

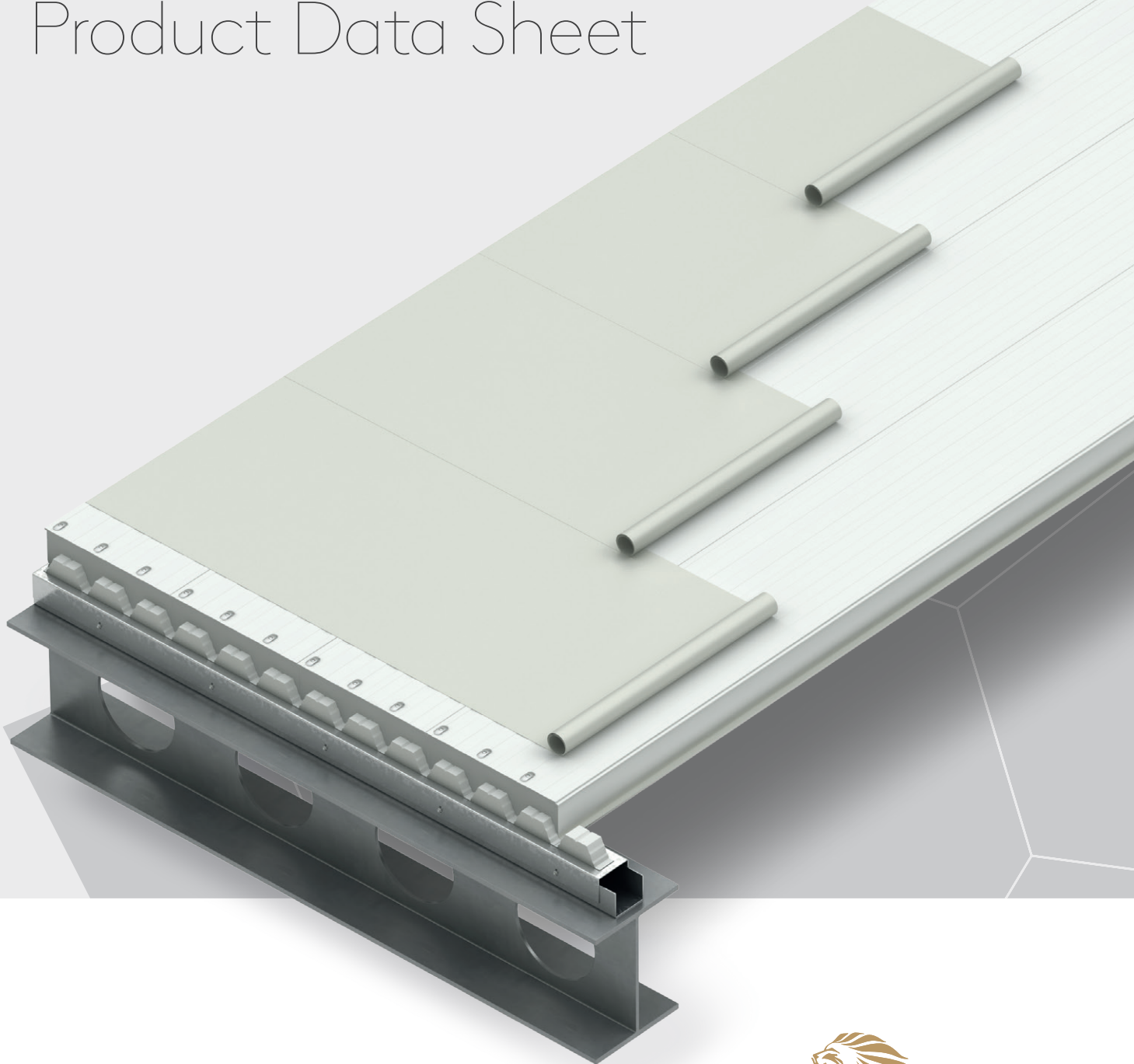
## Insulated Panels

Middle East, Africa, Türkiye  
& Central Asia

Protected by



# QuadCore™ KS100ERO T-DEK Longspan Flat Roof Panel Product Data Sheet



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**QuadCore™**  
TECHNOLOGY



# Product Data

## Product Description

QuadCore™ KS100ERO T-DEK Longspan Flat Roof Panel is an insulated flat roof system combining a structural deck, QuadCore™ insulation and a metal top sheet into one product.

The panel has a cover width of 825 mm width.

## Applications

QuadCore™ KS100ERO T-DEK Longspan Flat Roof Panel is suitable for flat roof applications with minimum roof slope of 1% (0.5°) up to 7 metre spanning capability and is faster to install than alternative built-up roof deck systems.

The internal face of the deck is pre-finished with a clean white colour providing a smooth clean interior appearance.

## Available Lengths

Standard Lengths		2.20 m - 11.90 m
Non-Standard Lengths	Longer Lengths	11.90 m - 18.0 m
	Shorter Lengths (subject to additional surcharge)	< 2.20 m

**Note:** Additional costs and transport restrictions may apply for non-standard lengths.

## Cover Width

825 mm.

## Panel Joints

Through-fix.

## Thermal Performance, Dimensions and Weight

Core Thickness (mm)	100
Overall Thickness (mm)	200
U-Value (W/m <sup>2</sup> K)	0.17
R-Value (m <sup>2</sup> K/W)	5.88
Weight (kg/m <sup>2</sup> ) 0.7 mm steel / 0.9 mm steel	20.90

### Notes:

The QuadCore™ insulation used in this panel has a Thermal Conductivity ( $\lambda$ ) of 0.018 W/m.K.

QuadCore™ KS100ERO T-DEK Longspan Flat Roof Panel has a Thermal Transmittance (U-Value), calculated by using Finite Element Analysis in accordance with EN 14509: 2013 taking into account the profile geometry of the panel and the thermal influence of the longitudinal joint.

## Insulation Core

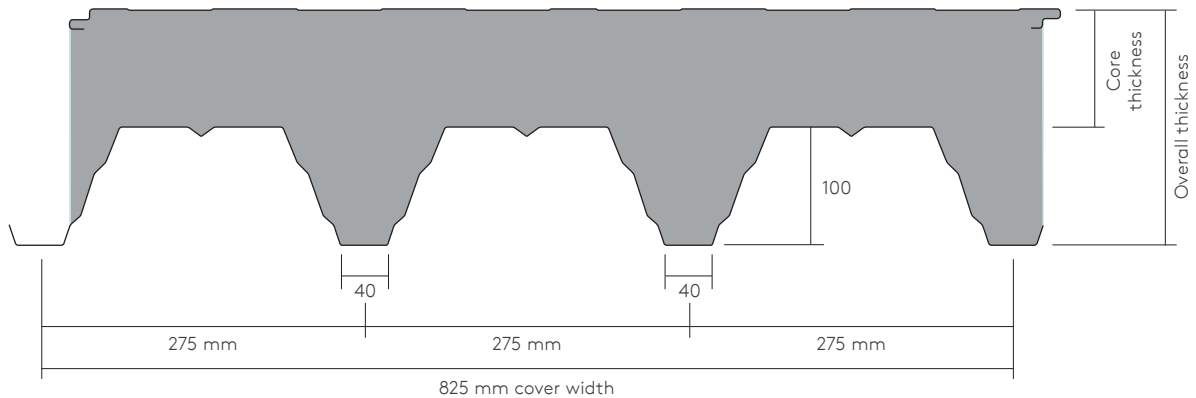
The core insulation of QuadCore™ hybrid is free from HCFCs, CFCs, and HFCs, achieving a thermal conductivity value of  $\lambda = 0.018$  W/m.K at 10°C.

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## Profiles

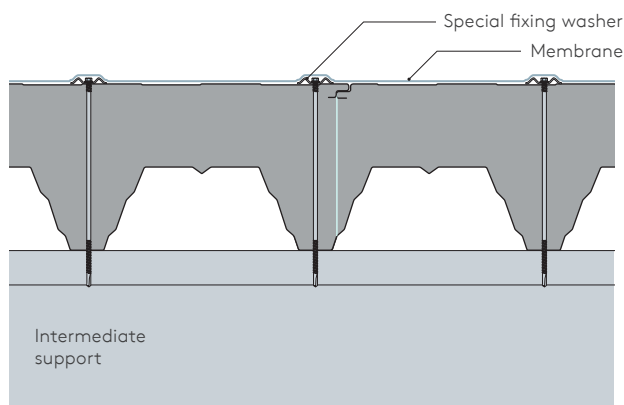
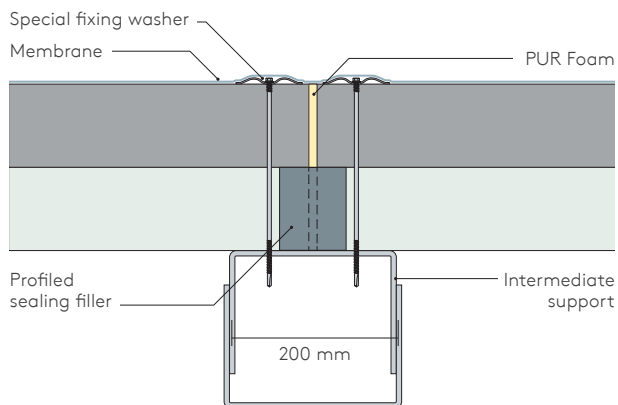
**Interior:** Trapezoidal.

**Exterior:** Box + PVC membrane or TPO membrane.



# Product Data

## Joint Detail



## Materials

### Metal Type

Steel.

### Metal Thickness Range

#### Internal Metal Sheet

4 Crowns: 0.90 mm

#### External Metal Sheet

Box: 0.70 mm

**Notes:** The given metal thickness ranges include coating.

**For Galvanized Steel Thickness:** Tolerances to be in accordance with EN 10143 or ASTM A 924 / A924M-13, applicable for an external weather sheet and internal liner.

### Substrate

#### External Weather Membrane

Single-ply waterproof membrane made from softened PVC of 1.2 mm thickness or TPO of 1.5 mm thickness.

#### External Weather Sheet

In adherence to the EN 10346: 2015, we offer a range of metallic and non-metallic protected steel options.

#### Internal Liner Deck

In adherence to the EN 10346: 2015, we offer a range of metallic and non-metallic protected steel options.

**Note:** The default colour is a light non-metallic shade.

Please contact Kingspan Tech-eXchange for other substrate options.

### Coatings & Finishes

#### External Weather Sheet and Internal Liner Deck:

- Polyester.
- PVDF.

Please consult Kingspan Tech-eXchange for guidance in selection of the correct coating for your specific geographic location.

## Coating Durability

The durability of a metal coating can be impacted by various factors such as geographic location, local environment, colour selection, and coating type. These factors can affect the lifespan of the coating.

Please contact Kingspan Tech-eXchange to provide guidance on the best finish options and most suitable coating based on project specific requirements and the environmental conditions.

## Colours

A diverse array of external colour choices is at your disposal, featuring a broad spectrum of finishes such as metallic, matte, and solid.

For expert guidance on selecting colours for your project, kindly reach out to Kingspan Tech-eXchange.

## Environmental

Kingspan upholds its dedication to environmental sustainability, with a commitment to being free from CFC, HCFC, HFC, and Halogenated Fire Retardants. The company is certified for the Environmental Management System ISO 14001.

Please contact Kingspan Tech-eXchange for the latest certificates.

## Air Infiltration & Water Penetration

Please contact Kingspan Tech-eXchange for details.

# Product Data

## Product Tolerances

Length ≤ 3 m	± 5 mm
Length > 3 m	± 10 mm
Width	± 2 mm
Thickness (Core ≤ 100 mm)	± 2 mm
End Square	≤ ± 0.6%

All product tolerances are in compliance with TS EN 14509.

## Quality & Durability

Manufactured with meticulous attention to detail, the **QuadCore™ KS100ERO T-DEK Longspan Flat Roof Panel** is produced using premium-grade materials and advanced production machinery. It adheres to stringent quality control measures that align with the ISO 9001 standard.

To obtain the most up-to-date certificate, please contact Kingspan Tech-eXchange.

## Warranty

Kingspan will provide product coating guarantees on an individual project basis.

Coating guarantee depending on environmental conditions of the projects' geographic location. All guarantees are subject to maintenance regime. Special coatings are available for marine and other corrosive areas.

Please contact Kingspan Tech-eXchange for warranty conditions for your project specific conditions.

## Health & Safety

Kingspan Insulated Panels adheres to the requirements of the Occupational Health and Safety Certification ISO 45001: 2018.

For comprehensive safety instructions and complete details regarding the secure usage of our product prior to application, please contact Kingspan Tech-eXchange.

## Packing

The panels are stacked horizontally, with the facing sheets positioned upwards to minimize the pack's overall height. The upper and lateral sides are protected using either cardboard or polystyrene, along with spiral wrap stretch polyfilm.

Customers must promptly remove the protective film and other delivery packaging right after installation, making sure it's done within a maximum of two months from the production date.

The number of panels in a pack will vary depending on the thickness, as detailed below:

### Trailer Loading

Panel Thickness (mm)	Bundle (pcs)	Total of Panels in Trailer (pcs)	Weight (kg/m <sup>2</sup> )
100	8	32	20.90

### Container Loading

Panel Thickness (mm)	Bundle (pcs)	Total of Panels in Container (pcs)	Weight (kg/m <sup>2</sup> )
100	8	28	20.90

Please contact Kingspan Tech-eXchange for the Kingspan guidelines booklet on the storage, site handling, and offloading of metal coils, building sheets, and insulated panels at the site.

## Transport

### Delivery

Unless otherwise specified, all deliveries are conducted via road transport to the designated project site.

### Sea Freight

For projects requiring sea freight shipping via containers, timber wooden pallets are available with an additional charge.

# Product Data

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## Unloading at Site

The responsibility for unloading goods lies with the recipient on-site. It is crucial to avoid dropping or tossing goods off the vehicle and refrain from stacking them on uneven surfaces.

During the unloading process, it is of utmost importance to exercise careful attention in order to protect the goods from any potential damage and to prioritize the safety of on-site personnel.

Manual unloading of goods is not the recommended approach. Instead, it is advisable to utilise specialised equipment such as a forklift or crane equipped with a spreader beam. This precautionary measure prevents applying excessive pressure on the goods, which could lead to issues such as delamination, damage to joints, and surface irregularities.

Please contact Kingspan Tech-eXchange to acquire the guidelines provided by Kingspan for the storage, on-site handling, and safe offloading of metal coils, building sheets, and insulated panels.

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## Site Storage

Ensuring proper storage conditions for the goods is crucial for maintaining their quality. It is mandatory to store the goods in a covered space on a clean, level surface, with stacking not exceeding two bundles to prevent any undue pressure.

While storing the goods in an uncovered area is not recommended, if circumstances necessitate outdoor storage, they can be placed on a gently sloping surface to mitigate the risk of water accumulation.

When storing goods outdoors, it is imperative to employ a waterproof covering that allows sufficient air circulation beneath it. Additionally, it's vital to keep the goods at a safe distance from potential fire hazards and the risk of falling objects.

These measures are essential to ensure the goods' integrity and safety throughout their storage duration.

Please contact Kingspan Tech-eXchange to acquire the guidelines provided by Kingspan for the storage, on-site handling, and safe offloading of metal coils, building sheets, and insulated panels.

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## Handling

To enhance safety and prevent potential damage to the goods during unloading and movement, it is strongly advisable to choose mechanical handling equipment over manual methods.

Upon receiving the goods at the site, we kindly request recipients to diligently inspect the stacked goods before proceeding with unloading. If any visible damage is detected on the goods, which occurred prior to handling and unloading, please immediately report it to the Kingspan QA/QC team for a thorough investigation. It's important to avoid any goods movement or unloading until Kingspan completes its examination of the reported damages. For your convenience, comprehensive handling guidelines are provided on each goods bundle.

Customers must handle and store the products in accordance with their respective technical requirements. Any product damage attributed to the protective film and packaging will be considered only within two months from the production date of the delivered products.

Please contact Kingspan Tech-eXchange to acquire the guidelines provided by Kingspan for the storage, on-site handling, and safe offloading of metal coils, building sheets, and insulated panels.

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## Site Installation Procedure

To obtain site assembly instructions and construction specifics, please contact Kingspan Tech-eXchange.

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# Product Data

## Load / Span Tables

### Multi-span

Span	Core Thickness (mm)	Load Type (kN/m <sup>2</sup> )	Span (m)								
			3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
Single	100	Pressure	6.74	5.17	4.13	3.29	2.55	1.97	1.55	1.25	1.02
		Suction	-6.97	-5.52	-4.54	-3.66	-2.95	-2.43	-2.04	-1.74	-1.50
Double	100	Pressure	6.74	5.17	4.13	3.29	2.55	1.97	1.55	1.25	1.02
		Suction	-6.97	-5.52	-4.54	-3.83	-3.29	-2.86	-2.52	-2.25	-2.01
Triple	100	Pressure	6.74	5.17	4.13	3.29	2.55	1.97	1.55	1.25	1.02
		Suction	-6.97	-5.52	-4.54	-3.83	-3.29	-2.86	-2.52	-2.25	-2.01

- 1 Steel thickness ext/int: 0.70 mm/0.90 mm.
- 2 Values have been calculated using the method described in TS EN 14509, for colour group 1.
- 3 The following deflection limits have been used:
  - Pressure loading  $L/200$ .
  - Suction loading  $L/200$ .
- 4 The above-mentioned calculations apply to panels with standard steel skin strength specification:
  - **fy=350 MPa (S350GD) for the INTERNAL** trapezoidal skin.
  - **fy=250 MPa (S250GD) for the EXTERNAL** skin with Box liner.
- 5 All panel thicknesses have been calculated with a **minimum support width of 200 mm**. Larger support widths are possible.
- 6 The actual wind suction resisted by the panel is dependent upon the number of fasteners.
- 7 The fastener calculation should be carried out in accordance with the appropriate standards. Kingspan recommends WKRET-MET KLIMAS screws that have tight screw thread pitch. The actual span resisted by the panel is dependent on the number of fasteners. Each project must be checked by Kingspan Tech-eXchange Structural Engineer.
- 8 For intermediate values linear interpolation may be used.
- 9 The allowable steelwork tolerance between bearing planes of adjacent supports is  $\pm 5$ mm.

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# Contact Details

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## Manufacturing Facilities in the MEATCA Region

### United Arab Emirates

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For a list of contacts and locations for Kingspan Businesses in MEATCA,  
please send an email to [enquiry@kingspan.com](mailto:enquiry@kingspan.com)



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