

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

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 (MMMMF) 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'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	$l < 12 \text{ i} < 6$
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 for outer profile specifications for KingZip Infiti.

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 for weight specifications for KingZip Infiti.

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 Infiti 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 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

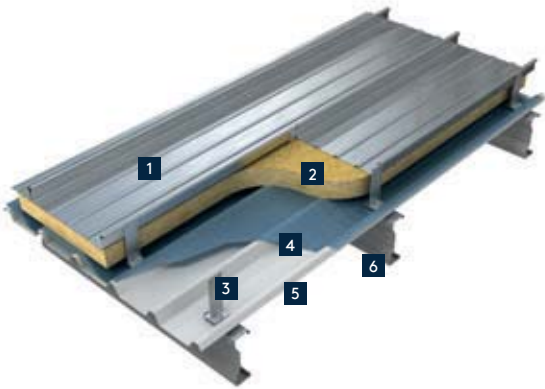
An innovative, discreet personal fall protection system, Safepro2 is designed to protect both the worker and the roof to which the system is fixed. Safepro2 is fully compliant to EN 795:C and uses force minimization technology which limits the load transferred to the roof to less 6kN.

Technical Data

Typical Construction Solutions - Thermal Systems

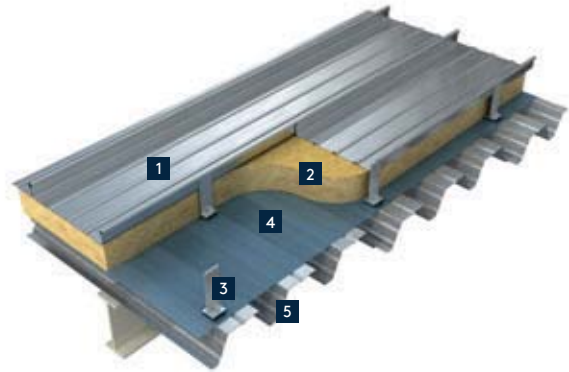
For project and performance specifications, please contact Kingspan.

KingZip insulated system with liner sheet



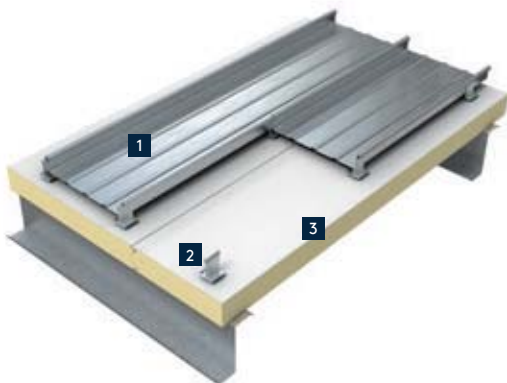
- | | |
|---|---------------------------------|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Single layer mineral wool insulation | 5. Kingspan liner sheet |
| 3. Halter with thermal pad | 6. Secondary steelwork - purlin |

KingZip insulated system on structural liner deck



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

KingZip with BENCHMARK Roofliner



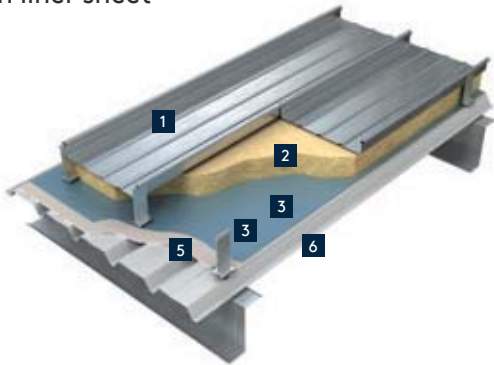
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|---|
| 1. KingZip Linea / Infiniti Standing Seam |
| 2. Halter with thermal pad |
| 3. BENCHMARK Roofliner |

Technical Data

Typical Construction Solutions - Acoustic Systems

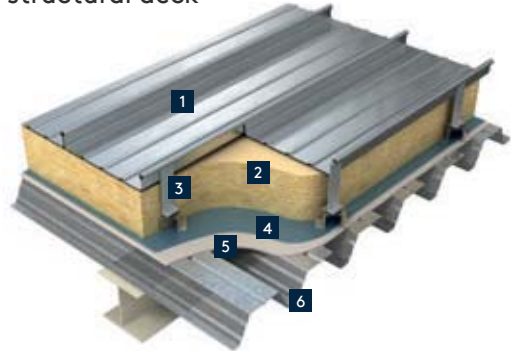
For project and performance specifications, please contact Kingspan.

Sound Transmission: KingZip acoustic system with liner sheet



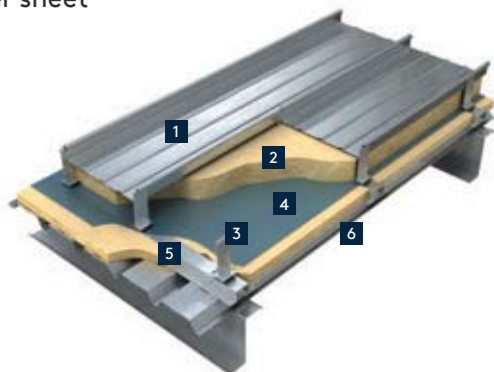
- | | |
|---|-------------------------------|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Thermal insulation layer | 5. Acoustic mass layers |
| 3. Halter with thermal pad | 6. Kingspan liner sheet |

Sound Transmission: KingZip acoustic system with structural deck



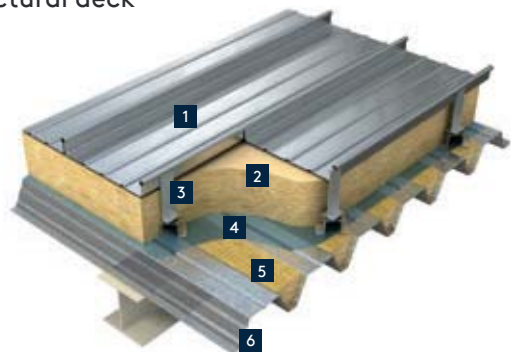
- | | |
|---|--|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Thermal insulation layer | 5. Acoustic mass layers |
| 3. Halter with thermal pad | 6. Kingspan perforated structural deck |

Sound Absorption: KingZip system with perforated liner sheet



- | | |
|---|--|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Thermal insulation layer | 5. Tissue-faced mineral wool insulation and top hat spacer |
| 3. Halter with thermal pad | 6. Kingspan perforated liner sheet |

Sound Absorption: KingZip system with perforated structural deck



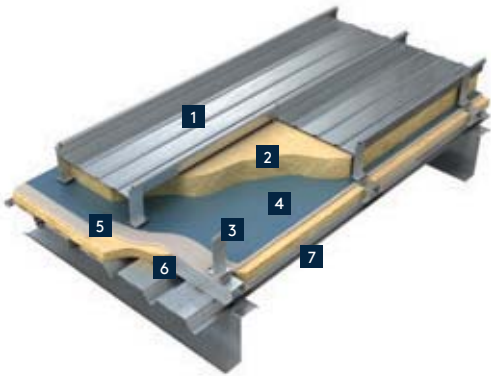
- | | |
|---|---|
| 1. KingZip Linea / Infiniti Standing Seam | 4. Vapour control layer (VCL) |
| 2. Thermal insulation layer | 5. Tissue-faced mineral wool insulation |
| 3. Halter with thermal pad | 6. Kingspan perforated structural deck |

Technical Data

Typical Construction Solutions - Acoustic Systems

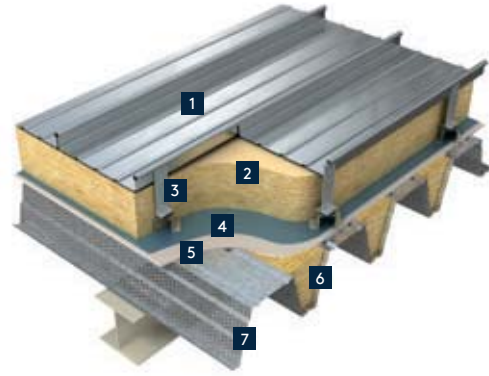
For project and performance specifications, please contact Kingspan.

Sound Transmission & Absorption: KingZip acoustic system with perforated liner sheet



- 1. KingZip Linea / Infiniti Standing Seam
- 2. Thermal insulation layer
- 3. Halter with thermal pad
- 4. Vapour control layer (VCL)
- 5. Acoustic mass layers
- 6. Tissue-faced mineral wool insulation and top hat spacer
- 7. Kingspan perforated liner sheet

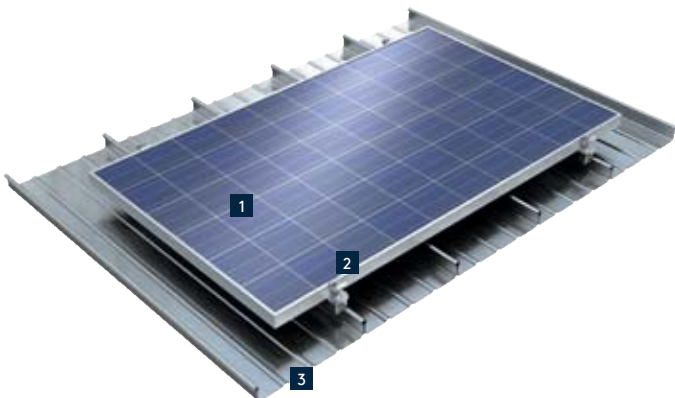
Sound Transmission & Absorption: KingZip acoustic system with perforated structural deck



- 1. KingZip Linea / Infiniti Standing Seam
- 2. Thermal insulation layer
- 3. Halter with thermal pad
- 4. Vapour control layer (VCL)
- 5. Acoustic mass layers
- 6. Tissue-faced mineral wool insulation
- 7. Kingspan perforated structural deck

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

Technical Data

Halters

Aluminium Halter Range (heights)

Maximum
245mm

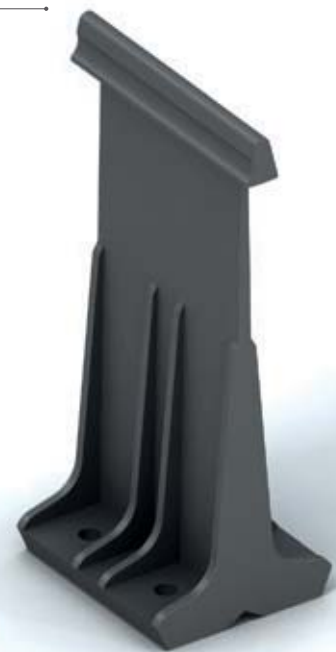
Minimum
75mm



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.

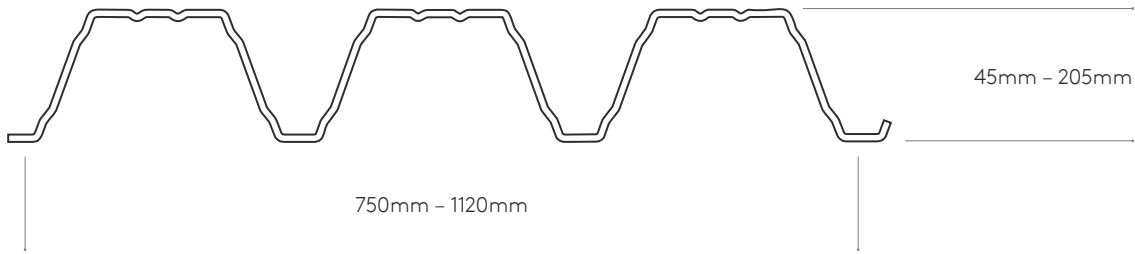
Extruded aluminium halters are supplied complete with pre-fitted thermal pads. Our polyamide 'thermohalters' provide enhanced thermal and acoustic system performance, mitigating thermal bridging through the roof assembly.

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.

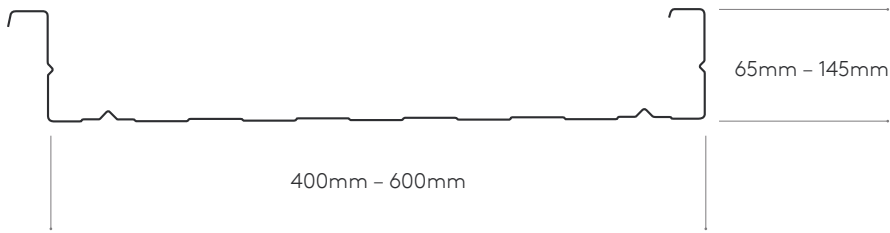
Technical Data

Structural Liner Decks



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

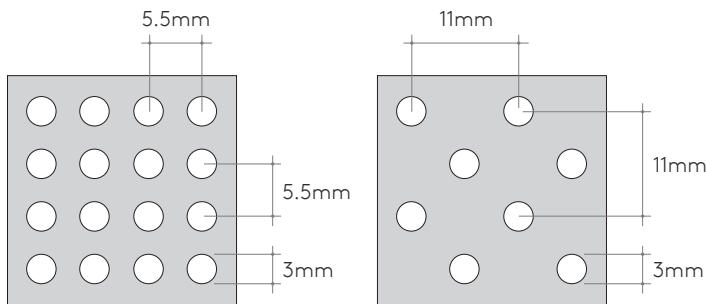
Structural Liner Trays



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.



Technical Data

Load / Span Tables

KingZip Linea 300

0.9mm Aluminium (self weight 3.87 kg/m²)

Span (m)	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Download	2.45	2.45	2.45	2.37	1.75	1.37	1.00	0.75
Wind Uplift	3.40	3.40	3.40	2.90	2.40	2.10	1.75	1.20

1.2mm Aluminium (self weight 5.13 kg/m²)

Span (m)	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Download	3.25	3.25	3.25	2.75	2.48	1.87	1.40	1.10
Wind Uplift	3.40	3.40	3.40	3.40	3.20	2.70	2.40	1.60

KingZip Linea 400

0.9mm Aluminium (self weight 3.53 kg/m²)

Span (m)	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Download	1.87	1.87	1.87	1.75	1.37	1.00	0.75	0.55
Wind Uplift	3.00	3.00	2.58	2.20	1.91	1.56	1.25	0.95

1.2mm Aluminium (self weight 4.70 kg/m²)

Span (m)	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Download	3.00	2.70	2.30	2.00	1.70	1.46	1.08	0.81
Wind Uplift	3.00	3.00	3.00	2.90	2.50	2.10	1.80	1.50

0.7mm Steel (self weight 7.98 kg/m²)

Span (m)	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Download	3.40	3.07	2.75	2.50	2.15	1.65	1.20	0.80
Wind Uplift	4.00	3.90	3.25	2.75	2.40	2.10	1.75	1.45

Notes:

- All loads are characteristic working loads in kN/m² based on 4 or more spans.
- Download figures based on a deflection limit of span ^L/200.
- Wind uplift figures based on a deflection limit of span ^L/90.
- Loadings take account of KingZip Linea sheet pulling out of the halter bracket under wind uplift using the formula: $P(\text{max}) = 1.15 \times C \times L \times W$.
 C = cover width of sheet (m).
 L = spacing of the brackets along the sheet (m).
 W = wind uplift loading (kNm).
- Safe load on bracket (P) = 2.80kN (0.7mm steel / 0.9mm aluminium sheet).
- Safe load on bracket (P) = 3.10kN (1.2mm aluminium sheet).