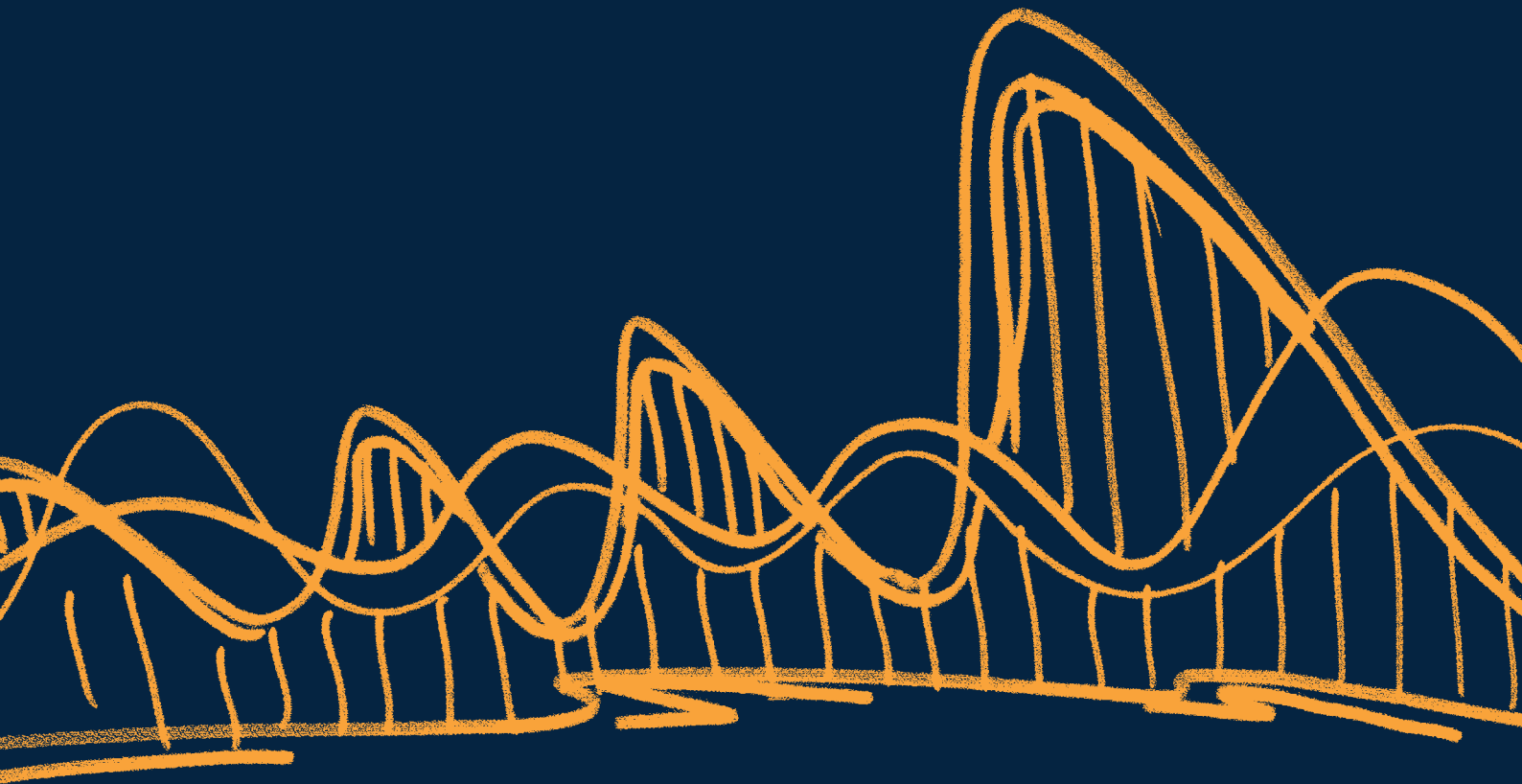


Protected by



Art & Architecture

KingZip Freeform Building Envelope Solutions



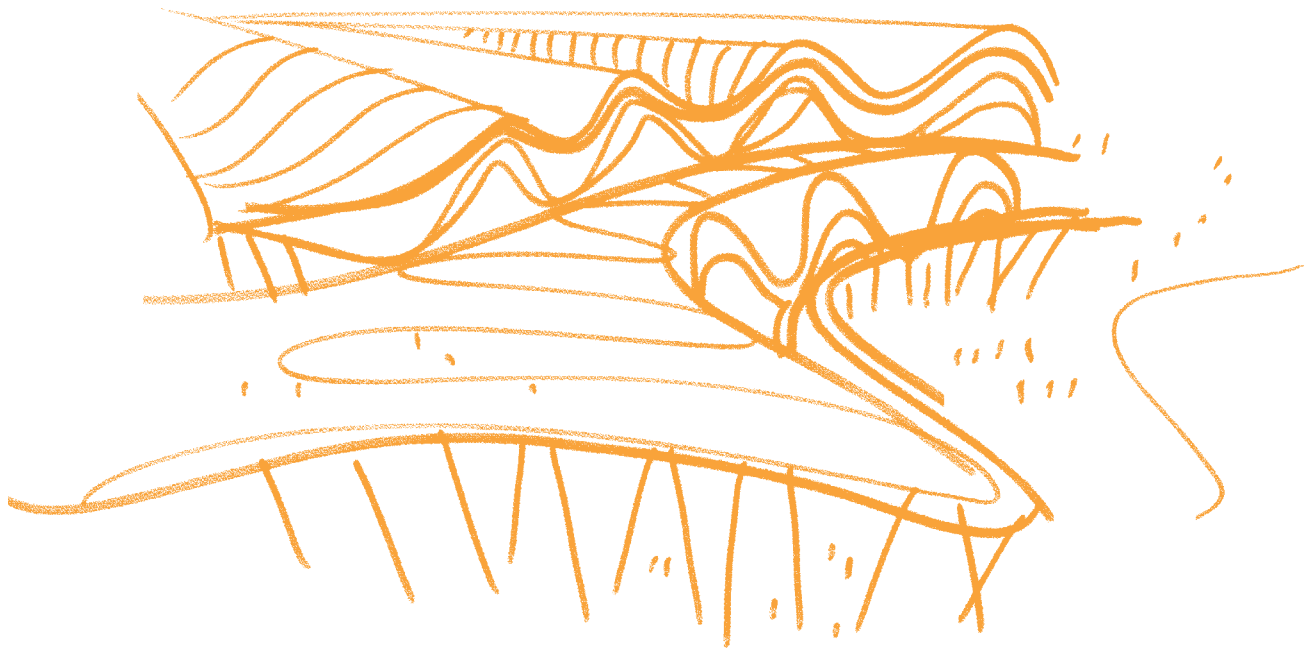


Shaping Future Buildings

The success, beauty and longevity of buildings of the future belongs to those shaping it today.

Queen Alia International Airport, Amman, Jordan
Architect: Foster + Partners

Shaping Future Buildings	2	Technical Data	20
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Make Your Vision a Reality

In today's world challenging the status quo and pushing boundaries is the only way to stand out, there is no room for compromise and offering style and distinctiveness is key.

There are many dimensions in today's built environment and we want to help you reveal more. Our freeform building envelope solutions are a celebration of versatility and have been designed with you in mind to help you reach unstoppable heights and bring your vision to life.



Abu Dhabi International Airport Midfield Terminal, UAE
Architect: Kohn Pedersen Fox Associates



Creating Stunning Aesthetics

KingZip Freeform Building Envelope Solutions offer you the freedom to combine functionality and place-making with stunning aesthetics to create truly extraordinary buildings.

Meydan Racecourse, Dubai, UAE
Architect: Teo A. Khing Design Consultants (TAK)





Bring Art & Architecture together with KingZip

Our KingZip Freeform Building Envelope Solutions enable you to fulfil design intent with total flexibility from initial form finding to construction without compromise.

KingZip Linea and Infiniti are manufactured on-site, from 1 metre up to 150 metres, allowing envelopes to be constructed using very long sheet lengths, eliminating the need for any endlaps and considerably increasing speed of construction.

Abu Dhabi International Airport Midfield Terminal, UAE
Architect: Kohn Pedersen Fox Associates



Our systems are available in two application formats

- KingZip Linea for 2D
- KingZip Infiniti for full 3D geometric envelope capability

KingZip systems provide advanced structural, thermal, acoustic and fire performance combined with interlocking seams offering exceptional long term weatherisation and durability.



Total Design Flexibility

Our systems offer the ultimate in design flexibility

Our KingZip Freeform Building Envelope Solutions fully integrate with our insulated roof, wall and façade systems and accessories to provide a single source, high performance, fully guaranteed package.

KingZip Linea gives you full flexibility to create functional and technically perfect convex, concave and angular architectural roof shapes.



Adelaide Convention Centre, Australia
Architect: Woods Bagot

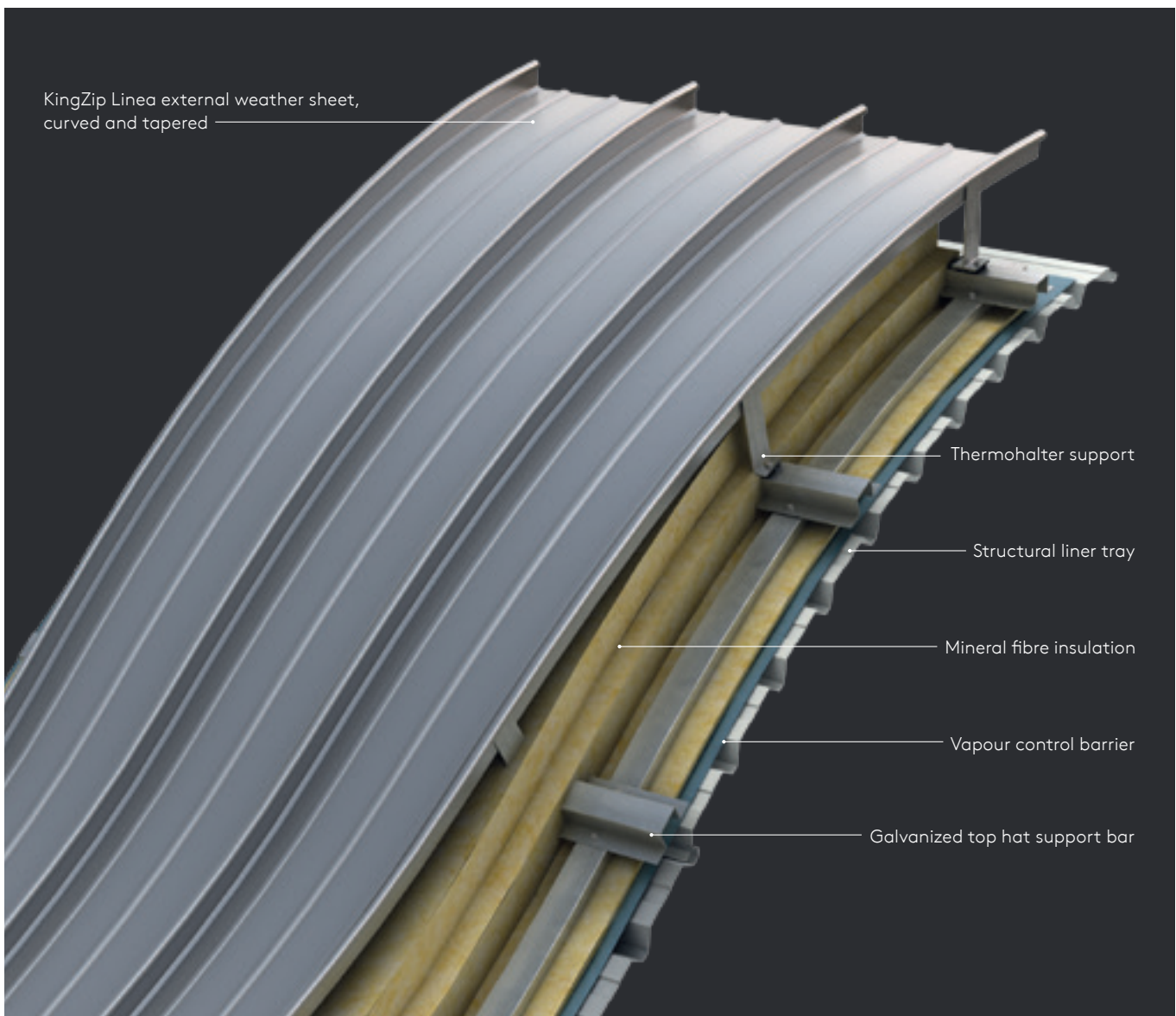


KingZip Infiniti offers virtually unlimited design capability to develop sophisticated envelopes that are artistic and creative.



KingZip Linea

KingZip Linea enables you to realise building envelope designs with total flexibility, creating technically perfect angular, convex, concave and tapered architectural forms.

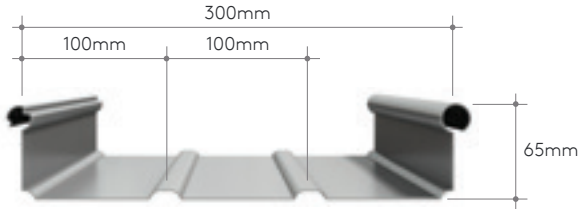




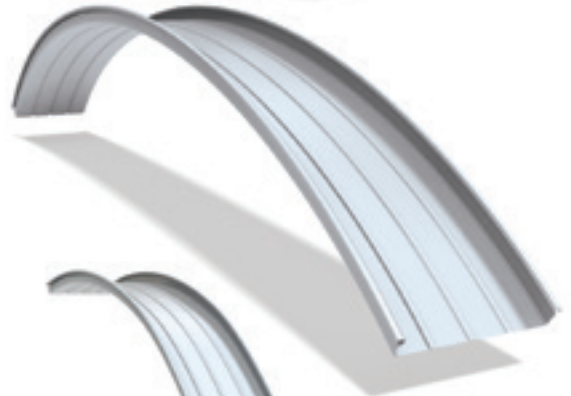
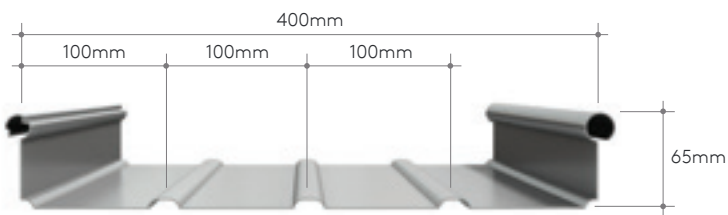
Dubai Sports City, UAE
Architect: Godwin Austen Johnson



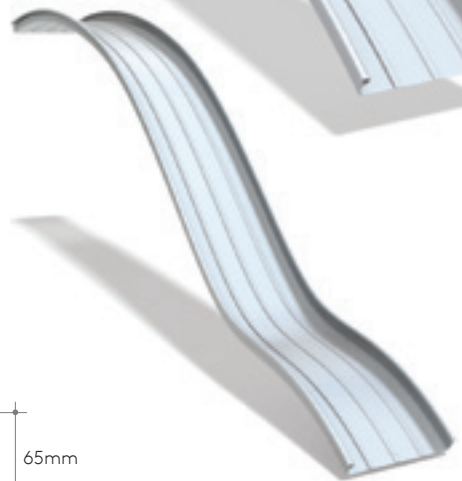
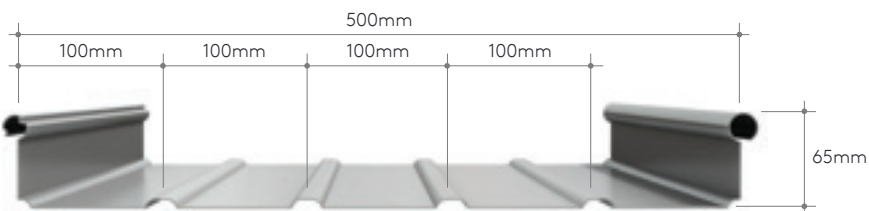
KingZip Linea 300



KingZip Linea 400

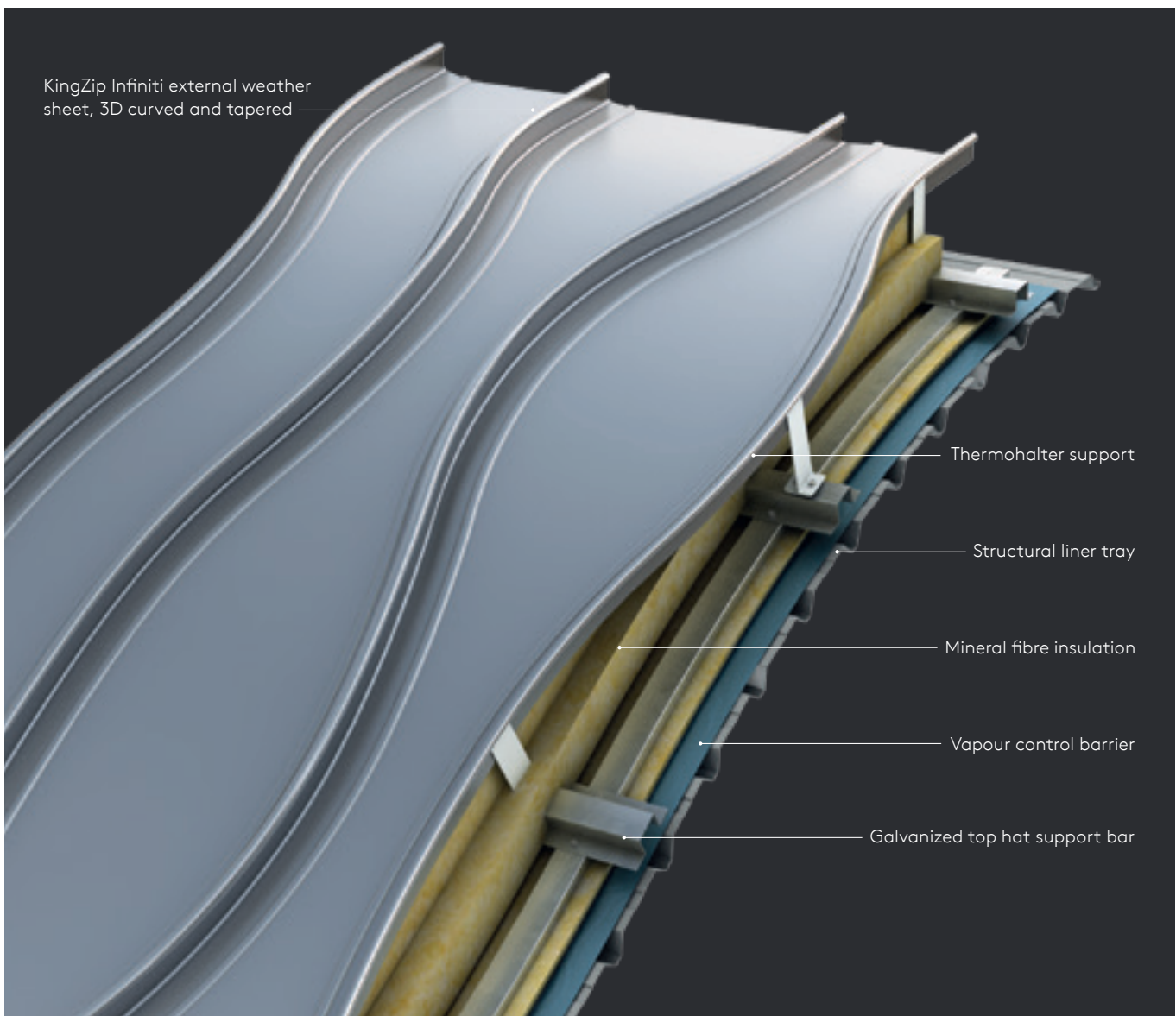


KingZip Linea 500

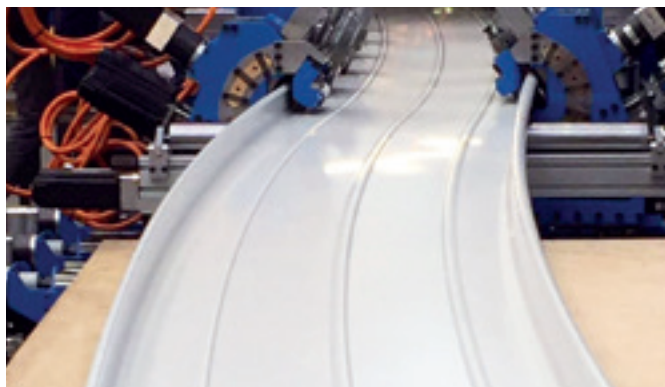


KingZip Infiniti

KingZip Infiniti offers you unprecedented freedom to create extraordinary 3D geometric buildings with complex shapes and forms – taking design and construction of the building envelope to new levels.



Our unlimited manufacturing capability of KingZip Infiniti enables you to realise distinctive and individual buildings that showcase creative and artistic vision on a global stage.



Finish

KingZip Infiniti offers unparalleled architectural and technical performance capability combined with a wide range of finishes and materials.



Finishes and coatings play a huge part in architectural design and are a key part of our world.

External Weather Sheet

The external weather sheet is available in coated 3000 or 5000 series aluminium alloy or mill finish aluminium, stucco embossed mill finish aluminium, coated / pre-painted Z275 galvanised steel, stainless steel, zinc or copper with the following finishes:

Kingspan Jindal PVDF

Provides a long-term aesthetic life of approximately 20 years on aluminium, offering excellent durability and colour stability.

Kingspan Jindal ARS

Abrasion resistant coating for aluminium with good handling characteristics.

Kingspan Jindal Polyester

A cost-effective colour coating with a medium term life for both aluminium and steel.

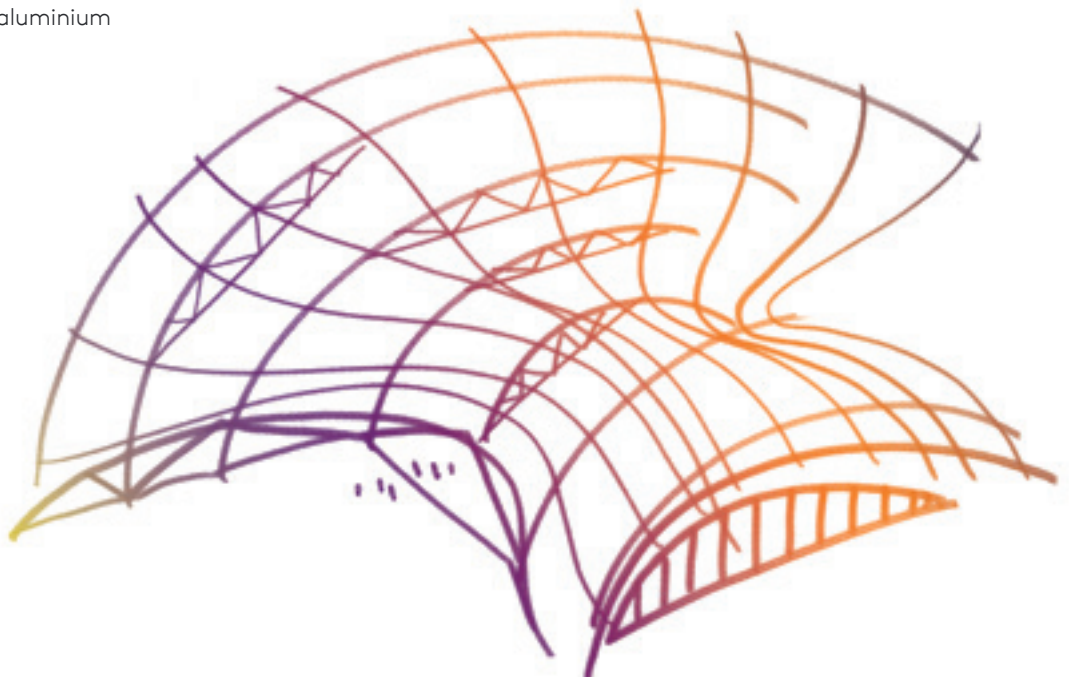
Durabond

Durabond is an innovative 120 micron paint system with a unique heavy duty anti-corrosive primer and polyamide modified polyurethane final coat, that can be offered for more harsh and corrosive atmospheres.

Materials and Coatings Durability

The lifespan of a metal coating is determined by the geographical location, the local environment, the colour selected and the coating type.

For further information on any aspect of the technical data for KingZip Linea or Infiniti, please contact our Design Assist Service on: +971 (0) 4-8854 232.



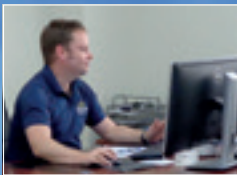


Finishes & Coatings

Choose from a wide range of standard coatings or, for that extra individuality or corporate identity, talk to us about colour and finish options tailored to your specific needs.

Both KingZip Linea and Infiniti are manufactured on site using mobile facilities that can be deployed anywhere in the world. This enables your design requirements to be fulfilled in terms of aesthetics, specification, performance and construction.

Our propriety CAD / CAM software ensure direct data transfer from our technical service centre to on-site production. This enables details to be changed cost effectively during production on-site.



Design



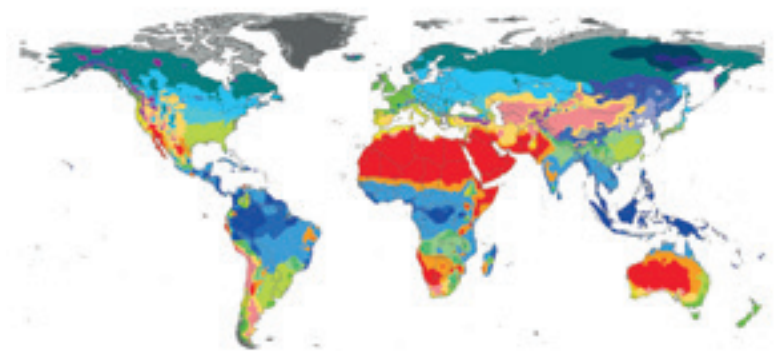
On-site Manufacture





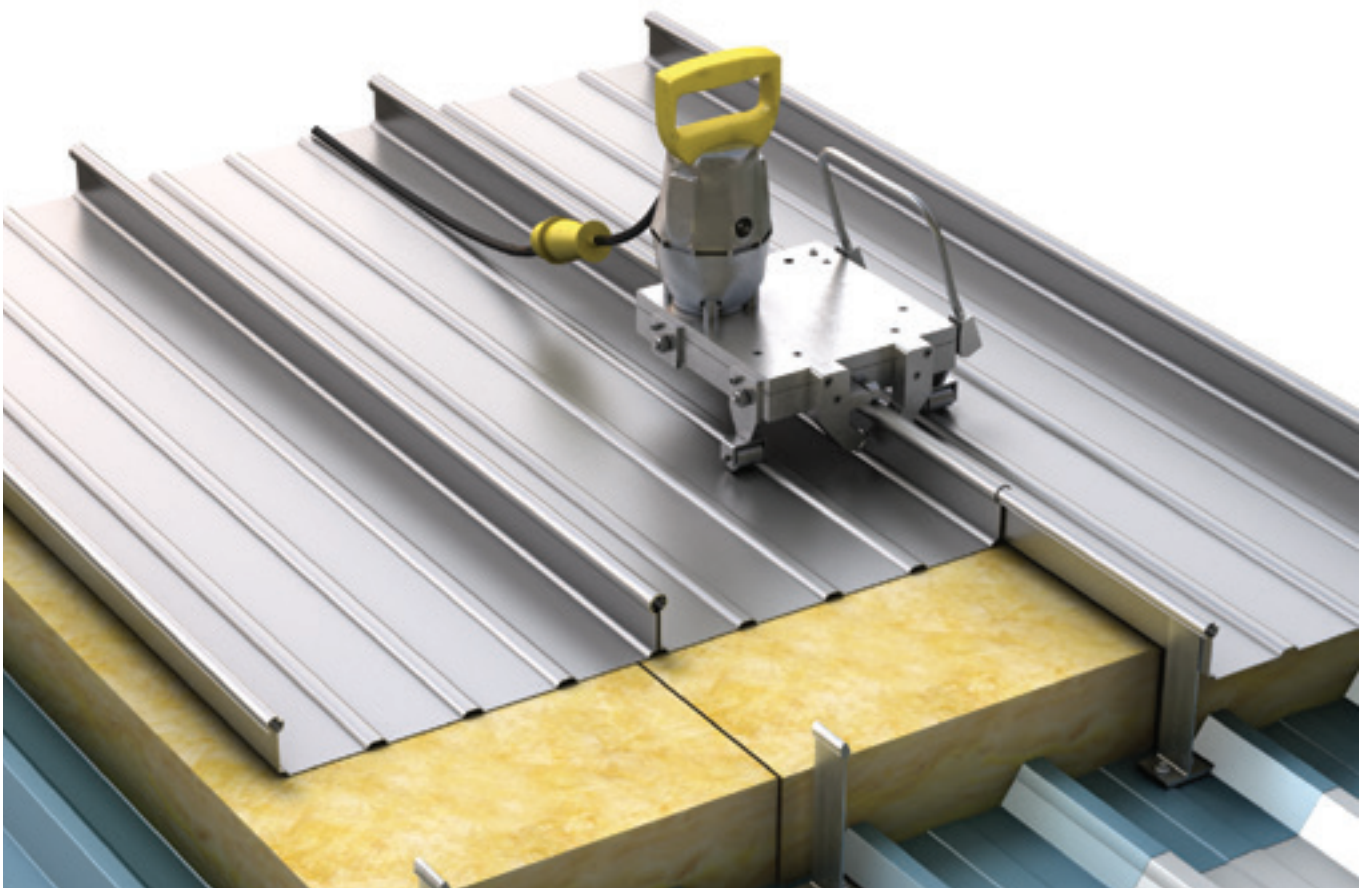
Globally Mobile

Assured long-term weatherisation throughout worldwide climate zones.



As advanced 'zip-up' freeform building envelope solutions, KingZip Linea and Infiniti create continuous weather-tight envelopes and are supplied as complete packages with outer weather sheet, structural liner, vapour barrier, insulation, thermal halters, fasteners and accessories.

The technical performance of these systems sets the standard for compliance with national and international building codes and regulations, and can be tailored to meet specific or enhanced project criteria, such as seismic, thermal, acoustic and sustainability specifications.



Technical Data

Design, Technical, Commercial & Construction Assist Service.

Wide range of high performance materials, colours and coatings.

Can be smooth curved to 5m convex (KingZip Linea) or 1m convex (KingZip Infiniti) and 12m concave radii.

Can be tapered and smooth curved.

Tapered sheets can be manufactured on site, using fully automated equipment, in cover widths from 250mm to 500mm for KingZip Linea and 150mm to 800mm for KingZip Infiniti.

Site-welded watertight interface junctions and penetrations (aluminium only).

Fabrications service for customised accessories.

BS EN ISO 9001 (Quality Management) approved systems.

Factory Mutual FM 4471 approved and systems with UL 580-90 certification available.

Green building sustainability code(s) compliant.

Approved installer network.

Technical Data

KingZip Linea & Infiniti

Weatherisation & Durability

Both KingZip Linea and Infiniti provide proven exceptional weatherisation performance, with aluminium options being the preferred choice for highly demanding environments such as airports, marine, industrial and urban locations.

Inherently durable, aluminium offers almost maintenance-free weather-resistance performance, creating an inert oxidised layer that is highly resistant to corrosion and most pollutants, and is non-sensitive to UV for the lifetime of the building.

Site Welding

Enhanced lifetime weatherisation performance is achieved by site-welded watertight interface junctions and penetrations (aluminium only).

Structural Performance

Both KingZip Linea and Infiniti are high load-bearing structural solutions, suitable for projects worldwide, including seismic code specific applications.

Thermal & Airtightness Performance

KingZip Linea and Infiniti systems can be customised to any insulation specification requirements with thermal values from 0.11 W/m²K. A range of high performance insulation products is available to meet individual project demands, including man-made mineral fibre (MMM^F) and fire-rated insulation board.

KingZip Linea and Infiniti systems have been subjected to CWCT and ASTM E1680 and achieve 5m³/hr/m² @ 50 Pa.

Acoustic Performance

Acoustic performance is a key requirement on many projects, especially public use buildings. KingZip Linea and Infiniti systems have the flexibility to meet the acoustic performance specification for any building.

Sound Reduction – Rw values from 36dB to 50dB.

Sound Absorption - NRC values from 0.5 to 0.85 for our standard perforation patterns. Project specific NRC values on request.

Acoustic Board – Gypsum Board 720 kg/m³ density, Cement Board 1,250 kg/m³ density or specific high density rubber mat.

Structural Liner Decks & Trays

Manufactured from high grade steel, our internal structural liner deck and tray ranges provide economical solutions for a wide variety of span requirements. Profiles can be perforated for enhanced acoustic specifications, and can support increased insulation levels for more rigorous acoustic requirements.

Environmental

Sustainability is firmly at the heart of Kingspan Jindal's approach. We don't just manufacture and supply sustainable products and systems such as KingZip, we also aim to operate within a sustainable business. We have made a commitment to ensure that all our facilities are Net-Zero Energy by 2020, with an interim target of 50% already exceeded. Our KingZip roof systems are manufactured and supplied under ISO 14001: 2004.

Vapour Control Layer (VCL)

Vapour Control Layers are an important part of the KingZip roof systems. We offer a range of VCL options to suit roof construction and specification, including options for high humidity / high occupancy projects.

Fire Performance

KingZip Linea and Infiniti systems both achieve a Class 0 rating as defined in various national building regulations. These systems are classed as non-combustible.

Test	Result
BS 476-3: 2004 Classification and method of test for external fire exposure to roofs	FAA / SAA
BS 476-6: 2009 Method of test for fire propagation for products	I < 12 i < 6
BS 476-7: 1997 Method of test to determine the classification of the surface spread of flame of products	Class 1 Rating for aluminium / steel inner / outer metal facings
FM 4471 Panel Roofs	Class 1

KingZip Linea Outer Profile Dimensions

Nominal Gauge (mm)	0.8, 0.9, 1.0 & 1.2
Panel Length (m)	1.5 to 150*
Standard Cover Width (mm)	300, 400 & 500**

* Can be manufactured on or off site. Factory manufactured up to a standard length of 15m (13.7m in Australia due to transport limitations). Please contact our Technical Department for further information.

** KingZip Linea 500 must be used only in a fully supported system. Other widths are available on request.

Please contact Kingspan Jindal for outer profile specifications for KingZip Infiniti.

KingZip Linea Typical Weights: Aluminium

Cover Width	0.9mm		1.2mm	
	kg/m ²	kg/lm	kg/m ²	kg/lm
300mm	3.87	1.16	5.13	1.54
400mm	3.53	1.41	4.70	1.88
500mm	3.34	1.67	4.44	2.22

Please contact Kingspan Jindal for weight specifications for KingZip Infiniti.

Product Tolerances

Cover Width	+2mm / -2mm
Edge Squareness	1% of sheet cover width
- up to 10m long	+10mm / -5mm
- over 10m long	+10mm* / -5mm

* +1mm per metre length over 10m.

Testing, Standards & Approvals

KingZip Linea and Infiniti are produced to the highest quality standards including BS EN ISO 9001. These products have been designed to fulfil a specific application and are manufactured to precise standards and tolerances, fully compliant with ASTM E1637 and FM 4471.

Systems with UL 580-90 certification are available.

Quality Assurance

Our KingZip systems are manufactured under ISO 9001: 2008 procedures both off- and on-site. Our on-site manufacturing facilities have the same dimensional quality as factory production.

All quality testing undertaken on-site is aligned with our factory testing procedures and results.



Seismic Load Effects

Seismic design impact and analysis is the overall responsibility of the appointed project design team. However, Kingspan Jindal Academy engineers can assist with specific inputs related to KingZip envelope systems and connectivity to the main structure.

Lightning Protection

KingZip aluminium envelope systems provide safe, effective protection by either acting as a conductor or as a protective screen in the event of lightning strike, safely routing the charge to earth.

This prevents lightning strikes affecting the building structure and can counter the electromagnetic effect on both plant and equipment within the building.

When installing KingZip systems there is usually no requirement for dedicated or additional lightning protection devices, but KingZip sheets must be fully zipped and conductively connected to earth.

KingZip aluminium envelope systems can be used as lightning conductors in accordance with International Standard ENV 61024-1 Protection of structures against lightning – Part 1: General Principles, as the crimped seams of the sheets provide a permanent electric connection.

Safepro2

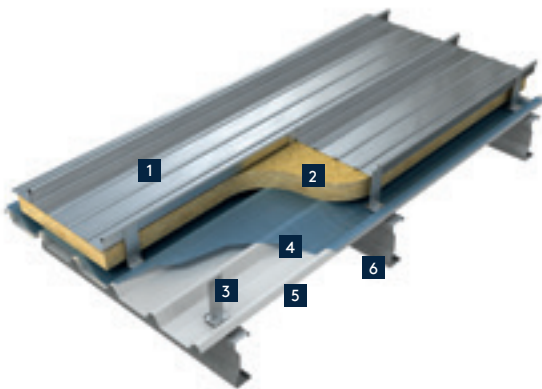
An innovative, discreet personal fall protection system, Safepro2 is designed to protect both the worker and the roof to which the system is fixed. Safepro2 is fully compliant to EN 795:C and uses force minimization technology which limits the load transferred to the roof to less 6kN.

Technical Data

Typical Construction Solutions

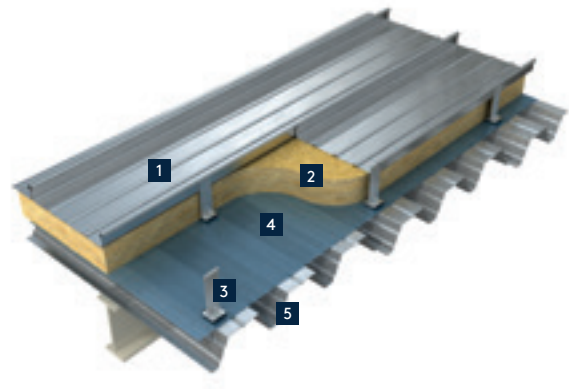
For project and performance specifications, please contact Kingspan Jindal.

KingZip insulated system on steel purlins



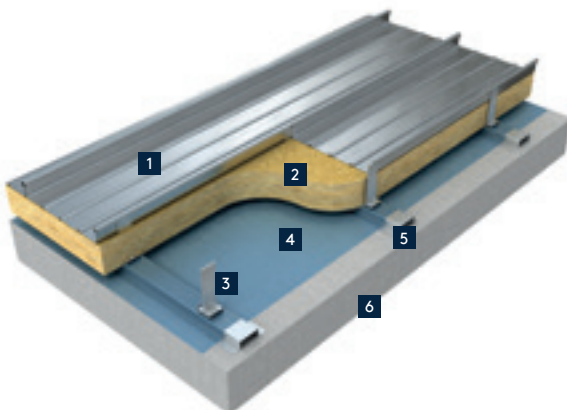
1. KingZip Linea / Infiniti Standing Seam
2. Single layer mineral wool insulation
3. Halter with thermal pad
4. Vapour control layer (VCL)
5. Kingspan Jindal structural liner
6. Secondary steelwork - purlin

KingZip insulated system on structural liner deck



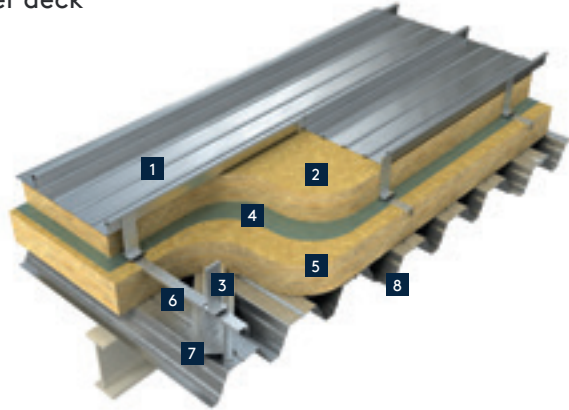
1. KingZip Linea / Infiniti Standing Seam
2. Single layer mineral wool insulation
3. Halter with thermal pad
4. Vapour control layer (VCL)
5. Kingspan Jindal structural liner deck (can be perforated)

KingZip insulated system on concrete structure



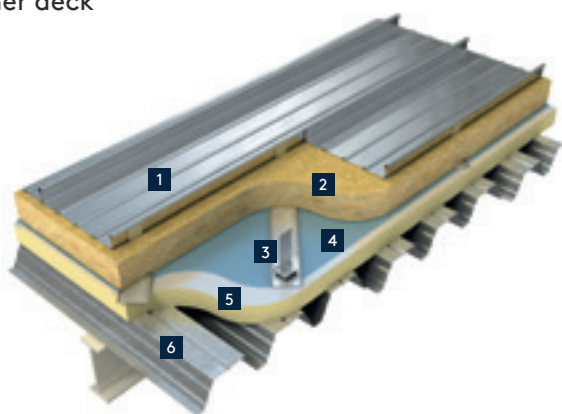
1. KingZip Linea / Infiniti Standing Seam
2. Single layer mineral wool insulation
3. Halter with thermal pad
4. Vapour control layer (VCL)
5. Galvanised top hat support channel
6. Concrete deck / structure

KingZip enhanced insulation system on structural liner deck



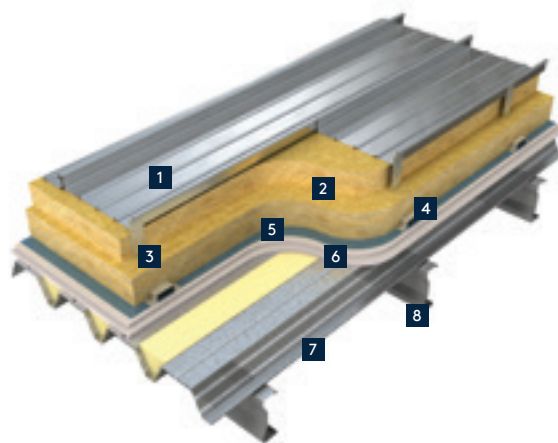
1. KingZip Linea / Infiniti Standing Seam
2. Single layer mineral wool insulation
3. Halter with thermal pad
4. Vapour control layer (VCL)
5. Single layer mineral wool insulation
6. Halter support system
7. Galvanised top hat support channel
8. Kingspan Jindal structural liner deck

KingZip enhanced insulation system on structural liner deck



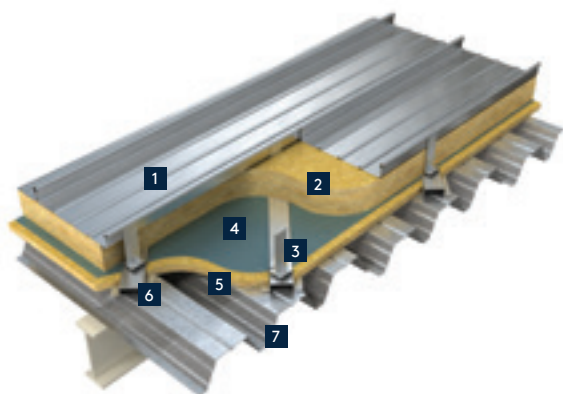
- | | |
|------------------------------------------------|------------------------------------------------------------|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Single layer mineral wool insulation | 5. Single layer fire-rated PIR foil-faced insulation board |
| 3. Halter with thermal pad and support channel | 6. Kingspan Jindal structural liner deck |

KingZip acoustic system on structural liner deck



- | | |
|-------------------------------------------|------------------------------------------------------------------------------------|
| 1. KingZip Linea / Infiniti Standing Seam | 5. Vapour control layer (VCL) |
| 2. Double layer mineral wool insulation | 6. Double layer acoustic plasterboard |
| 3. Halter with thermal pad | 7. Kingspan Jindal perforated structural liner deck with fire-rated PIR insulation |
| 4. Galvanised top hat support channel | 8. Secondary steelwork - purlin |

KingZip acoustic system on structural liner deck

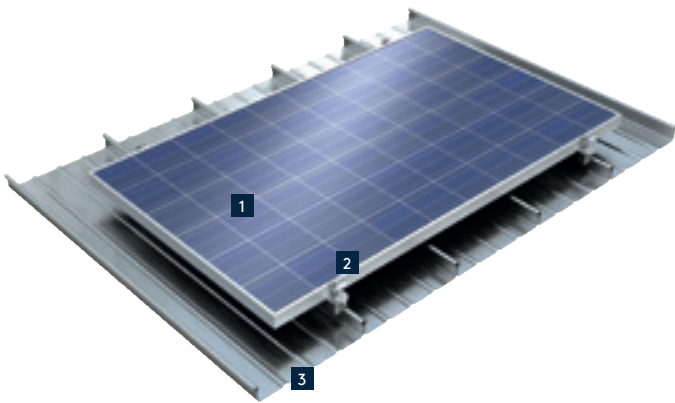


- | | |
|------------------------------------------------|-----------------------------------------------------|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Single layer mineral wool insulation | 5. Single layer mineral wool insulation |
| 3. Halter with thermal pad and support channel | 6. Galvanised top hat support channel |
| | 7. Kingspan Jindal perforated structural liner deck |

Technical Data

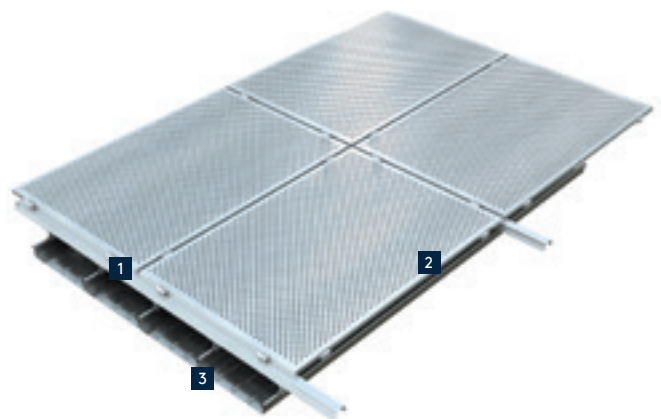
System Options

Solar PV mounted on KingZip



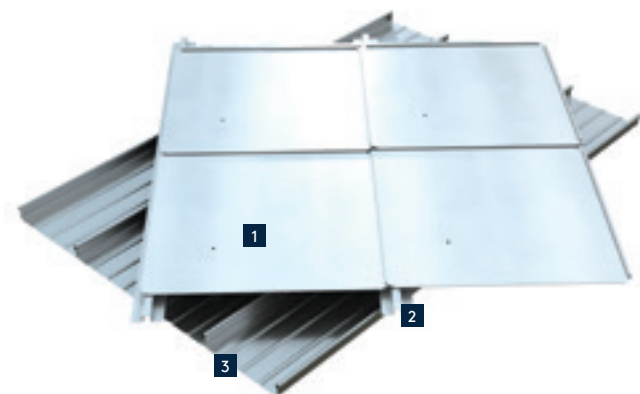
- 1. Direct-mounted solar PV module (can be tilt-mounted)
- 2. S5 / KingClip non-penetrative fixings
- 3. KingZip Linea / Infiniti Freeform Building Envelope Solution

ACP / Mesh mounted on KingZip



- 1. ACP / Mesh
- 2. Support rails with non-penetrative fixings
- 3. KingZip Linea / Infiniti Freeform Building Envelope Solution

Shingle mounted on KingZip



- 1. Shingles
- 2. Support rails with non-penetrative fixings
- 3. KingZip Linea / Infiniti Freeform Building Envelope Solution

Technical Data

Halters

Aluminium Halter Range (heights)

Maximum
245mm

Minimum
75mm



Thermohalter Range (heights)

Maximum
245mm

Minimum
75mm



KingZip Linea and Infiniti external weather sheets are secured to the supporting sub-structure with a range of extruded aluminium or polyamide halters.

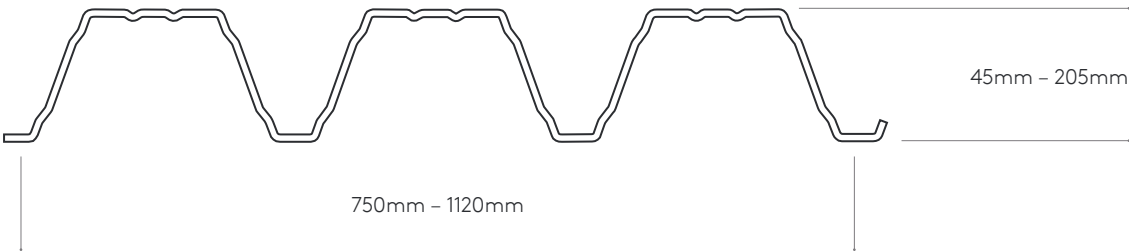
Extruded aluminium halters are supplied complete with pre-fitted thermal pads. Our polyamide 'thermohalters' provide enhanced thermal and acoustic system performance, mitigating thermal bridging through the roof assembly.

All halters are designed to accommodate free movement of the external weather sheet during thermal cycling, therefore permitting the application of very long sheet lengths.

National and international building codes demand that the effect of thermal bridging is taken into account when establishing R- and U-values.

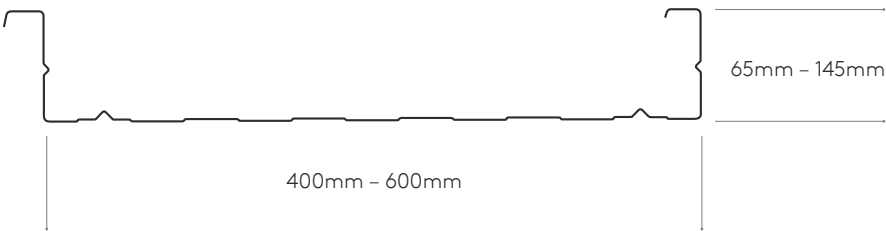
Technical Data

Structural Liner Decks



Please note: all Structural Liner Deck profiles can be perforated in the web.

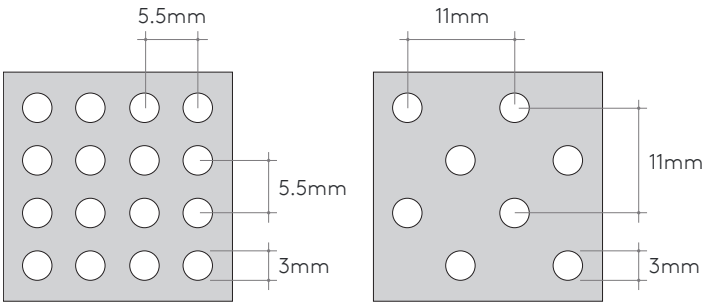
Structural Liner Trays



Please note: all Structural Liner Trays profiles can be perforated in the pan.

Acoustic Specifications

Both our Structural Liner Deck and Liner Tray ranges are available with two standard perforation options to suit acoustic sound absorption specifications. Perforations are applied to the web of Structural Liner Decks and the pan of Liner Trays. Project specific perforation configurations are available on request.



Taronga Zoo, Sydney, Australia
Architect: Tanner Kibble Denton



Integrated Solutions

Daylighting

Daylight is an essential natural asset. There is a significant body of evidence to suggest that buildings enjoying high levels of natural light are literally more successful than those more reliant on artificial lighting systems.

In all environments the eye and brain functions respond better to natural light, as people have a inherent attraction and need for daylight.

A proper daylighting plan can reduce electricity and HVAC (heating, ventilation, and air conditioning) costs.

We custom design and manufacture a range of integrated upstands, specifically for our KingZip systems, that accommodate a variety of daylighting solutions such as prismatic, domed, multi-vault and barrel vault options as well as 'in-plane' daylight methods.

Fall Arrest Safety System

We offer both our SafePro2 and KingZip SF Walkway safety systems for use with KingZip Linea and Infiniti.

They are the only systems that are fully tested and approved for use with KingZip and they comply with national and international codes and standards – providing the highest levels of protection within regulatory requirements.

Both systems allow for quick and easy, top-fix non-penetrative installation eliminating thermal bridging.

SafePro2

An innovative, discreet personal fall protection system, SafePro2 is designed to protect both the worker and the roof to which the system is fixed. SafePro2 is secured to the standing seam of KingZip systems using non-penetrative fixing clips, thereby maintaining integrity of the external weather sheet. SafePro2 comprises a high-strength stainless steel cable, supported on energy-absorbing roof anchor posts. Workers must wear an approved full body harness lanyard and attach themselves to the SafePro2 system.

KingZip SF Walkway

Kingspan Jindal aluminium walkways prevent roof panel damage caused by foot traffic by allowing a safe convenient access to and across the roof. Designed to complement KingZip, the walkways are fixed to the roof profile without penetration of the sheeting, maintaining KingZip system integrity.

Vents & Access Hatches

We custom design and manufacture a range of integrated upstands for vents, access hatches and other penetrations to project specific requirements.

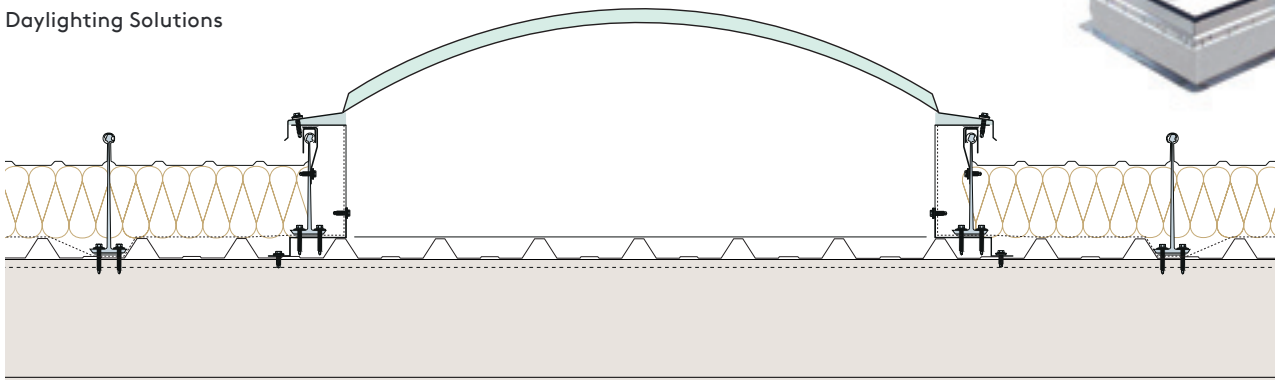
KingZip SF Walkway



Bilco CS-50TB Roof Access Hatch



Daylighting Solutions



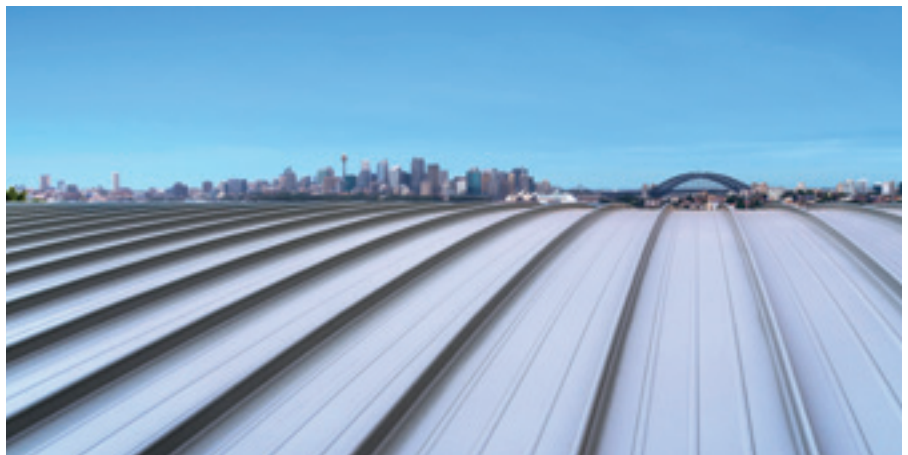
Integrated Solutions

Full NBS and CSI specifications are available for both KingZip Linea and Infiniti Freeform Building Envelope Solutions. Please contact our Design Assist Service on: +971 (0) 4-8854 232.

We want to work in a partnership with you from the outset to deliver innovative high performance architectural solutions for your projects.

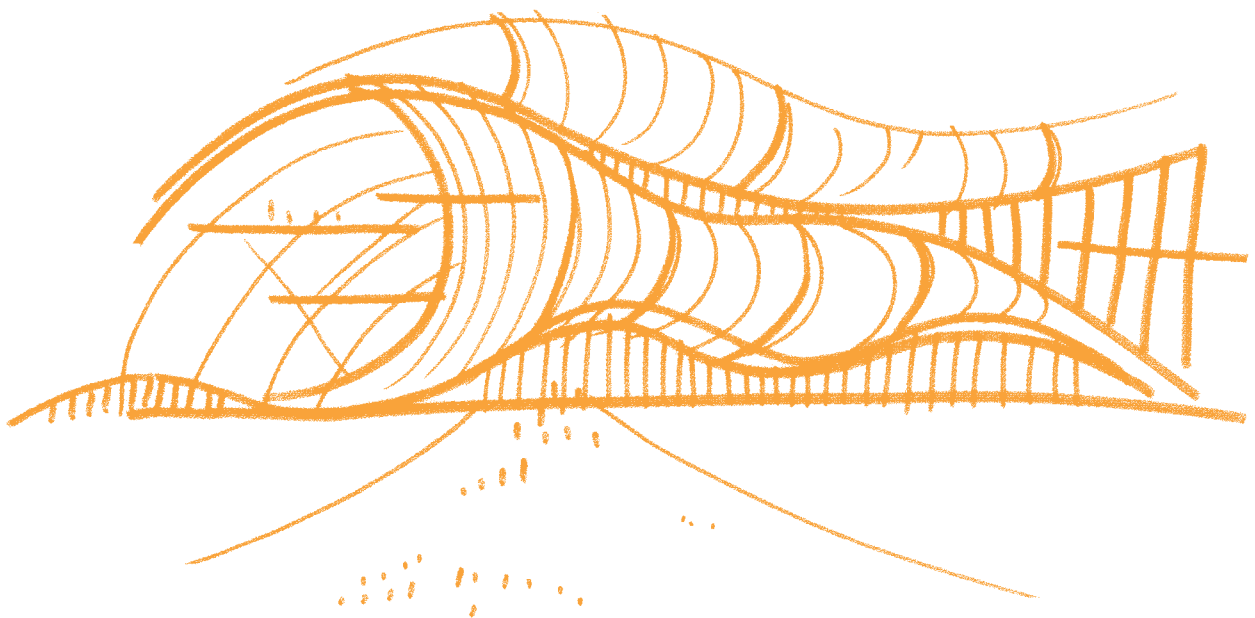
The Kingspan Jindal brand has always been synonymous with high performance construction systems excellence. Our focus on stunning architectural design capability, fire performance, energy efficient building systems and long term durability has placed the company in a world leadership position as the most innovative providers of integrated architectural design solutions globally.

Kingspan Jindal has pioneered many innovations in the design and manufacturing of advanced building envelope systems, with sustainability of lifetime performance as a key focus. Today Kingspan Jindal provides building designers and architects with solutions to facilitate their creativity, to offer their clients striking buildings, from urban master plans through to breathtaking infrastructure and commercial projects.



Taronga Zoo, Sydney, Australia
Architect: Tanner Kibble Denton

At Kingspan Jindal, we deliver the industry's widest portfolio of support and services, both locally and globally. Designed to optimise the performance of the buildings, and backed by the knowledge and experience that only we can provide.





95+

commercial and service centres
worldwide

111

manufacturing sites worldwide

€3.7 billion

revenue in 2017

12,000+

employees worldwide

Kingspan is a global leader in the design, manufacture and delivery of advanced building envelope systems and solutions.

Your Global Partner

Design, Technical, Commercial & Construction Assist

Project overview

Design intent, brief and scope.

Optimised solutions

Building code(s) compliance – Structural, thermal, airtightness, acoustic, fire, durability and other performance requirements – Health & Safety strategies – Envelope solutions and structure integration drawings and BIM details – NBS / CSI envelope system specifications – Testing, accreditation and certification – Energy efficiency optimisation and measures – Environmental and sustainability ratings – Cost plan budget and programme inputs.

Scheme mock-ups

3D digital visualisation – Scale mock-ups and samples.

Procurement & programme

Specialist installer selection, training and on-site support – Materials submission – On-site build methods and procedures.

Final bid & tender

Contract submission and negotiation – Contract award – Detailed design and construction solutions for build.

Project delivery

Kingspan Jindal project management and field service support teams – 3D high resolution terrestrial laser scan measurement service – On- and off-site 2D / 3D CAD /CAM manufacturing, logistics and materials delivery programme.

Project completion

Post-completion 'as-constructed' documentation and drawings – Kingspan Guarantee.

360° Service & Support

KingZip Warranty

Kingspan Jindal offers a comprehensive KingZip warranty for up to 30 years that includes paint coatings, metal substrate and thermal and structural performance for the supplied system.

KingZip Academy

Our KingZip Academy training centre provides up-to-date design, application, installation and site best practice for designers, contractors and approved installers to ensure our KingZip systems provide optimum performance for the buildings' lifetime.

Morin Corporation

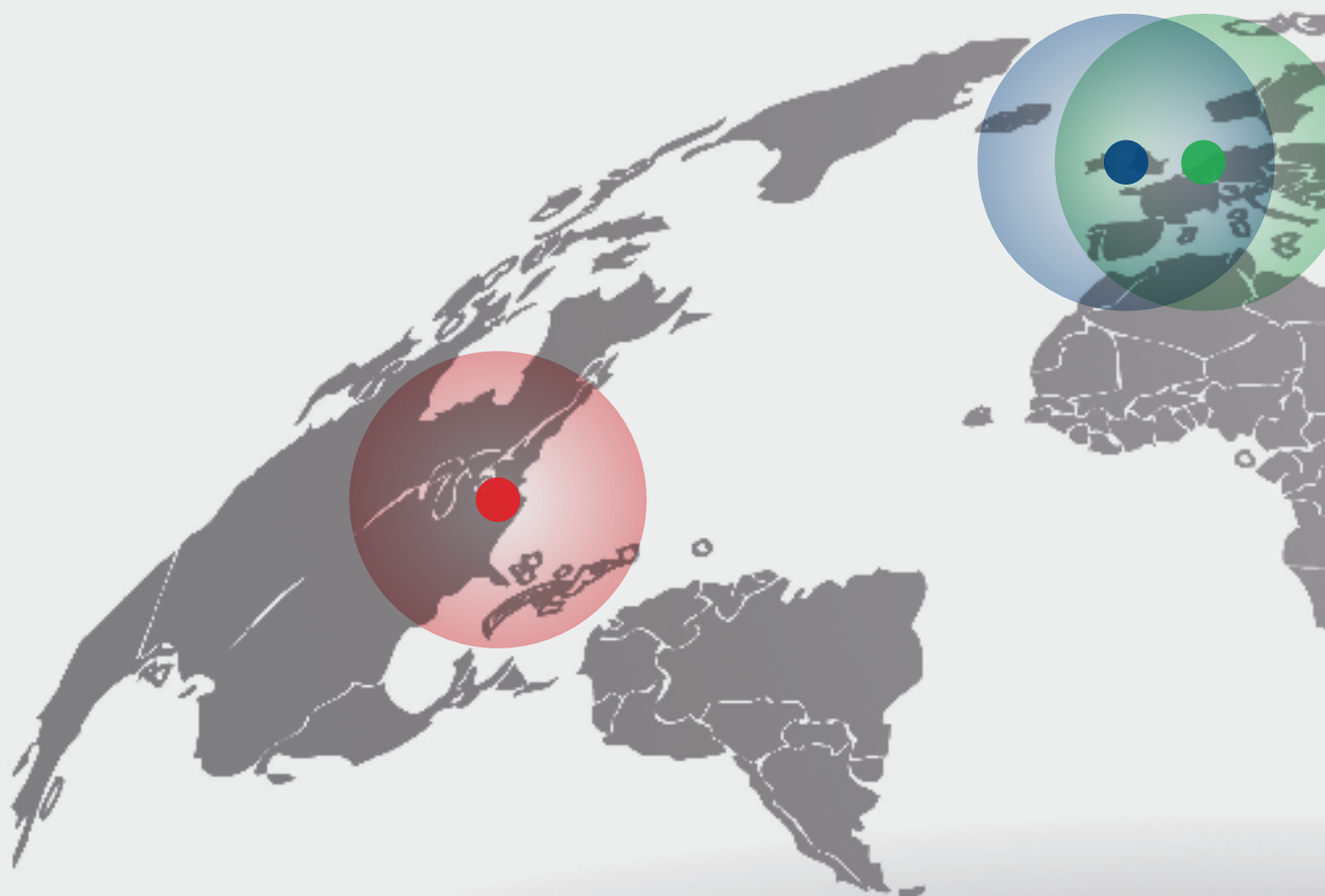
685 Middle Street
Bristol
CT 06010
USA
T: +1 (860) 584-0900

Kingspan Limited

Greenfield Business Park No.2
Holywell
Flintshire
CH8 7GJ
United Kingdom
T: +971 (0) 4-8854 232

Kingspan B.V.

Lingewei 8
4004 LL Tiel
Postbus 6565
4000 HN Tiel
The Netherlands
T: +971 (0) 4-8854 232



Service Hubs

Kingspan Insulated Panels Manufacturing LLC

P.O. Box: 60493
Jebel Ali,
Dubai Investments Park,
Dubai, UAE

T: +971 (0) 4-8854 232

Kingspan Insulated Panels Pty Ltd

Singapore Branch
1 Commonwealth Lane
#07-26/27
Singapore 149544

T: +65 6264 5942

Kingspan Jindal Pvt. Ltd

Old Manesar Road
Narsinghpur
Gurgaon - 122001
Haryana
India

T: +91 124 4393 200

Kingspan Insulated Panels Pty Ltd

38-52 Dunheved Circuit
St Marys
NSW 2760
Australia

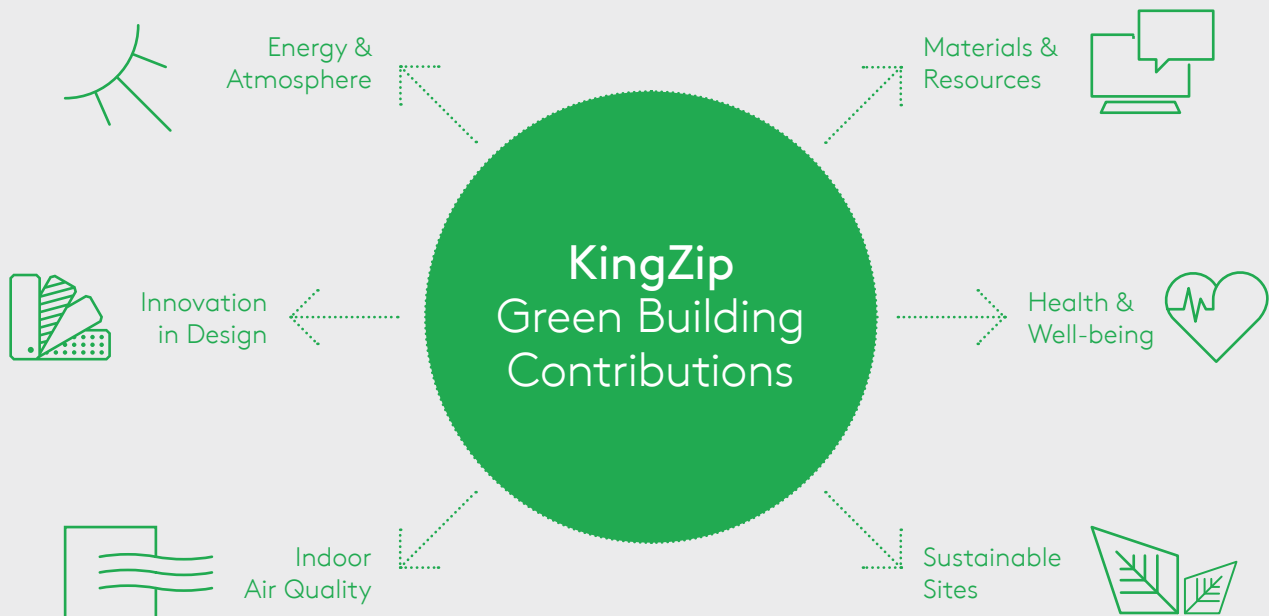
T: +61 (02) 1300 KINGSPAN
(1300 546 477)



"Together we have the opportunity to make our built environments more energy efficient, attractive, adaptable, environmentally sensitive and productive. The way we build can be more effective and reach higher standards than ever before."

Gene M. Murtagh, Chief Executive Officer, Kingspan Group.

KingZip envelope systems can contribute to green building credits in the following key categories:



Aluminium and steel are two of the most easily and widely recycled materials available.

Kingspan was founded with a vision; to lead the way in creating energy efficient buildings. Our pledge to sustainability is instilled at every level of the company and at every step in the manufacturing process.

Environmental Sustainability

Kingspan Jindal Pvt. Ltd.

Old Manesar Road
Narsinghpur
Gurgaon - 122001
Haryana
India

t: +91 124 4393 200
e: sales@kingspanjindal.com

Project images courtesy of Foster + Partners and Kohn Pedersen Fox Associates.
Conceptual sketches by Anna Shapiro, Sheppard Robson Architects LLP



kingspanjindal.com