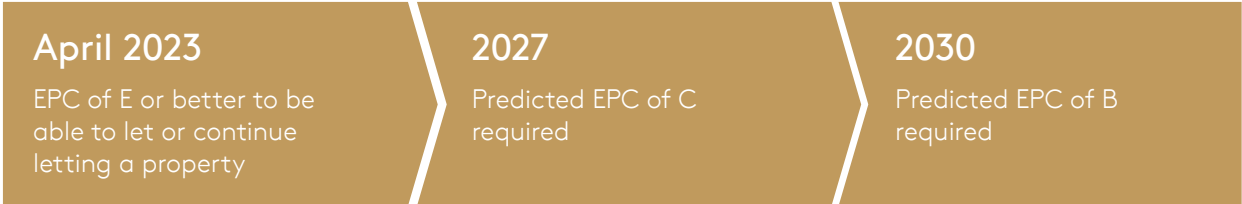
TECH-EXCHANGE 35

WHAT ARE THE REGULATIONS FOR RETROFIT?

ENGLAND & WALES MEES

If you are a private landlord in England or Wales, the first regulatory requirements you need to be aware of are the Minimum Energy Efficiency Standards, or MEES.

Timeline for implementation of changes



To prevent rental voids or assets becoming stranded within the next few years, it makes economic sense when you are upgrading the performance of your building to look at achieving the best rating possible now rather than having to upgrade again in the not too distant future. Improving an EPC rating starts with improving the building envelope.



ENGLAND & WALES

PART L

As before, the National Calculation Methodology (NCM) will be used to calculate compliance based on a 'notional building'. The primary tool used for this is the Simplified Building Energy Model (SBEM) which has been developed to calculate both the target primary energy rate (TPER) and the target emission rate (TER) of the building at design stage and the actual 'as built' performance (BPER/BER).

Whilst the U-values set out in the notional building are now closely aligned to the backstop, a much greater level of airtightness is proposed, at 3 m³ (hr·m²) at 50 Pa for side-lit and unlit buildings, and 5 m³ (hr·m²) at 50 Pa for top-lit. Buildings with a useful floor area over 500 m² must be subject to pressure testing to assess air permeability.

Note that the properties of the notional building are no longer included in the Approved Document, but may be found in the NCM.

Wall Panels – Recommended Thicknesses in line with Part L 2021

Panel	Insulation	Limiting Value (0.26 W/m ² K)	Notional (0.18 W/m ² K)
QuadCore® AWP Wall Panel	QuadCore®	74 mm	120 mm
QuadCore® KS1000RW Wall Panel	QuadCore®	73 mm	100 mm

Roof Panels – Recommended Thicknesses in line with Part L 2021

Panel	Insulation	Limiting Value up to 10° (0.18 W/m ² K)	Limiting Value over 10° (0.16 W/m ² K)	Top-Lit (0.18 W/m ² K)	Notional (0.15 W/m ² K)
QuadCore® KS1000RW Roof Panel	QuadCore®	100 mm	115 mm	100 mm	120 mm
QuadCore® Topdek Roof Panel	QuadCore®	100 mm	120 mm	100 mm	120 mm

ENGLAND & WALES FUTURE BUILDING STANDARDS

It is not yet known what retrofit standards will be introduced in 2025 when the Future Buildings Standard is due to be published, but improved U-values for new elements in existing buildings have been proposed.

Table 3 shows the proposed U-values at the time of writing.

Table 3

Element	2013 U-values for new elements in existing non-domestic buildings (W/m ² .K)	Proposed U-values for new elements in existing non-domestic buildings (W/m ² .K)	Thickness of QuadCore [®] Insulation Core Needed (mm)*
Pitched roof – insulation at ceiling level	0.16	0.16	N/A
Pitched roof – insulation at rafter level	0.18	0.18	115
Flat roof or roof with integral insulation	0.18	0.18	100
Wall	0.28	0.26	73
Floors	0.22	0.18	N/A

There is an increasing focus on the introduction of low carbon heating technologies in the Future Buildings Standard. Note that these will only be effective if the building envelope is energy efficient.



SCOTLAND CLIMATE CHANGE ACT SCOTLAND 2009 (SECTION 63)

Section 63 of the Climate Change Act requires owners of non-domestic buildings over 1000 m² floor area to undertake an assessment of their energy performance and greenhouse gas emissions on sale or lease of the building.

Exemptions apply to properties that comply with the 2002 or more recent Scottish Building Standards, properties that have already undergone energy efficiency improvements under a Green Deal plan, temporary buildings (two years use or less), workshops, or unheated buildings.



SCOTLAND

THE ASSESSMENT OF ENERGY PERFORMANCE IN NON-DOMESTIC BUILDINGS (SCOTLAND) REGULATIONS 2016

This assessment will result in a Section 63 Action Plan, which identifies any possible steps that can be taken to improve performance and reduce emissions.

There are two types of Action Plan – Prescribed Measures (which entails a list of seven suggested improvements, based on the Scottish Government’s priorities), and Alternative Measures which involves more work to develop but which is tailored to the individual building and will therefore be more effective in delivering a return on investment.

One of the measures listed in the Prescribed Measures Action Plan is the installation of insulation in an accessible roof space. If any area of the roof has a ‘U-value’ of 1.0 W/m²K or higher and the roof space is accessible, insulation should be installed where possible to improve the U-value to 0.15 W/m²K. For example, replacing an uninsulated roof with 151 mm (overall thickness) QuadCore® insulated panels would meet this requirement.

Once the Action Plan has been agreed, building owners have 42 months to implement the changes outlined in the plan. Alternatively, a Display Energy Certificate (DEC) showing the actual energy usage of the building will have to be lodged annually with the Scottish EPC Register until the improvements have been made.

Section 6 – Technical Handbook – Non-Domestic

The energy standards apply to work on existing buildings, such as conversions, extensions, alterations and fit-outs. The maximum U-values for walls and floors are set out in table 4.

Table 4

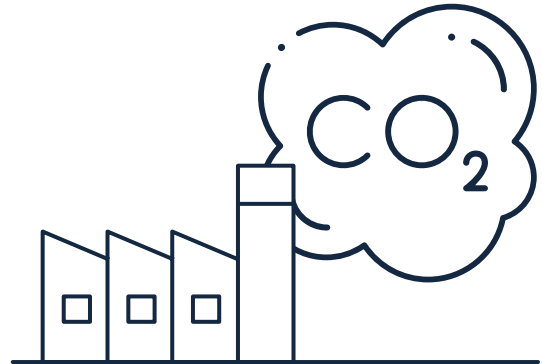
Element	U-value W/(m ² .K)		Thickness of QuadCore® Insulation Core Needed (mm)
	(a) Area Weighted Average for all Elements of the Same Type	(b) Individual Element	
Conversions			
Wall	0.30	0.70	73
Roof	0.25	0.35	73
Extensions			
Wall	0.25	0.70	73
Roof	0.15	0.35	120

ENGLAND & WALES AND SCOTLAND

WHAT ARE THE ENVIRONMENTAL DRIVERS?

The Climate Change Committee reported that the operational carbon emissions of all buildings made up 18% of the UK's total emissions in 2019.

Making our buildings more thermally efficient through improving insulation is one of the simplest and most cost effective ways of reducing heating energy demand and helping to tackle climate change by cutting carbon emissions. Making buildings more energy efficient also makes it easier to meet remaining demand through renewable technologies, further cutting carbon impact.



WHAT ARE THE ECONOMIC DRIVERS?

Upgrading the building envelope will reduce the cost of running the building, help to protect the value of the asset, extend its useful life, and make it more attractive to tenants, commanding better rental rates.

With rising energy prices and concerns over energy security this aspect has become even more important.

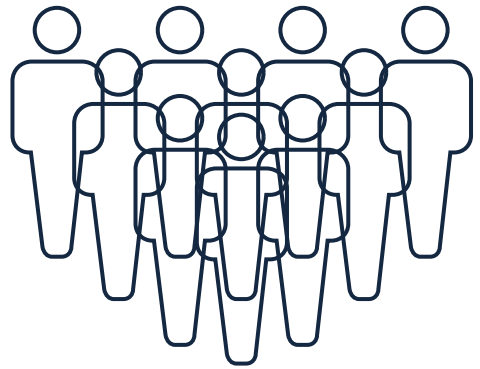


ENGLAND & WALES AND SCOTLAND

WHAT ARE THE SOCIETAL DRIVERS?

Having an energy efficient building envelope makes it easier to maintain a comfortable ambient indoor temperature and create a healthier living and working environment for occupants.

This helps with staff satisfaction and retention and improves results in an educational or healthcare setting.



SYSTEM BENEFITS

Kingspan insulated panels are single component, factory pre-engineered systems.

The panels are made up of Kingspan's unique insulation core which is 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.

Kingspan insulated roof and wall systems offer significant advantages over conventional site-assembled systems. They provide a fast, single-fix installation with high and durable thermal performance, insulation continuity, minimal air leakage and the elimination of interstitial cavity condensation and cold bridging.

Single Component
Accelerated build speed can
reduce time on site

Durability
Lifetime performance

High Performance Insulation
Low U-values

Exterior Metal Skin
Perfect weather barrier

Interior Metal Skin
Perfect vapour barrier

Weathertight System
Warranties available for panels
and cohesive systems



Thermal Performance

Industry-leading thermal performance through our QuadCore® advanced insulation technology providing operational energy savings.

Our QuadCore® insulation technology can achieve thermal conductivities as low as 0.018 W/m.K. This means that it can deliver compliant buildings with reduced heat loss and excellent thermal performance – helping to reduce energy bills and associated carbon emissions and create comfortable environments for occupiers all year round.

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High Level of 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.

These Approvals provide objective third-party testing, which is underpinned by quarterly, bi-annual and annual factory surveillance audits (depending on the region) to verify compliance.

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 from the internal side) which is the highest possible performance for a material that is 'combustible'.

Enhanced Environmental Performance

Buildings and their construction are responsible for an estimated 38% of total global energy-related CO₂ emissions and 50% of global material use. Our solutions are developed with whole life carbon in mind.

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 2018 and other green building rating systems.

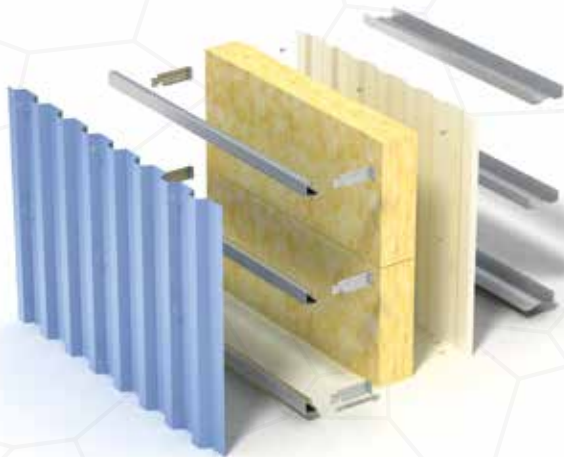
QuadCore® Warranty

Our range of systems and solutions are protected by our industry-leading warranty packages, offering unrivalled performance for up to 25 years.

Our range of warranty packages give you the flexibility to choose the best warranty protection to suit your building envelope and business needs across thermal, structural and coating performance.

SYSTEM BENEFITS

Insulated metal-faced panels as a single component system increase the speed of build, and minimise delays and the need for multiple trades.



Traditional multi-component built up industrial wall system

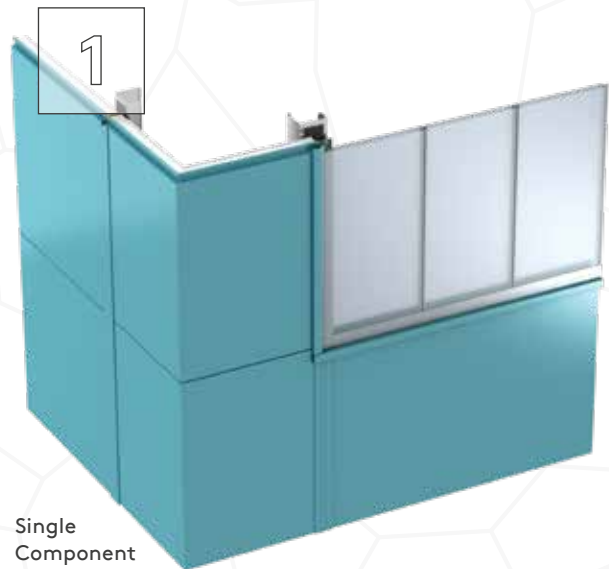
Site-Assembled, Multi-Component System

Site-assembled, built-up systems are more likely to experience delays in construction due to the scheduling of multiple trades and the ordering of multiple components.

At the same time, warranties, service support, site inspections and maintenance are also supplied by multiple sources which can lead to an increased risk of liabilities.

Insulated Panel, Single-Component System

Unlike traditional multi-component systems, Kingspan insulated metal-faced panels are single-component systems, delivered by one company. The systems can be quickly and easily installed with the aid of mechanical lifting equipment (if required) through a single-fix installation process. The rapid speed of installation can help to reduce the risk of accidents, as less time is spent working at height. It also means that the building is weathertight sooner, allowing internal fit-out and external finishing to commence earlier, minimising delays and the need for multiple trades.



Single Component

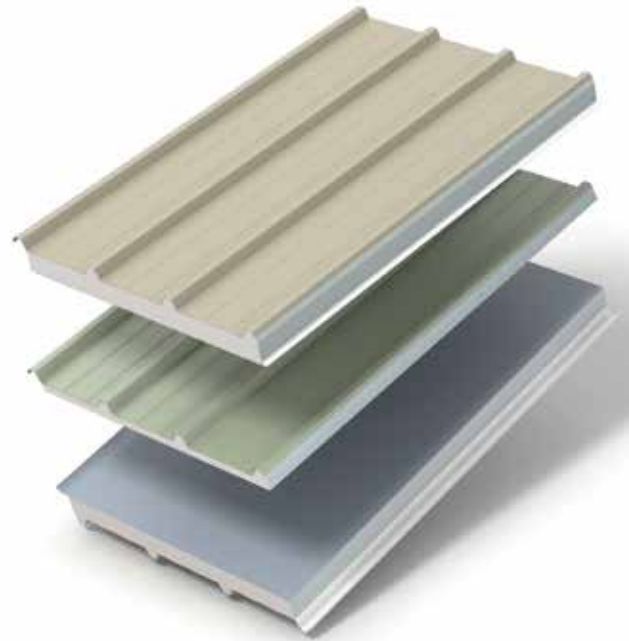
Design Flexibility & Aesthetic Appeal

Kingspan's commercial and industrial wall and roof systems offer designers a comprehensive range of building solutions for vertical and horizontal wall applications and for flat and pitched roof applications. The wide range of fabrication accessories enables the creation of fully integrated, eye catching and unique architectural features.

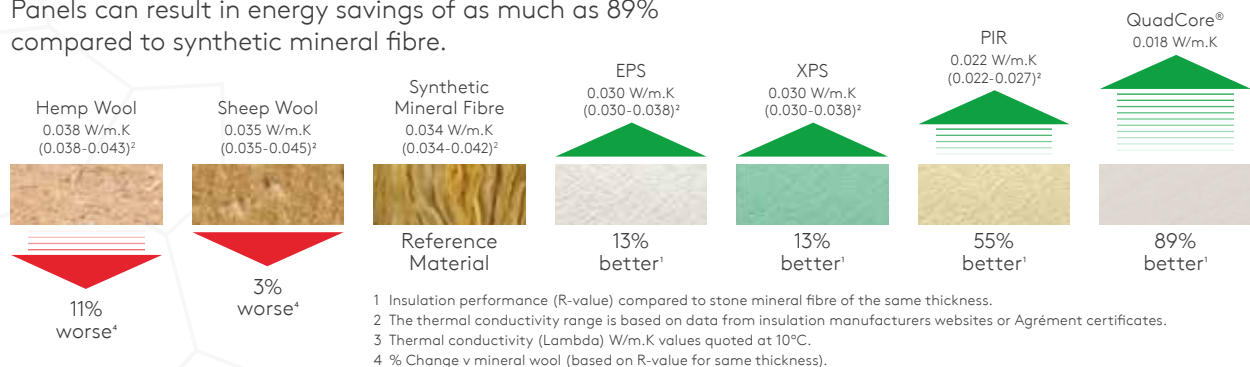
Available in multiple profiles, finishes, colour options and cover widths, Kingspan insulated panels provide customised building design and creative freedom.

All our panels are easily integrated with traditional construction methods and building systems and are tailored to customers / designers requirements.

The easiest, fastest and most cost-effective strategy to reduce heating and cooling energy demand and construction costs is to use Kingspan insulated wall and roof systems.



The excellent thermal performance of Kingspan Insulated Panels can result in energy savings of as much as 89% compared to synthetic mineral fibre.



Superior U-values

Kingspan insulated panels have a QuadCore[®] insulation core, uniquely designed in-house to guarantee a superior thermal performance in hot and cold climates. The panels are fitted to the exterior of the building and create a thermal skin that reduces internal temperature loss and provides a thermal shield against external temperatures.

The closed cell structure of the insulation resists moisture ingress allowing Kingspan to provide an aged thermal conductivity of 0.018 W/mK.

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Guaranteed Airtightness & Weathertightness

One of the biggest sources of building heat loss or heat gain is due to air leakage i.e. 'leaking buildings'. The superior joints as well as technical design / detailing assistance along with installer training, helps ensure building envelopes remain both air and weathertight over the life of a building.

Building envelopes featuring Kingspan insulated panel systems can help provide:

- Insulation continuity with no gaps or missing insulation;
- Low energy usage and operating costs;
- Exceptional U-value compliance and reliability;
- Low CO₂ emissions

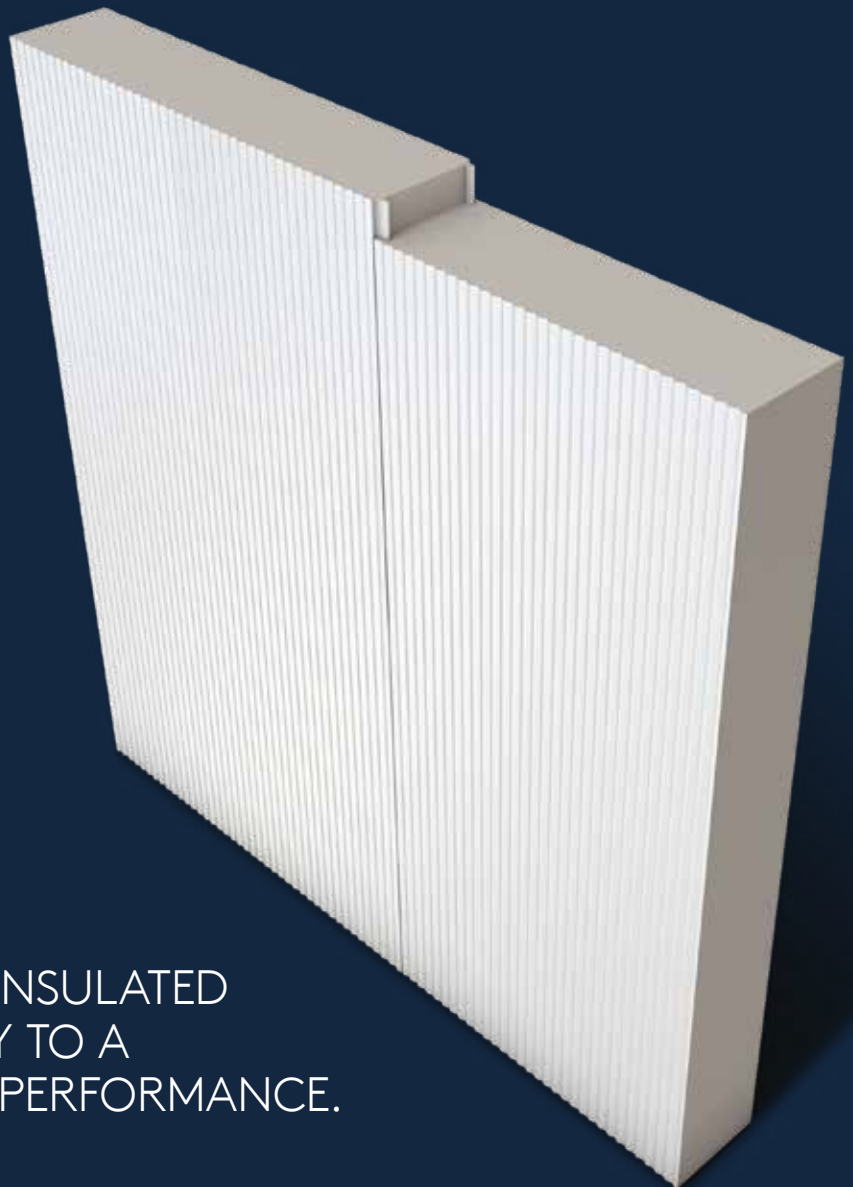
SUSTAINABLE DESIGN: BUILT TO PERFORM, DESIGNED TO LAST

QuadCore® is an insulation core, self-blended and unique to Kingspan, that delivers the highest performance of any closed cell insulation core across four factors: fire, thermal, environmental and longevity.

Insulated panels are single-component, factory-engineered systems that, when compared with traditional built-up systems, deliver very fast build speed while minimising risks associated with installation quality issues.

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QUADCORE® TAKES INSULATED
PANEL TECHNOLOGY TO A
SUPERIOR LEVEL OF PERFORMANCE.





QuadCore® insulated panels offer a lambda of 0.018 W/mk, more than twice as thermally efficient as other insulating materials.

QuadCore® also delivers a 20% thermal improvement over comparable insulated panels on the market which significantly reduces heat transfer through the product.



QuadCore® protects against fire spread with some solutions offering 4 hours fire integrity.



Our QuadCore® Assured System Warranty gives you one warranty from one manufacturer for your complete insurer approved QuadCore® system.

It includes an unequivocal warranty for system U-value performance for the duration of the stated warranty period.



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® is non-sensitising (does not cause skin irritation when handled) and non-hazardous.



QuadCore® is manufactured in factories where 100% of energy use is met with renewable energy bought from grid, generated on-site or renewable energy certification.

LIFETIME BUILDING PERFORMANCE WITH QUADCORE® ASSURED



Insurance Backed Thermal Performance

We warrant the thermal performance of our QuadCore® insulated panels for a minimum period of 25 years.

This is verified and validated by independent aged lambda testing.

A thermographic imaging service is available post installation to guarantee the thermal continuity of QuadCore® insulated panels.



Insurance Backed Fire Performance

We warrant that the Kingspan QuadCore® insulated roof and wall panels* are tested and certified to Loss Prevention Certification Board (LPCB) property insurance standard LPS 1181 Part 1: Issue 1.2 'Series of fire growth tests for LPCB approval and listings of construction product systems' Grade EXT-B or INT-3 when installed according to the appropriate specification.

This includes annual independent third party factory and product surveillance audits. This ensures that the product which is tested and certified is exactly what is manufactured and delivered to site.



Circularity

We warrant a panel **take-back scheme** to enable our QuadCore® insulated roof and wall panels to be reused or recycled at the end of their warranty period of 25 years, facilitating a more **circular end of life solution** for our product. The products are produced at 'Net Zero Energy' manufacturing facilities and we operate a strict landfill avoidance policy*.

We also offer packaging and off-cut waste take backs schemes.

*UK & Ireland manufacturing sites

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 to ensure on-going compliance, which along with internal management systems, enables product traceability.

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

- Thermal performance
- Fire performance
- Circularity



Independent Verification

Our 3D construction details for our certified QuadCore® insulated roof and wall panels are independently verified for **fire performance** by an internationally recognised engineering consultancy firm.

In addition, the **linear thermal bridging** (Psi values) of our QuadCore® insulated roof and wall panels for the standard recommended construction details, have been calculated and verified by an external certified Passive Consultant.



Digital Assets & Tools

Independently tested, certified and verified 2D & 3D construction details are available.

In addition, all stakeholders have access to our digital tools and services to assist at each stage of a project to ensure utmost transparency and the most up-to-date technical information.



Training Competency

QuadCore® insulated roof and wall panel installation training is provided by **experienced industry professionals**.

Recognised **training certifications are issued**, ensuring that installers are comprehensively trained to replicate key tested construction details on-site.

In addition, we also provide on-site support during installation.*

*On a project by project basis.

Training

In addition, we provide an installer training programme to ensure suitable competency levels for those installing our products. Access to our comprehensive digital toolset is also available which promotes complete product transparency, ensuring stakeholders have access to the most up-to-date product information.

LIFETIME BUILDING PERFORMANCE WITH QUADCORE® ASSURED



QuadCore® Assured Warranty Overview

Warranty Type	Thermal Performance	Fire Performance
	<i>We warrant the Thermal and Structural performance of our QuadCore® Insulated Roof & Wall panels for a minimum period of up to 25 years.</i>	<i>We warrant that our QuadCore® Insulated Roof & Wall panels are tested and certified to Loss Prevention Certification Board (LPCB) property insurance standard LPS 1181 Part 1: Issue 1.2 'Series of fire growth tests for LPCB approval and listings of construction product systems' Grade EXT-B when installed according to the appropriate specification.</i>
QuadCore® Assured Panel Warranty	25 years + Insurance Backed	✓ + Insurance Backed
QuadCore® Assured System Warranty	25 years + Insurance Backed + optional Thermographic Imaging Service (available on request)***	✓ + Insurance Backed

QuadCore® Assured System Components

Product	Warranty Term	Manufacturer	Thermal Performance	Structural Performance
QuadCore® Insulated Panel	Up to 25 years*	Kingspan	✓	✓
Panel Coating	Up to 40 years	Kingspan		
Daylighting Solution	Up to 25 years	Kingspan	✓	✓
Fabrications	Up to 25 years	Kingspan		✓
Fasteners / Fixings	Up to 25 years	Ejot, SFS or Fixfast		✓
Butyl Sealants	Up to 25 years	Kingspan or Premseal		✓
Liquid-applied Weathering Systems	Up to 25 years	Jones & Woolman**		
Profiled Fillers & PVC Tapes	Up to 25 years	Premseal		
Co-laminate Robust Endlap Tape	Up to 25 years	Kingspan		
PIR Board Infill	Up to 25 years	Kingspan	✓	
Fire-rated Canister Foam	Up to 25 years	Premseal	✓	
Membrane Lined Insulated Gutters	Up to 25 years	Kingspan	✓	✓
Highline Gutters, Flashings & Fabrications	Up to 25 years	Kingspan		✓
Fall Protection Systems	Up to 25 years	Kingspan		✓
Roof Access Hatches	Up to 25 years	Kingspan		✓
Smoke Ventilation	Up to 25 years	Kingspan		✓
Protection systems (Rails, Posts, Barriers, etc.)	Up to 25 years	Kingspan		✓

With QuadCore® Assured, both a QuadCore® Assured Panel Warranty and a QuadCore® Assured System Warranty, is available.

Details of both options are illustrated below.

Environmental Credentials	Coating	System Accessories	On-site Support
Our QuadCore® Insulated Roof & Wall panels are produced at 'Net Zero Energy' manufacturing facilities. We operate a strict landfill avoidance policy*. We also offer packaging and offcut waste take back schemes.	We warrant that the coatings will perform their intended functions and retain their declared properties in respect of the coating quality.	We warrant that the assembled system, subject to containing only Kingspan products and having been installed and maintained as per our technical guidance, will perform as per its specified weighted U-value for the duration of the periods outlined in our documentation.	We provide on-site support during installation.**
✓	✓	-	-
✓ + Take-Back Scheme	✓	✓	✓**

Fire Performance	Environmental Credentials	Coating	Electrical Output
✓	✓	✓	
	✓	✓	
	✓		
	✓		
	✓		
	✓		
	✓		
	✓		
	✓	✓	
	✓		
	✓		
	✓		
	✓		
	✓		

* The membrane used on QuadCore® Topdek and Membrane Lined Insulated Gutters can achieve up to 25 years guarantee.
** Jones & Woolman offer a 40 year warranty.

To fulfill a QuadCore® Assured System Warranty, the following products **are not mandatory**: fall protection systems, roof access hatches, smoke ventilation and Kingspan protection systems (rails, posts, barriers, etc.).

- 1 Systems eligible for the QuadCore® Assured System Warranty must utilise third party fixings, fasteners and sealants from approved suppliers and will be covered by this warranty for their specified performance up to 40 years.
- 2 All warranties are subject to compliance with Kingspan technical guidance. Detailed performance and technical information for each of the above products can be found in the relevant product data sheets and installation guides. Please visit our website or contact our technical services team for more information.

Please note that the Kingspan QuadCore® Assured Warranty is subject to annual inspection and maintenance. For full Terms & Conditions, please contact your sales manager.



Insulated Roof System

QUADCORE® KS1000RW

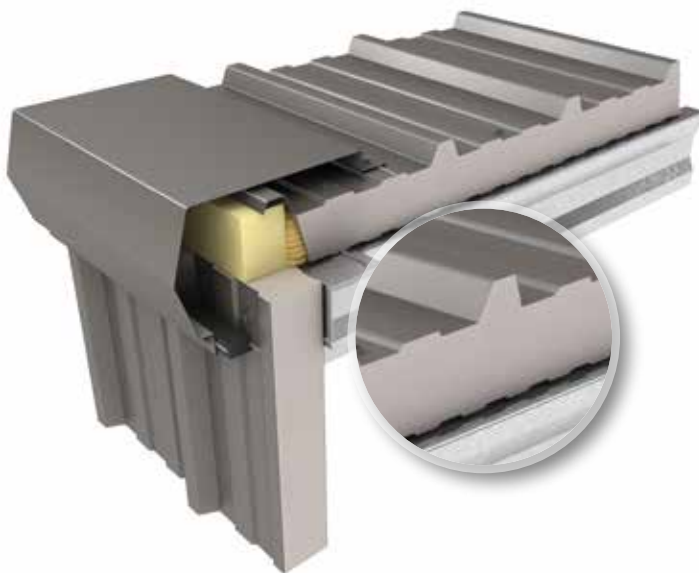
QuadCore® KS1000RW Roof Panels are through-fix, trapezoidal profiled, insulated roof panels which can be used for building applications with roof pitches of 4° or more after deflection.

Thanks to the prefabricated nature of the insulated panels, they are quicker to install than traditional roof structures, making the roof instantly wind and water-tight and significantly reducing construction risks.



Product Features

Profile:	Trapezoidal
Fixing detail:	Through-fix
Metal type:	Steel
Colours:	Kingspan XL Forté and Kingspan Spectrum
Application:	Pitched roofs of 4° or more after deflection
Lengths:	1.8 m to 29.2 m
Cover width:	1000 mm
Environmental rating:	QuadCore® Insulated Panel systems have Environmental Product Declarations in accordance with the requirements of [EN 15804:2012+A1: 2013 for 100 mm thickness
Fire rating:	LPCB, FM approved
Seals:	Optional factory-applied side lap weather seals



Product compatibility



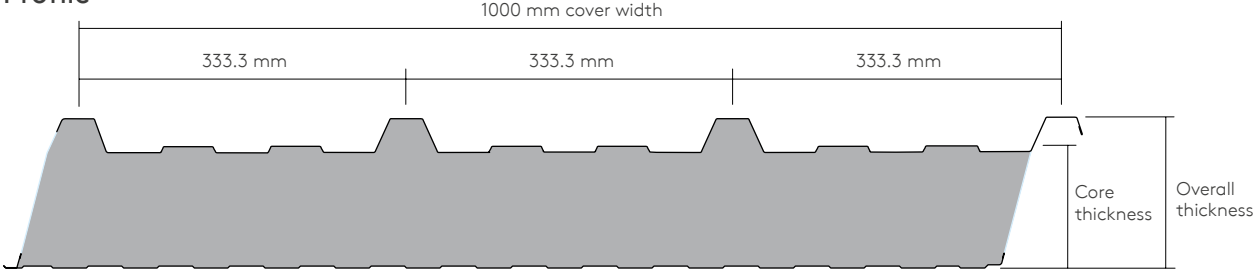
Highline Gutter



QuadCore®
PowerPanel Pitched
Roof Panel



Profile



Product Specifications and Accreditations

Product Reference	Standard Environment	Temp. Control	Hygiene	High Humidity	Low Temp	FM Certification	LPCB Certification
QuadCore® KS1000 RW	✓	✓	①	①	●	✓	✓

① Contact Kingspan Quotes or Technical team.

Dimensions, Weight and Thermal Performance

	QuadCore® KS1000RW											
Core Thickness (mm)	40	53	60	73	80	91	100	115	120	137	150	
Overall Thickness (mm)	71	84	91	104	111	122	131	146	151	168	181	
U-value (W/m²K)	0.47	0.35	0.31	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12	
Weight (kg/m²) 0.5 steel / 0.4 steel	9.0	9.5	9.7	10.2	10.5	10.9	11.3	11.8	12.0	12.7	13.2	

The QuadCore® insulation used in QuadCore® KS1000RW Roof Panels has a Thermal Conductivity (λ) of 0.018W/m.K
 QuadCore® KS1000RW Roof Panels have a Thermal Transmittance (U-Value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).

Insulated Roof System

QUADCORE® TOPDEK ROOF PANEL

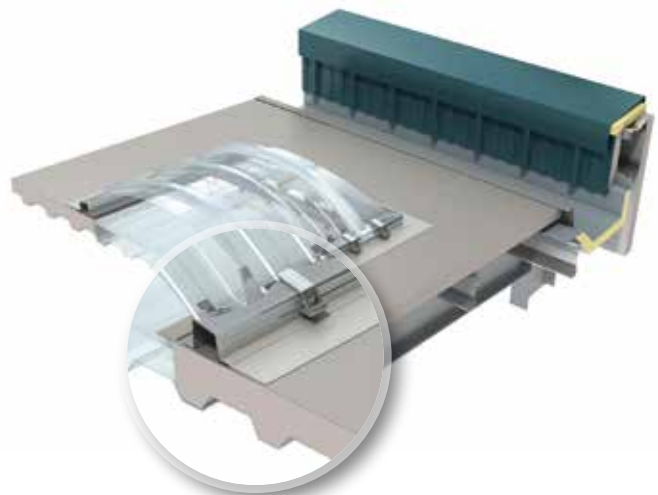
QuadCore® Topdek Roof Panel is a single component, factory pre-engineered insulated roof deck, comprising a high performance single-ply PVC membrane with insulation and a trapezoidal steel deck, which is suitable for flat and pitched roofs above 1:80 (0.72°) after deflection.

Thanks to the simple and quick assembly, considerable time savings are achieved and the low weight makes it possible to save on the underlying structure and foundation. The inside of the panels are finished with a white coating for a clean and light appearance.



Product Features

Profile:	Flat single-ply membrane with optional standing seam aesthetic
Fixing detail:	Secret-fix appearance
Metal type:	Steel and membrane
Application:	Flat and pitched roofs above 1:80 (0.72°) after deflection, and curved roof with a convex curve (45 m radius) and concave curve (50 m radius)
Lengths:	1.8 m to 16 m
Cover width:	1000 mm
Environmental rating:	QuadCore® Insulated Panel systems have Environmental Product Declarations in accordance with the requirements of EN 15804:2012+A1: 2013 for 100 mm thickness
Fire rating:	FM 4471 Approved
Type of membrane:	PVC (Polyvinyl Chloride)



Product compatibility



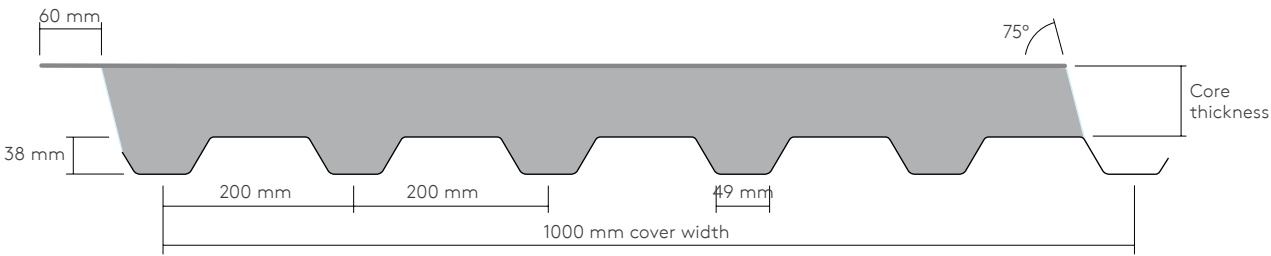
Highline Gutter



QuadCore®
PowerPanel Pitched
Roof Panel



Profile



Product Specifications and Accreditations

Product Reference	Standard Environment	Temp. Control	Hygiene	High Humidity	Low Temp	FM Certification	LPCB Certification
QuadCore® Topdek Roof Panel	✓	✓	①	①	●	✓	✓

① Contact Kingspan Quotes or Technical team.

Dimensions, Weight and Thermal Performance

QuadCore® Topdek Roof Panel							
Core Thickness (mm)	34	71	91	100	120	140	
Overall Thickness (mm)	72	109	129	138	158	178	
U-value (W/m²K)	0.43	0.23	0.19	0.17	0.14	0.12	
Weight (kg/m²) 0.5 mm deck	8.9	10.3	11.1	11.4	12.2	12.9	

QuadCore® Topdek Roof Panels have a Thermal Transmittance (U-Value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).

Insulated Wall System

QUADCORE® AWP WALL PANEL

The QuadCore® AWP Panel range is available in nine distinct profiles; far more than the two or three styles previously available to architects on the market.

QuadCore® AWP Wall Panel is a range of secret-fix wall panels that offer freedom of design and high performing insulated panel solutions to architects. The wide range of profiles on offer go beyond traditional insulated panel designs. The QuadCore® AWP Wall Panel range is available in nine distinct profiles, in a variety of panel widths and can be installed both horizontally and vertically.



Product Features

Profile:	Micro-Rib, Euro-Box, Flat, Flat-Stucco, Mini-Micro, Convex, Plank, Tramline
Fixing detail:	Secret-fix
Metal type:	Steel
Colours:	Kingspan Spectrum
Application:	Suitable for vertical or horizontal applications
Lengths:	1.8 m to 17.5 m
Cover width:	600 mm to 1000 mm, with increments as low as 1 mm (subject to minimum order requirements)
Environmental rating:	QuadCore® KS1000 AWP range has been assessed to the EN 15804 standard which is reflected in BREEAM 2018 requirements
Fire rating:	LPCB, FM approved (AWP 900 mm and 1000 mm cover widths only)
Preformed corners and panels:	Panels can be curved on the length or width, corners can be cranked or mitred depending on profile
Seals:	Factory-applied side weather seal



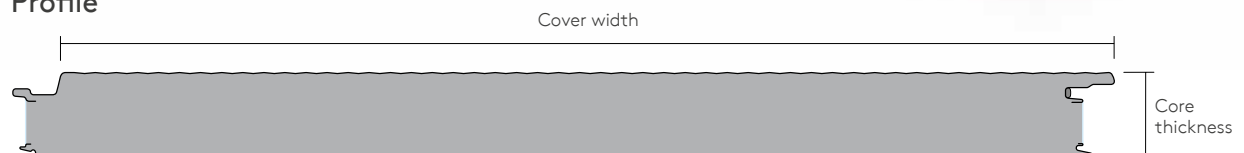
Product compatibility



Accessories



Profile



Product Specifications and Accreditations

Product Reference	Standard Environment	Temp. Control	Hygiene	High Humidity	Low Temp	FM Certification	LPCB Certification
QuadCore® AWP Wall Panel	✓	✓	✓	✓	•	✓	✓

Dimensions, Weight and Thermal Performance

	QuadCore® AWP Wall Panel											
Core Thickness (mm)	45	54	60	70	74	80	90	100	120	140	150	
U-value (W/m²K)	0.46	0.35	0.32	0.27	0.25	0.23	0.20	0.19	0.15	0.13	0.12	
Weight steel external sheet (kg/m²)	8.7	9.1	9.3	9.7	9.8	10.1	10.5	10.8	11.6	12.4	12.7	

The QuadCore® insulation used in QuadCore® AWP Wall Panel has a Thermal Conductivity (λ) of 0.018W/m.K

QuadCore® AWP Wall Panel has a Thermal Transmittance (U-Value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).

Insulated Wall System **QUADCORE[®]** **KS1000RW**

Trapezoidal Wall is a through-fix, trapezoidal profiled insulated wall panel. It is available in 1000 mm width and in lengths of up to 29.2 m, allowing for fast track and cost effective installation and in both vertical and horizontal applications.



Product Features

Profile:	Trapezoidal
Fixing detail:	Through-fix
Metal type:	Steel
Colours:	Kingspan Spectrum
Application:	Suitable for vertical or horizontal application
Lengths:	1.8 m to 29.2 m
Cover width:	1000 mm
Environmental rating:	QuadCore [®] KS1000RW has been assessed to the EN 15804 standard which is reflected in BREEAM 2018 requirements
Fire rating:	LPCB, FM approved
Preformed corners and panels:	Panels can be mitred internally and panels: externally, for horizontally laid panels only
Seals:	Optional factory-applied side lap weather seals



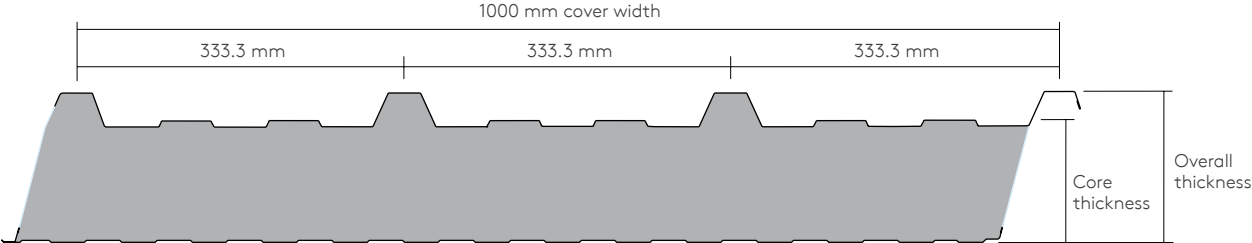
Product compatibility



Accessories



Profile



Product Specifications and Accreditations

Product Reference	Standard Environment	Temp. Control	Hygiene	High Humidity	Low Temp	FM Certification	LPCB Certification
QuadCore® KS1000RW	✓	✓	✓	✓	•	✓	✓

Dimensions, Weight and Thermal Performance

	QuadCore® KS1000RW											
Core Thickness (mm)	40	53	60	73	80	91	100	115	120	137	150	
Overall Thickness (mm)	71	84	91	104	111	122	131	146	151	168	181	
U-value (W/m²K)	0.47	0.35	0.31	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12	
Weight steel external sheet (kg/m²)	9.0	9.5	9.7	10.2	10.5	10.9	11.3	11.8	12.0	12.7	13.2	

The QuadCore® insulation used in QuadCore® KS1000RW Wall Panels has a Thermal Conductivity (λ) of 0.018W/m.K
 QuadCore® KS1000RW Wall Panels have a Thermal Transmittance (U-Value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).

Roof System

QUADCORE® POWERPANEL PITCHED ROOF PANEL

QuadCore® PowerPanel Pitched Roof Panel for pitched roof applications is the next generation PV roof solution. Combining industry leading QuadCore® insulated panels with high-efficiency monocrystalline photovoltaic panels in a single, factory-manufactured component.



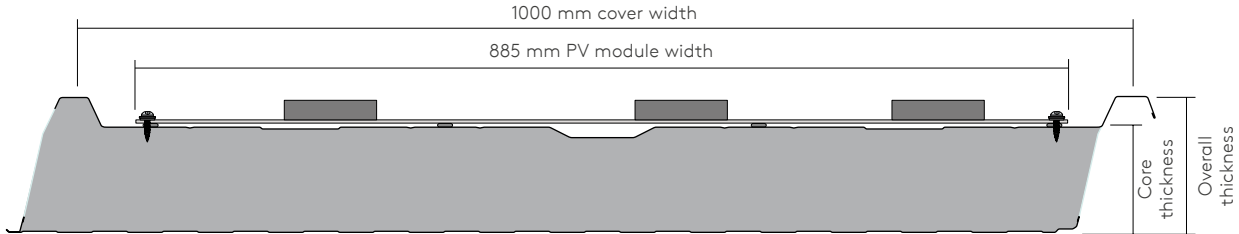
Product Features

Fixing detail:	Through-fix
Metal type:	Steel
Colours:	Kingspan XL Forté
Application:	Pitched roofs of 4° or more after deflection
Lengths:	1.8 m to 15 m
Cover width:	1000 mm
Environmental rating:	Certified to BES 6001
Fire rating:	Reaction to fire classification: B-s1, d0 to EN 13501-1





Profile



Dimensions, Thermal Performance, Output & Weight

Core Thickness (mm)	76	103	118	153
Overall Thickness (mm)	104	131	146	181
U-value (W/m ² K)	0.25	0.18	0.15	0.12
Weight (kg/m ²)*	12.9	14.0	14.6	15.9
Cover Width (mm)	1000			
Solar Cell	Monocrystalline Silicon (60 cells)			
Module Power Output (Wp)	310			
Module Dimensions (mm)	2002 x 885 x 2			
Module Weight (kg)	5			

The QuadCore® Insulation used in QuadCore® PowerPanel Pitched has a Thermal Conductivity (λ) of 0.018W/m.K
 QuadCore® PowerPanel Pitched has a Thermal Transmittance (U-value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).
 * Weight includes insulated panel and photovoltaic module.

Roof System

INTRODUCING ROOFTRICITY™ SOLAR PV FUNDING SOLUTIONS

Rooftricity™ offers businesses and building owners the opportunity to maximise roof space to generate power for their own benefit, reducing energy costs and enhancing property value without any upfront capital outlay.

Rooftricity™ will enable you to enhance your building by:

- improving the energy rating and in turn the future value of your property;
- reducing your buildings' carbon footprint;
- safeguarding your business from unexpected energy price increases;
- protecting your roof over its lifetime with QuadCore® Assured Warranty.

design
SUPPORT FOR
INSULATE+GENERATE
POWERPANEL SOLUTION

1

Rooftric

2

Rooftricity™, in conjunction with its partners, will 1 design, 2 install and 3 maintain its *Insulate+Generate PowerPanel* solution on your roof.



purchase
POWER AT A
FUTUREPROOFED RATE

5

install

INSULATE+GENERATE
POWERPANEL SOLUTION

For your new build project, upgrade from a standard roof to an insulated PowerPanel solution, with no additional capital outlay as Rooftricity™ funds the PV system.

Alternatively, let Rooftricity™ fund your entire roof refurbishment project, including full roof replacement using our insulated PowerPanel solution, allowing you to *Insulate+Generate* into the future with no upfront capital requirement.



maintain

INSULATE+GENERATE
POWERPANEL SOLUTION

3

For further information on Rooftricity™ and eligibility criteria, please contact your local sales representative or email rooftricity@kingspan.com

lease

YOUR ROOF

4

In return, you provide us with a 4 roof top lease and 5 purchase the clean, renewable energy at a futureproofed rate and can exit after an agreed time period.

POWERPANEL PROJECTS



Kingspan, Kingscourt,
Ireland



Lanchester Wines, Durham

TECH EXCHANGE

Kingspan Tech-eXchange is our new and enhanced technical service offering to project teams across the UK and Ireland, providing a whole suite of services to support your project needs from the earliest design and specification stages through to installation and post-occupancy advice.

Tech eXchange services help all parties to ensure their buildings achieve the excellent building performance necessary to create an energy-efficient, healthy, and long-lasting built environment.

We support you from the earliest design stages, with access to BIM 360 data-rich Revit content, product information and standard details. This includes integration with popular specification platforms such as NBS Source to ensure consistently high-quality and up-to-date information on product performance and testing.

Our Tech-eXchange team can then work with you through Virtual Technical Consultations, providing product specific guidance and recommendations, as well as supplying any technical calculations you may need, including U-values, structural loading and more.

In addition to expert field services support and training, roofing and cladding contractors can receive support in creating their own 2D and 3D details of our products with Kingspan's bespoke Tekla plug-in, KingCADD.



Tech-eXchange

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For the product offering in other markets please contact your local sales representative or visit www.kingspan.com

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