

## Insulated Panels

Standing Seam Systems  
Middle East, Africa, Turkey,  
Central Asia and Europe

# Building a Better Future – #MoreWithQuadCore

Introducing the Complete QuadCore™ Envelope



  
**Kingspan®**





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It's time to design for the future. Buildings that deliver more in terms of yield, energy-efficiency, health, safety and environmental protection.

Gene M. Murtagh, CEO, Kingspan Group



01 |

## The QuadCore™ Envelope Performance Promise

Future-proofed buildings that help deliver higher yields and lower lifetime operating costs.

QuadCore™ insulation technology is now available across the Architectural Wall, Trapezoidal Roof & Wall ranges, offering the complete QuadCore™ envelope solution.

Kingspan's QuadCore™ envelope brings you all the advantages of a Kingspan factory engineered system (significantly faster build speed, reduced time working at height, lifetime insulation continuity and consistent build quality) plus the additional performance of QuadCore™ Technology.



POWERED BY  
**QuadCore™**  
TECHNOLOGY



40 Year Warranty for Thermal  
& Structural Performance

Enhanced  
Environmental  
Performance

Superior Fire  
Performance

Unrivalled Lifetime  
Thermal Performance

## 02 | More with QuadCore™

Insulated panels are single-component, factory-engineered systems that, when compared with traditional built-up systems, deliver very fast buildspeed while minimising risks associated with installation quality issues. QuadCore™ takes insulated panel technology to a superior level of performance.



QuadCore™ is guaranteed to retain its specified thermal performance for the stated period, even if exposed to water during construction.



QuadCore™ is a RedList Free core in an insulated panel with Low Global Warming Potential, with third-party verified EN 15804 EPDs on EcoPlatform and Greenbooklive.



QuadCore™ is insurer approved to FM and LPCB standards and protects against fire spread.



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



# Unrivalled Lifetime Thermal Performance



## Certified to be the best.

The class-leading aged lambda value of 0.018 W/m.K means QuadCore™ Technology is certified as the leading thermally efficient closed cell insulation core on the market.

11%

better than  
high-quality PIR

Up to 25%

better than PUR

Around twice

the performance of  
rock mineral fibre

Thermal transfer comparison  
assumes same thickness of  
insulation material.

Kingspan  
QuadCore™  
Panels  
0.018 W/m.K



22%  
**LESS**  
THERMAL  
TRANSFER<sup>1</sup>

Kingspan  
PIR  
Panels  
0.020 W/m.K  
(0.020-0.022)<sup>2</sup>

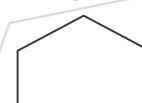


13%  
**LESS**  
THERMAL  
TRANSFER<sup>1</sup>

Reference  
Point  
Polyurethane  
0.023 W/m.K<sup>1</sup>



30%  
**MORE**  
THERMAL  
TRANSFER<sup>1</sup>



EPS  
0.030 W/m.K  
(0.030-0.038)<sup>2</sup>



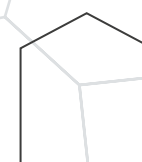
34%  
**MORE**  
THERMAL  
TRANSFER<sup>1</sup>



Glass Fibre  
0.031 W/m.K  
(0.031-0.044)<sup>2</sup>



47%  
**MORE**  
THERMAL  
TRANSFER<sup>1</sup>



Rock  
Mineral  
Fibre  
0.034 W/m.K  
(0.034-0.042)<sup>2</sup>



<sup>1</sup> Thermal Transfer for each insulant is based on the best quoted lambda value compared to rigid polyurethane insulation with a typical lambda value of 0.023 W/m.K.

<sup>2</sup> The thermal conductivity range is based on data from insulation manufacturers websites or Agrément certificates.

<sup>3</sup> Thermal conductivity (Lambda) W/m.K values quoted at 10 °C.

# Superior Fire Performance



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## High levels of certification to Insurance Industry and regulatory standards.

The hybrid nature of QuadCore™ Technology delivers a range of unique combination of improvements in fire performance.

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## FM 4882 for smoke sensitive occupancies

Kingspan's KSD1100 CS coldstore panels with QuadCore™ Technology was the first high-performance closed cell panel system in the world to achieve FM 4882 certification (the FM Global insurance standard for smoke sensitive occupancies).



Non-insurer approved PIR



QuadCore™ Technology

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## Superior Fire Protection

In addition to low smoke emissions, QuadCore™ provides enhanced "reaction to fire" and "fire resistance" performance in specific panel systems.

Images shown left are taken from tests performed according to EN11925-3 Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 3: Multi-source test (Roofers torch heat source was used). The lower smoke emissions of QuadCore™ can be clearly observed.

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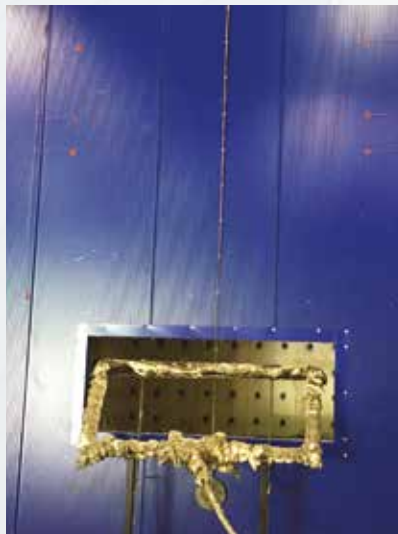
For a full list of Kingspan FM and other fire compliance certifications, please visit [kingspanpanels.com](http://kingspanpanels.com)



## Full Scale System Test Compliance.

Kingspan Insulated panels featuring QuadCore™ Technology have been tested to a range of large scale tests including NFPA 285, BS 8414 Part 2, BS 476 Part 22, EN 1364, ASTM E119, FM 4880, 4882 and 4471.

Please check local market availability and performance levels achieved by specific tested /certified panel systems.



Test set up – Kingspan insulated panels installed in a full scale NFPA 285 test.



During the test a fire source simulates fire coming out of a window opening.



End of test showing the insulated panel system does not contribute to fire spread.

# Enhanced Environmental Performance



It's about the human environment, not just the built environment.

## Certified Low VOCs

The improved thermal performance of QuadCore™ Technology helps optimise resource efficiency. The improved resource efficiency delivers better transport utilisation which means less truck movements to site.

QuadCore™ is also 100% recyclable and is CFC, HCFC, HFC free and has a very low Global Warming Potential.

## Lifetime Performance and Value Benefits

QuadCore™ Technology, together with whole building design support from Kingspan's technical team, can help provide credits to a number of "green building" ratings systems.

- LEED®
- Estidama
- BREEAM®
- Al Safat



BREEAM®



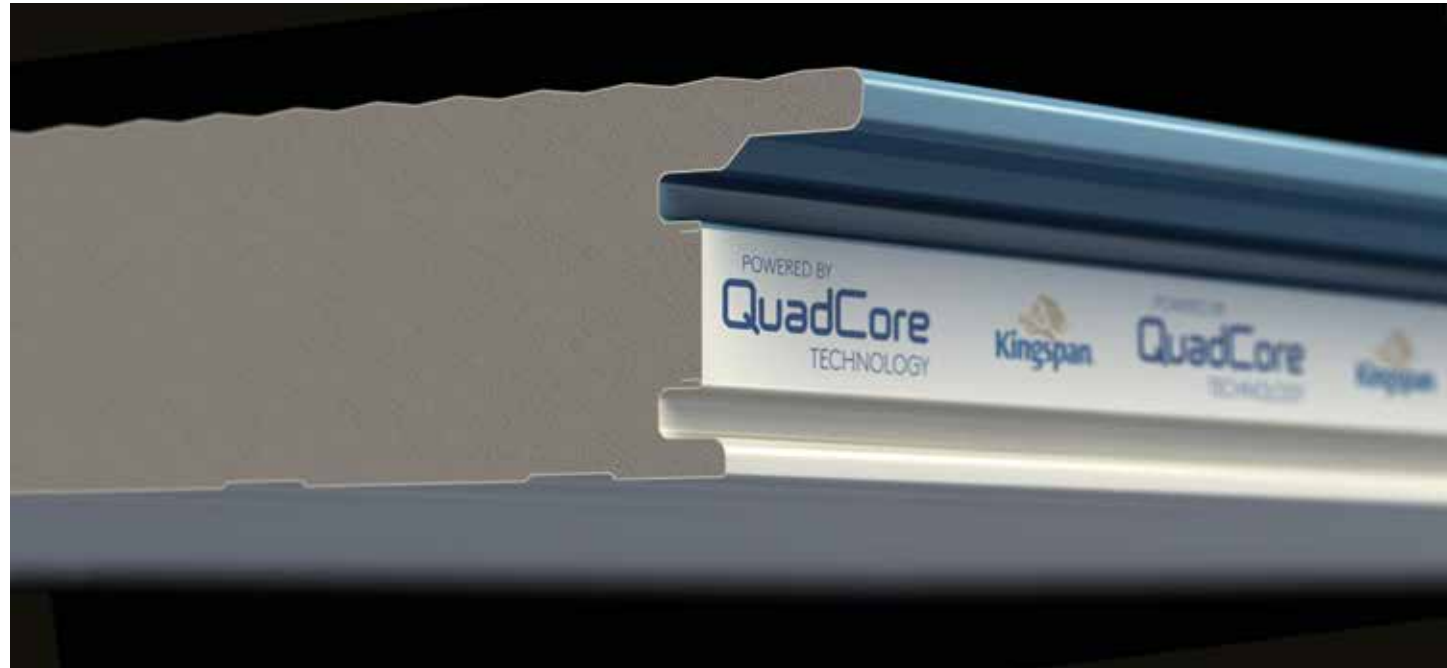


# 40-Year Thermal Warranty



The industry's longest thermal performance warranty.

The inimitable science behind QuadCore™ Technology and comprehensive independent third-party testing has delivered the industry an unparalleled 40-year thermal performance warranty.



# 03 | Selcuk Ecza Deposu

**Location:** Konya, TURKEY

**Year:** 2019

**Building Type:** Pharmaceutical Warehouse

**Wall Products:** QuadCore™ KS103MSF  
Megalambri Architectural Wall Panels,  
QuadCore™ Evolution Architectural  
Façade Panels

**Contractor / Architect:** Selçuklu İnşaat  
ve Turizm A.Ş. / Ser Mimarlık

## Overview

Selçuk Ecza Deposu, one of the pioneers of Turkish pharmaceutical distribution industry, have decided to engage with Kingspan on the façade design of their new warehousing facility located at their hometown of Konya in Turkey.

The original external wall design of the project was designed to be a built-up solution with heavy stone cladding which is considered as a complicated and costly system to design and install on site. As an alternative Kingspan engineers proposed the Kingspan Evolution panelised system as a single component façade solution.

The surface finish and vertical joint finish quality, factory manufactured corner and U panel availability, along with the best in class thermal performance of the QuadCore™ technology used in the panel core, were the favourable features of the Kingspan design proposal which resulted in the client selecting Kingspan Evolution panel system for the project.





## 04 | Komatsu HQ

Kingspan Insulated Panels is the first manufacturer to achieve Dubai Civil Defence (DCD) approval in the UAE.

**Location:** JAFZA Dubai, UAE

**Year:** 2019

**Building Type:** Industrial

**Wall Products:** QuadCore™ KSD600-1000  
Architectural Wall Panels

**Roof Products:** QuadCore™ KSD1000 RW  
Roof Panels

**Architect / Contractor:** Bradbrook Consulting /  
McLaren Construction Group

### Overview

Komatsu, one of the world's largest manufacturers of construction, mining and industrial equipment, constructed its headquarters to service the MENA region.

The project had a tight delivery program of only 12 weeks, this was met by forming the building envelope using the single component easy-to-install Kingspan panels.

Both panels meet and exceed the thermal insulation requirements of Dubai Municipality, providing a sustainable and thermally efficient space for Komatsu to operate.



# 05 | Istanbul Grand Airport

**Location:** Istanbul, Turkey

**Year:** 2018

**Building Type:** Infrastructure / Airports

**Products:** QuadCore™ Evolution Architectural  
Façade Panels – 102,600 m<sup>2</sup>

**Contractor / Architect:** Cengiz – Kolin – Limak –  
MAPA – Kalyon Group JV  
Grimshaw Architects / Nordic / Haptic Architects

## Overview

The first phase of Istanbul Grand Airport is built on a total area of 76.5 million square meters, the design inspiration of the project has been influenced by Istanbul's cultural heritage.

QuadCore™ Evolution panels have been preferred for the project due to its best in class thermal insulation and certified fire protection performance while providing an aesthetic finish and variety of detail options.





## 06 | Al Futtaim Motors – Lexus Showroom

**Location:** Dubai Investments Park, UAE

**Year:** 2019

**Building Type:** Commercial / Showroom

**Roof Products:** KingZip Linea Standing Seam – 9,200 m<sup>2</sup>

**Wall Products:** QuadCore™ KSD600-1000 Architectural Wall Panel – 3,750 m<sup>2</sup>

**Contractor:** ALB – ME

### Overview

Dubai Investments Park is fast earning a reputation as the preferred hub for car retailers in Dubai. Al Futtaim Automotive's newly opened Lexus Showroom is one of the first one's to open in the area to take advantage of the exponential growth and traffic expected on this region due to its proximity to Expo 2020 site.

Complete building envelope solutions from Kingspan has been preferred on this project including QuadCore™ Architectural Wall Panels with a sleek / flat profile finish.



# 07 | Karan Beef

**Location:** Balfour, Mpumalanga, South Africa

**Year:** 2017

**Building Type:** Industrial / Coldstore

**Roof Products:** QuadCore™ RW – 2,300 m²

**Wall Products:** QuadCore™ KS110 CTF Coldstore Panels – 25,000 m²

**Architect:** Mike Paterson Associates

**Main Contractor:** GCP

**Installer:** ACW Panels Pty Ltd

## Overview

Karan Beef and Kingspan combine to build a state-of-the-art cold store and beef processing facility.

The resulting collaboration with Kingspan led to the design of the coldstore facility, with extensive use of Kingspan's QuadCore™ insulation technology, but also incorporating the full scope of aesthetics associated with Kingspan's UltraTherm cold store panel system.

The coldstore project included ceilings, external walls, roofs and internal partitions, amounting to over 18,000 m². The use of Kingspan colours and coatings to the external faces of the buildings have added a unique scatter colour appearance to the landmark building.



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With over 18,000 m² of QuadCore™ paneling, we have minimized the fire risk in the building, making it the first of its kind in Africa.

Karan Beef project Manager





## 08 | Coca Cola, Amatil Facilities

**Location:** Medan, Indonesia

**Year:** 2018

**Building Type:** Coldstore

**Products:** ModularisCold System with QuadCore™

**Contractor:** Kingspan Turnkey Solution

### Overview

Coca Cola Bottling Indonesia required a fast track, cost effective and high performance solution to expand their cold storage facilities in Medan, Indonesia.

The new coldstore facility was built only in 3 weeks time and without having any structural steel construction thanks to Kingspan's revolutionary and patented ModularisCold system with QuadCore™. The solution was offered as a complete turnkey offering by Kingspan.



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Project was completed only 3 weeks time and did not require and steel structure thanks to patented load bearing function of ModularisCold panels with QuadCore™.

Grant McLean / Coca Cola Amatil Project Manager

# 09 | Korzinka.Uz Coldstores

**Location:** Tashkent, Uzbekistan

**Year:** 2018

**Building Type:** Coldstore

**Products:** QuadCore™ KS110CTF Izocold –  
12.892,14 m<sup>2</sup>

**Contractor / Architect:** Korzinka / OSC

## Overview

Korzinka is one of the biggest supermarket chains and most reputable international brands of Uzbekistan.

The warehouse constructed in Tashkent, Uzbekistan is used to store fruits and vegetables, mainly potato and onion, of Korzinka Supermarkets. Warehouse which has total 5,600-ton capacity is comprised of potato and onion storage area with 1,200 tons capacity, standard cold store with 2,400 tons capacity, and CA (Controlled Atmosphere) storage area with 1,200 tons capacity.

Kingspan insulated panels with QuadCore™ were used on the wall and roof as well as coldstore applications of this immense development.



# 10 |

## Atabey Logistics Centre

**Location:** Gebze, Turkey

**Year:** 2018

**Building Type:** Logistics Warehouse

**Products:** QuadCore™ KS100 ERO Euro panel – 25,000 m², QuadCore™ KS103 SSF Microlambri – 17,520 m²

**Contractor:** Lambda Construction

### Overview

Turkey's largest apparel and fashion retail conglomerate, The Boyner Group, have built a giant logistics hub in Gebze Industrial Zone to service their retail outlets across Turkey. The project has been built over 110k m² area and have been completed in a record breaking duration of only 21 months. This one of a kind smart-hub is also recognized to be the first LEED certified logistics warehouse project in Turkey.

Stringent thermal and fire performance requirements of the project were satisfied with Kingspan Europanel Flat Roof panels and KS103 Microlambri Wall panels with QuadCore™.





# 11 | Our QuadCore™ Systems

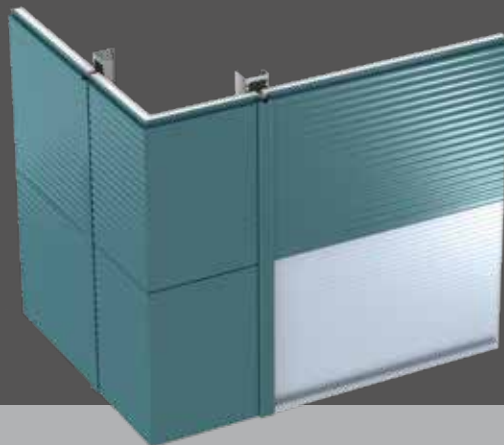


## KS103SSF / KSD1000 AWP QuadCore™

Architectural Wall Panels (AWP) are secret-fix wall panel systems with complementary daylighting and 11 mix and match profiles suitable for either vertical or horizontal applications.

QuadCore™ Technology brings specific additional performance benefits to the AWP system including:

- Superior fire resistance of up to 4 hours integrity
- FM4882 low smoke certification



## KSD1000 RW / KS100 PRW QuadCore™ Wall

Trapezoidal Wall is a through-fix, trapezoidal profiled insulated wall panel with complementary daylighting. It is available in 1000 mm widths and in lengths of up to 18 m, for fast track and cost effective installation.

QuadCore™ Technology brings specific additional performance benefits to the RW wall system including:

- FM4882 low smoke certification





## KSD1100 CS / KS110 CTF QuadCore™ Coldstore

Coldstore Panels Series is a range of insulated roof, wall and ceiling panels designed specifically for use within the temperature and environmental control industry, such as food manufacturing and temperature controlled storage.

QuadCore™ Technology brings specific additional performance benefits including:

- Same U-value at a reduced panel thickness with potential savings in fixings, flashings and transport
- FM4882 low smoke certification

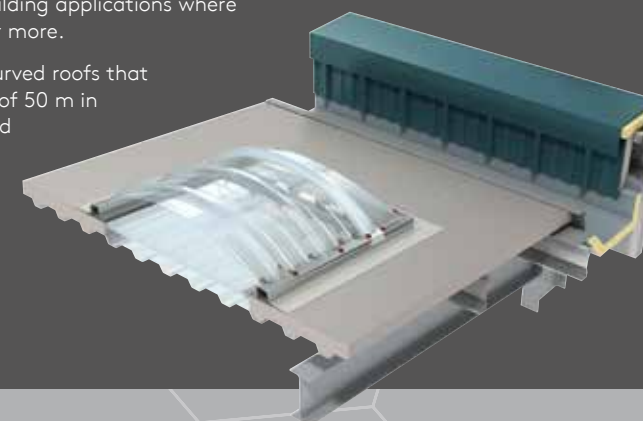


## KS100 ERO Europanel QuadCore™

Kingspan Europanel is a prefabricated lightweight flat roof membrane panel system with complementary daylighting, fabrications and rooftop solar PV.

The KS100 ERO Europanel is a membraned roof system with a direct fastening of bottom deck to structure, which can be used for all building applications where the roof slope is 0.5° (1%) or more.

The panel can be used for curved roofs that have a minimum radius (R) of 50 m in the longitudinal direction and 20 m in the transversal direction.



12 |

## Take Architectural Design to the Next Level

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### QuadCore™ Evolution

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A super smooth unprofiled secret fix insulated panel that can be laid vertically or horizontally, the perfect solution for a minimalist facade.

Evolution has the aesthetic appeal of a super-smooth aluminium rainscreen facade with the added performance benefits of an insulated panel powered by QuadCore™ Technology.

Our team will support with bespoke details and specialist fabrications.







# 13 | 1

## Thinner, Lighter, Better

The superior thermal performance of QuadCore™ means a thinner envelope, leading to more internal space, efficiencies in construction and a lower environmental impact.

POWERED BY  
**QuadCore™**  
TECHNOLOGY



For illustrative purposes only please refer to relevant Product Data Sheets to make accurate performance comparisons.



Better transport  
utilisation



Reduced fixings and  
fabrications in many  
applications



More internal space  
potentially delivering  
higher rental yields



More resource-  
efficient  
manufacturing



# Our Sustainability Journey

Introducing our new 10-year groupwide sustainability programme that aims to impact on three big global issues: climate change, circularity and protection of our natural world.



With Planet Passionate we are setting ourselves challenging goals for the next 10 years. We are committing to hard targets in the areas of energy, carbon and water reduction while enhancing the circularity of our products. This won't be easy, and will take serious leadership, commitment and effort across our group. I know we can, and must, make this happen.

Gene M. Murtagh, Chief Executive Officer, Kingspan Group



## ENERGY

- Maintain our Net-Zero energy target
- Increase our direct use of renewable energy to 60%
- Increase our on-site generation of renewable energy to 20%
- Install solar PV systems on all facilities

## CARBON

- Net-Zero carbon manufacturing
- Zero emission ready company cars
- 50% reduction in product CO<sub>2</sub> intensity from our primary supply partners

## WATER

- 5 active ocean clean-up projects
- Harvest 100 million litres of rainwater

## CIRCULARITY

- Zero company waste to landfill
- 1 billion PET bottles upcycled into insulation by 2025
- All QuadCore™ insulation to utilise upcycled PET by 2025

### Are you Planet Passionate?

Find out about our Planet Passionate network.  
Email [planetpassionate@Kingspan.com](mailto:planetpassionate@Kingspan.com)



# PLANET PASSIONATE



### We're Here to Help!

Our services help save you time and ensure an optimised design with potential savings in HVAC sizing, structural steel and installation times.

### Contact us for Planning and Specification Support



Product selection



Detailed specification of accessories



Robust Kingspan construction details



Individual design of non-standard construction details



Technical specification packs



Specialist installation training



Technical design optimisation of your project



For Technical Support with Insulated Panel Systems contact:

GCC Region:

+971 4 885 4232

[info@kingspanpanels.ae](mailto:info@kingspanpanels.ae)

Africa, Turkey, Central Asia:

+90 212 236 60 32

[info.turkey@kingspan.com](mailto:info.turkey@kingspan.com)

### Contact us for Fastrack Technical Calculations

- Project specific fastener requirements calculations
- Wind and snow load calculations – insulated panel structural spanning performance calculations
- U-Value / condensation risk calculations
- Acoustic performance calculations
- Gutter design calculations





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For the product offering in other markets  
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or visit [www.kingspanpanels.com](http://www.kingspanpanels.com)

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02/2020

