

Standing Seam Systems

Product Data Sheet



KingZip IP Standing Seam Insulated Panel
KS500/1000 ZIP IP

KS500/1000 ZIP IP KingZip IP

Product Data Sheet

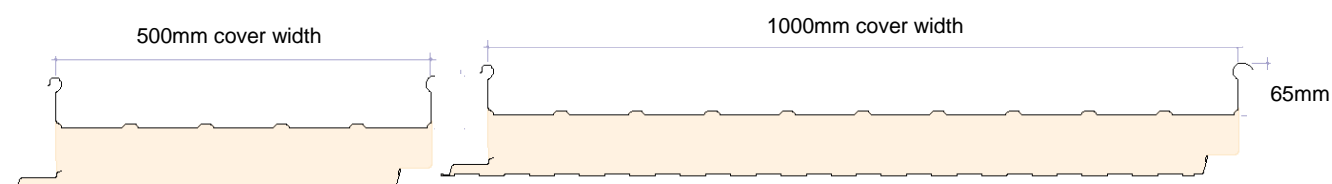
Applications

The KS500/1000 ZIP IP is a unique insulated standing seam roof panel, which gives a secret-fix appearance unrivalled in the composite panel market. The panel can be used on roofs with pitches of 1.5° or more after deflection.

Available Lengths

| | |
|--------------------------------|------------|
| Standard Lengths | 1.8 - 12m |
| Longer Lengths (non-standard) | 12 – 26m |
| Shorter Lengths (non-standard) | Below 1.8m |

Note: Additional costs and transport restrictions may apply for non-standard lengths. All lengths may change for export (outside of the UK).



Dimensions, Weight & Thermal Performance

| | | | | | |
|----------------------------------|------|------|------|------|------|
| Core Thickness (mm) | 45 | 90 | 110 | 124 | 147 |
| Overall Thickness (mm) | 110 | 155 | 175 | 189 | 212 |
| U-value (W/m²K) | 0.45 | 0.25 | 0.20 | 0.18 | 0.15 |
| KS500 ZIP | | | | | |
| Weight kg/m² 0.5 Steel/0.4 Steel | 11.1 | 12.9 | 13.7 | 14.3 | 15.2 |
| Weight kg/m² 0.9 Alum/0.4 Steel | 9.1 | 10.9 | 11.7 | 12.3 | 13.2 |
| KS1000 ZIP | | | | | |
| Weight kg/m² 0.5 Steel/0.4 Steel | 10.0 | 11.8 | 12.6 | 13.2 | 14.1 |
| Weight kg/m² 0.9 Alum/0.4 Steel | 8.3 | 10.1 | 10.9 | 11.4 | 12.3 |

The KS500/1000 ZIP IP standing seam systems have a Thermal Transmittance (U value), calculated using the method required by the Building Regulations Part L2 (England & Wales) and Building Standards Section 6 (Scotland).

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Insulation Core

KS500/1000 ZIP IP standing seam systems are manufactured with an ECOsafe and FIREsafe polyisocyanurate (PIR) core.

Fire

The external and internal faces of the panel to be Class 0 in accordance with the Building Regulations when tested to BS 476: Part 6: 2009 and Part 7: 1997. The panel is rated SAA when tested to BS 476: Part 3: 2004.

This FIREsafe system has passed all the requirements of LPS 1181: 2005: Part 1: Issue 1.1, ceiling lining tests by the Loss Prevention Certification Board (LPCB) certified to LPS 1181 Grade EXT – B.



Environmental

This ECOsafe system may achieve a Green Guide A+ rating and is subject to project specific assessments.

Air Leakage

An air leakage rate of 3m³/hr/m² at 50Pa or less can be achieved when using Kingspan insulated roof and wall panels.

Acoustic

Sound Reduction Index (SRI)

| Hz* | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|----------|----|-----|-----|-----|----|----|----|----|
| SRI (dB) | 19 | 18 | 19 | 20 | 17 | 35 | 38 | 44 |

* Frequency

The KS500/1000 ZIP IP standing seam system has a single figure weighted sound reduction $R_w = 23\text{dB}$.

Biological

Kingspan panels are normally immune to attack from mould, fungi, mildew and vermin. No urea formaldehyde is used in the construction, and the panels are not considered deleterious.

Materials

Substrate

- Kingspan XL Forté, Kingspan Spectrum, Kingspan AQUAsafe, and Kingspan CLEANsafe: Material S220GD+ZA hot-dip zinc/aluminium Galfan coated steel to BS EN 10346: 2009 Standard external sheet thickness 0.5mm, standard internal sheet thickness 0.4mm.
- Bright White Polyester: Material Hot dip zinc coated to BS EN 10346: 2009, Standard internal steel thickness 0.4mm.
- Stainless Steel: Austenitic Grade 304 stainless steel to BS EN 10088: Part 2: 2005, thickness 0.4mm.
- Aluminium: Grades 3105 series. Standard external sheet thickness 0.9mm.

Coatings - External Weather Sheet

- Kingspan XL Forté: Consists of a multi-layer organic coating, embossed with a traditional leather-grain finish.
- Kingspan Spectrum: Consists of a coated semi-gloss finish with slight granular effect.
- Aluminium: Mill finish Stucco Embossed with lacquer.
- PVDF: 25 micron thick stoved fluorocarbon coating which has excellent colour stability even at temperatures as high as 120°C.
- ARS Abrasion Resistant: 28 micron thick polyester or polyurethane resin reinforced with polyamide high durability coating with exceptionally good handling characteristics.

Coatings - Internal Liner Sheet

- Bright White Polyester: The coating has been developed for use as the internal lining of insulated panels. Standard colour is "bright white" with an easily cleaned surface.
- Kingspan AQUAsafe: The coating has been developed for use as the internal lining of insulated panels to suit high humidity internal environments (class 5 as defined by the Building Regulations).
- Kingspan CLEANsafe: The coating has been developed for use as the internal lining of insulated panels where a high level of cleanliness and hygiene is required, and the panels are to be cleaned down on a regular basis.
- Stainless Steel: The stainless steel liner has been developed for use as the internal lining of insulated panels in buildings with a very aggressive/corrosive internal environment.

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Panel End Cut Back

| | |
|---------|-------|
| End Lap | 200mm |
| Eaves | 100mm |

Note: Where an end lap is used the flush end of the down slope panel has a factory fitted end lap stitching plate.

Product Tolerance

| | |
|--------------------|--------------|
| Cut to Length | -0.05% +0.1% |
| Liner Sheet Length | -0.1% +0.1% |
| Cover Width | -0mm +3mm |
| Thickness | -2mm +2mm |
| End Square | -3mm +3mm |

Handing

The KS500/1000 ZIP IP standing seam system can be manufactured in both left to right handed (LH) and right to left handed (RH).

Seals

Factory applied side lap and anti-condensation tape.
End laps site applied sealant.

Quality & Durability

KS500/1000 ZIP IP standing seam systems are manufactured from the highest quality materials, using state of the art production equipment to rigorous quality control standards, complying with BE EN ISO 9001 standard, ensuring long term reliability and service life. The panels are also being manufactured under Environmental Management System Certification BS EN ISO 14001. Compliant to BS OHSAS 18001 Occupational Health and Safety.

Guarantee

Kingspan Total Panel Guarantee covering the structural and thermal performance for a period of up to 25 years and Kingspan Coating Guarantee for a period of up to 40 years (subject to project specific information).

Packing

KS500/1000 ZIP IP standing seam systems are stacked interleaved weather sheet to weather sheet/liner to liner. The top, bottom, sides and ends are protected with foam and timber packing and the entire pack is wrapped in plastic.

| | | | | |
|-----------------------|----|----|-----|-----|
| Core Thickness (mm) | 45 | 90 | 110 | 124 |
| KS500 ZIP IP | | | | |
| No. of panels in Pack | 28 | 16 | 16 | 12 |
| KS1000 ZIP IP | | | | |
| No. of panels in Pack | 14 | 8 | 8 | 6 |

Note: Applies to UK pack sizes. Please contact Kingspan Technical Services for export information. Quantities are reduced for exceptionally long panels.

Sea Freight

Fully timber crated packs are available on projects requiring delivery by sea freight shipping, at additional costs. Alternatively, steel containers can be used. Special loading charges apply.

Delivery

All deliveries (unless indicated otherwise) are by road transport to project site. Off-loading is the responsibility of the client.

Site Installation Procedure

Site assembly instructions are available from Kingspan envirocare Technical Services.

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Product Data

Structural Tables

Unfactored load/span table (use unfactored calculated design wind load values).

KS500 ZIP IP Outer Sheet 0.9mm (Al), Inner Sheet 0.4mm (Steel)

Single Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 5.83 | 5.18 | 4.25 | 3.37 | 2.49 | 2.02 | 1.55 | 1.27 | 0.99 |
| | Suction | 5.84 | 4.87 | 3.89 | 3.36 | 2.59 | 1.99 | 1.38 | 1.04 | 0.67 |
| 90 | Downwards | 5.82 | 5.16 | 4.50 | 4.09 | 3.67 | 3.46 | 2.81 | 2.39 | 1.97 |
| | Suction | 5.97 | 5.32 | 4.66 | 4.24 | 3.82 | 3.53 | 3.24 | 2.85 | 2.36 |
| 110 | Downwards | 5.81 | 5.07 | 4.50 | 4.04 | 3.66 | 3.35 | 3.08 | 2.86 | 2.66 |
| | Suction | 5.98 | 5.24 | 4.66 | 4.21 | 3.83 | 3.52 | 3.25 | 3.02 | 2.83 |
| 124 | Downwards | 5.81 | 5.07 | 4.50 | 4.04 | 3.66 | 3.35 | 3.08 | 2.86 | 2.66 |
| | Suction | 5.98 | 5.24 | 4.66 | 4.21 | 3.83 | 3.52 | 3.25 | 3.02 | 2.83 |

Double Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 3.18 | 2.83 | 2.48 | 2.26 | 2.03 | 1.87 | 1.71 | 1.60 | 1.48 |
| | Suction | 2.64 | 2.39 | 2.13 | 1.97 | 1.81 | 1.70 | 1.58 | 1.50 | 1.41 |
| 90 | Downwards | 3.17 | 2.81 | 2.44 | 2.21 | 1.98 | 1.82 | 1.66 | 1.56 | 1.43 |
| | Suction | 2.55 | 2.27 | 1.98 | 1.82 | 1.65 | 1.54 | 1.43 | 1.36 | 1.28 |
| 110 | Downwards | 3.17 | 2.75 | 2.43 | 2.18 | 1.97 | 1.79 | 1.65 | 1.52 | 1.42 |
| | Suction | 2.54 | 2.20 | 1.95 | 1.76 | 1.61 | 1.49 | 1.39 | 1.31 | 1.24 |
| 124 | Downwards | 3.17 | 2.75 | 2.43 | 2.18 | 1.97 | 1.79 | 1.65 | 1.52 | 1.42 |
| | Suction | 2.54 | 2.20 | 1.95 | 1.76 | 1.61 | 1.49 | 1.39 | 1.31 | 1.24 |

KS500 ZIP IP Outer Sheet 0.5mm (Steel), Inner Sheet 0.4mm (Steel)

Single Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 5.82 | 4.88 | 3.93 | 3.38 | 2.83 | 2.48 | 1.90 | 1.56 | 1.22 |
| | Suction | 5.83 | 4.88 | 3.92 | 3.40 | 2.87 | 2.54 | 2.21 | 1.99 | 1.76 |
| 90 | Downwards | 5.81 | 5.15 | 4.49 | 4.08 | 3.66 | 3.37 | 3.08 | 2.73 | 2.25 |
| | Suction | 5.98 | 5.33 | 4.67 | 4.25 | 3.83 | 3.54 | 3.25 | 3.04 | 2.83 |
| 110 | Downwards | 5.80 | 5.06 | 4.48 | 4.03 | 3.65 | 3.34 | 3.07 | 2.84 | 2.65 |
| | Suction | 5.98 | 5.25 | 4.67 | 4.21 | 3.84 | 3.52 | 3.26 | 3.03 | 2.84 |
| 124 | Downwards | 5.80 | 5.06 | 4.48 | 4.03 | 3.65 | 3.34 | 3.07 | 2.84 | 2.65 |
| | Suction | 5.98 | 5.25 | 4.67 | 4.21 | 3.84 | 3.52 | 3.26 | 3.03 | 2.84 |

Double Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 3.13 | 2.78 | 2.43 | 2.21 | 1.99 | 1.84 | 1.68 | 1.57 | 1.46 |
| | Suction | 3.24 | 2.90 | 2.56 | 2.35 | 2.13 | 1.98 | 1.83 | 1.72 | 1.61 |
| 90 | Downwards | 3.11 | 2.75 | 2.39 | 2.17 | 1.94 | 1.79 | 1.63 | 1.52 | 1.40 |
| | Suction | 3.25 | 2.90 | 2.55 | 2.33 | 2.10 | 1.95 | 1.80 | 1.70 | 1.59 |
| 110 | Downwards | 3.11 | 2.70 | 2.38 | 2.13 | 1.92 | 1.75 | 1.61 | 1.49 | 1.38 |
| | Suction | 3.27 | 2.87 | 2.55 | 2.31 | 2.11 | 1.94 | 1.80 | 1.69 | 1.58 |
| 124 | Downwards | 3.11 | 2.70 | 2.38 | 2.13 | 1.92 | 1.75 | 1.61 | 1.49 | 1.38 |
| | Suction | 3.27 | 2.87 | 2.55 | 2.31 | 2.11 | 1.94 | 1.80 | 1.69 | 1.58 |

KS1000 ZIP IP Outer Sheet 0.9mm (Alu), Inner Sheet 0.4mm (Steel)

Single Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 4.07 | 3.46 | 2.82 | 2.23 | 1.64 | 1.32 | 1.00 | 0.81 | 0.61 |
| | Suction | 3.27 | 2.76 | 2.25 | 1.97 | 1.50 | 1.08 | 0.66 | 0.45 | 0.23 |
| 90 | Downwards | 4.77 | 4.23 | 3.69 | 3.35 | 3.00 | 2.67 | 2.16 | 1.83 | 1.50 |
| | Suction | 4.92 | 4.38 | 3.84 | 3.50 | 3.16 | 2.92 | 2.67 | 2.29 | 1.90 |
| 110 | Downwards | 4.76 | 4.15 | 3.68 | 3.30 | 2.99 | 2.74 | 2.52 | 2.28 | 1.93 |
| | Suction | 4.93 | 4.32 | 3.85 | 3.47 | 3.16 | 2.91 | 2.69 | 2.50 | 2.34 |
| 124 | Downwards | 4.76 | 4.15 | 3.68 | 3.30 | 2.99 | 2.74 | 2.52 | 2.28 | 1.93 |
| | Suction | 4.93 | 4.32 | 3.85 | 3.47 | 3.16 | 2.91 | 2.69 | 2.50 | 2.34 |

Double Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 2.60 | 2.31 | 2.02 | 1.84 | 1.65 | 1.47 | 1.29 | 1.15 | 1.00 |
| | Suction | 2.14 | 1.94 | 1.73 | 1.52 | 1.30 | 1.14 | 0.98 | 0.89 | 0.80 |
| 90 | Downwards | 2.58 | 2.28 | 1.98 | 1.79 | 1.60 | 1.47 | 1.34 | 1.25 | 1.15 |
| | Suction | 2.01 | 1.79 | 1.57 | 1.44 | 1.31 | 1.23 | 1.15 | 1.09 | 1.03 |
| 110 | Downwards | 2.58 | 2.23 | 1.97 | 1.76 | 1.58 | 1.44 | 1.32 | 1.22 | 1.13 |
| | Suction | 2.00 | 1.67 | 1.46 | 1.32 | 1.22 | 1.16 | 1.10 | 1.04 | 0.99 |
| 124 | Downwards | 2.58 | 2.23 | 1.97 | 1.76 | 1.58 | 1.44 | 1.32 | 1.22 | 1.13 |
| | Suction | 2.00 | 1.67 | 1.46 | 1.32 | 1.22 | 1.16 | 1.10 | 1.04 | 0.99 |

KS1000 ZIP IP Outer Sheet 0.5mm (Steel), Inner Sheet 0.4mm (Steel)

Single Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 3.43 | 2.89 | 2.34 | 2.03 | 1.71 | 1.51 | 1.20 | 0.98 | 0.75 |
| | Suction | 3.40 | 2.89 | 2.38 | 2.09 | 1.80 | 1.61 | 1.42 | 1.29 | 1.15 |
| 90 | Downwards | 4.76 | 4.22 | 3.68 | 3.34 | 2.99 | 2.72 | 2.41 | 2.05 | 1.68 |
| | Suction | 4.93 | 4.39 | 3.85 | 3.51 | 3.16 | 2.93 | 2.69 | 2.51 | 2.33 |
| 110 | Downwards | 4.75 | 4.14 | 3.67 | 3.29 | 2.98 | 2.73 | 2.51 | 2.32 | 2.12 |
| | Suction | 4.94 | 4.33 | 3.86 | 3.48 | 3.17 | 2.91 | 2.70 | 2.51 | 2.35 |
| 124 | Downwards | 4.75 | 4.14 | 3.67 | 3.29 | 2.98 | 2.73 | 2.51 | 2.32 | 2.12 |
| | Suction | 4.94 | 4.33 | 3.86 | 3.48 | 3.17 | 2.91 | 2.70 | 2.51 | 2.35 |

Double Span Condition

| Panel Thickness (mm) | Load Types | Uniformly distributed loads kN/m ² Span L in metres | | | | | | | | |
|----------------------|------------|---|------|------|------|------|------|------|------|------|
| | | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
| 45 | Downwards | 2.55 | 2.27 | 1.98 | 1.74 | 1.49 | 1.29 | 1.09 | 0.97 | 0.84 |
| | Suction | 2.67 | 2.39 | 2.11 | 1.89 | 1.67 | 1.48 | 1.29 | 1.17 | 1.05 |
| 90 | Downwards | 2.53 | 2.23 | 1.93 | 1.75 | 1.56 | 1.44 | 1.31 | 1.19 | 1.07 |
| | Suction | 2.67 | 2.38 | 2.09 | 1.91 | 1.73 | 1.61 | 1.49 | 1.40 | 1.31 |
| 110 | Downwards | 2.52 | 2.18 | 1.92 | 1.71 | 1.54 | 1.41 | 1.29 | 1.19 | 1.10 |
| | Suction | 2.69 | 2.36 | 2.10 | 1.90 | 1.73 | 1.60 | 1.48 | 1.39 | 1.30 |
| 124 | Downwards | 2.52 | 2.18 | 1.92 | 1.71 | 1.54 | 1.41 | 1.29 | 1.19 | 1.10 |
| | Suction | 2.69 | 2.36 | 2.10 | 1.90 | 1.73 | 1.60 | 1.48 | 1.39 | 1.30 |

Notes:

1. Values have been calculated using the method described in BS EN 14509: 2013, for medium and light coloured panels.
2. Deflection limit for: downward loading is L/200 and suction loading is L/150.
3. Allowable suction load has been calculated using a halter working of 5.1kN.
4. The actual wind suction load resisted by the panel is dependent on the number of fasteners used and the purlin thickness as well as the fastener material.
5. The fastener calculation should be carried out in accordance with the appropriate standards. For further advice please contact Kingspan envirocare Technical Services.
6. The allowable steelwork tolerance between bearing planes of adjacent supports is +/- 5mm.
7. Load span tables for the panel specifications not shown are available from Kingspan envirocare Technical Services.

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