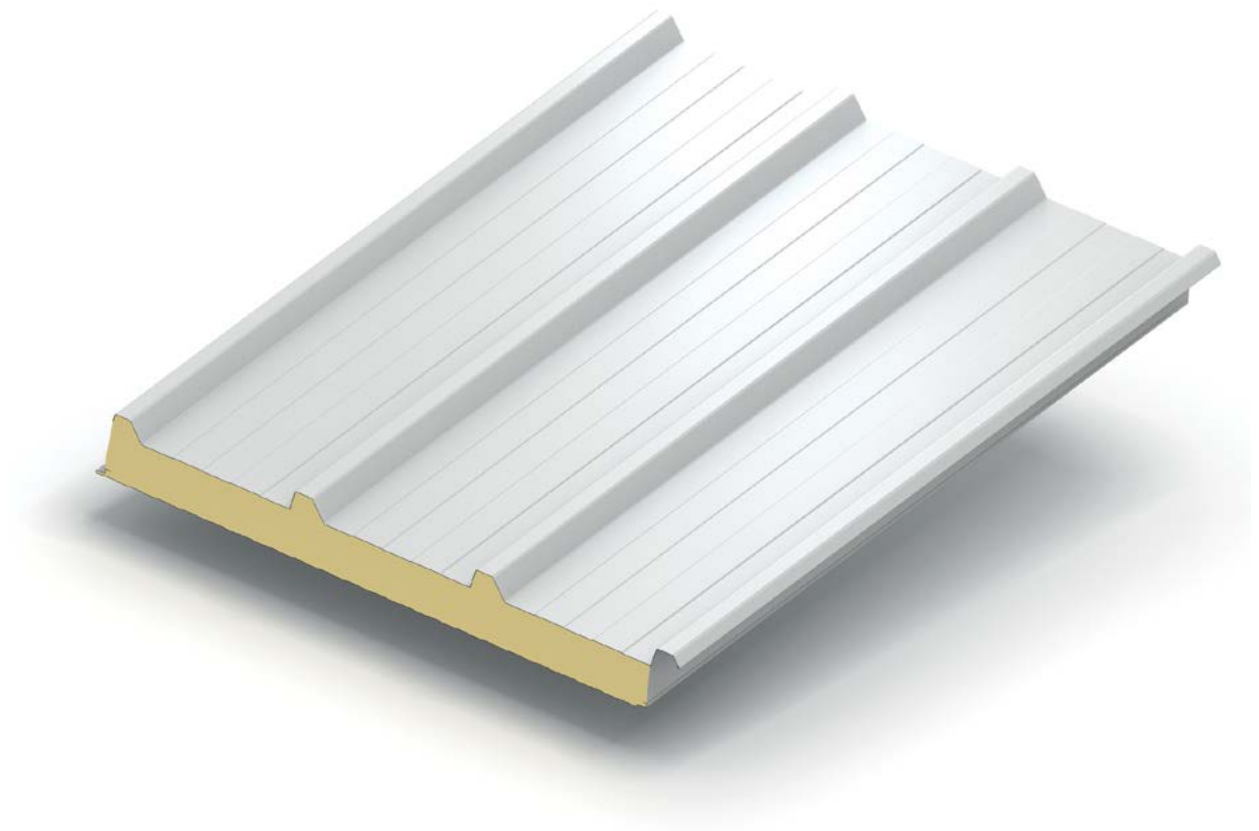


Insulated Panels
New Zealand

KS1000RW Trapezoidal Roof & Wall Panel

Product Data Sheet



Product Data Sheet

KS1000RW Trapezoidal Roof & Wall Panel

Kingspan roof and wall panel systems present a superior system when compared to conventional multi-part site assembled systems. The panels are quicker to install, require less manual labour and provide guaranteed thermal performance. The KS1000RW Trapezoidal Roof & Wall Panel is a through fixed system which can be used for building applications with roof slopes of 4° (after deflection) and above and can be used in wall (vertical or horizontal) applications.

Alternative specifications are available for lower slopes, low internal temperature (minimum 3° degC) and high humidity internal environments, contact Kingspan Technical Services to discuss your requirements.



Applications

The Kingspan KS1000RW Trapezoidal Roof & Wall Panel is suitable for most new build and refurbishment building applications as a roof and wall element. The steel exterior and interior lining is available in a range of coatings and colours for standard, coastal and high humidity environments.

Available Lengths

Standard lengths are from 2m to 11.8m including endlap/ gutter cutback. (Eg. 11.65m + 0.15m lap).

Longer panels may be available on a project specific basis with prior agreement of Kingspan, contact Kingspan for further information.

Factory made cutbacks are available in 0.075m or 0.150m.

Manufacture

Panels are manufactured in a Kingspan-owned facility in Sydney, Australia. Lead time can vary depending on the product and specification, please contact Kingspan for further information.

Product Tolerances

| | |
|--------------------|----------------|
| Length < 3 m | ±5 mm |
| Length > 3 m | ±10 mm |
| Cover Width | ±2 mm |
| Thickness < 100 mm | ±2 mm |
| Thickness > 100 mm | ±2% |
| Squareness | ≤0.6% of width |

Spotlight Retail Store, Christchurch



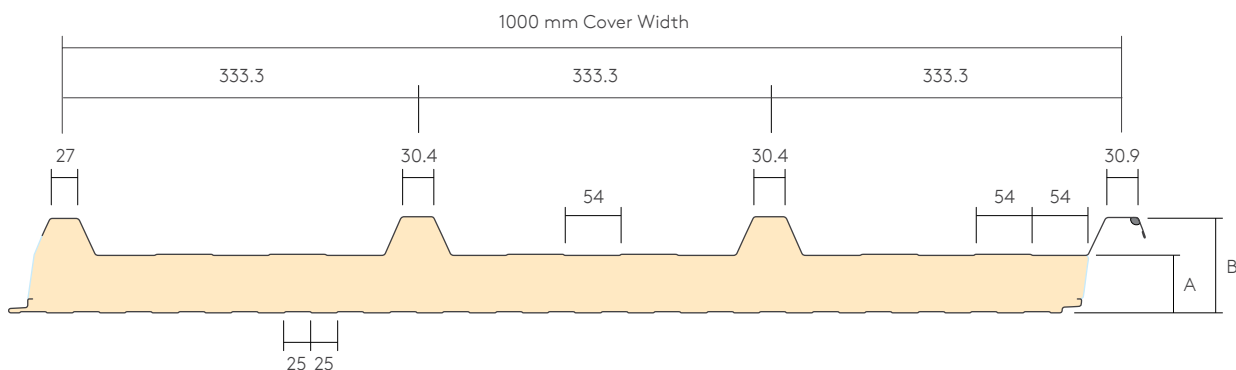
Panel Performance

| A - Core Thickness (mm) | 40 | 60 | 70 | 100 | 120 | 140 |
|---|-------|-------|-------|-------|-------|-------|
| B - Overall Dimension (mm) | 75 | 95 | 105 | 135 | 155 | 175 |
| Material R value (m ² .K/W)* | 2.00 | 3.00 | 3.52 | 5.01 | 5.98 | 6.96 |
| Installed R value (m ² .K/W)** | 2.12 | 3.12 | 3.64 | 5.13 | 6.10 | 7.08 |
| Weight (kg/m ² ***) | 10.30 | 10.70 | 11.10 | 12.30 | 13.10 | 13.90 |

* Material R value = the aged thermal value @ 15°C, as independently tested and calculated to the requirements of AS/NZS4859 parts 1&2: 2018. Note this is for the product only before installation.

** Installed R value = the thermal resistance of the installed product plus air films as per NZS 4214.

*** actual weight subject to vary ±10% due to manufacturing and raw material tolerances.



Materials

Exterior Weather Sheet:

- Zinalume G300S AM100 (standard environment) or AM150 (high performance environment) coated steel to AS1397:2021
- Paint coating in accordance with AS/NZS 2728:2013
- Colours as per the Kingspan Colour brochure available in hard copy and on the website

Insulation Core:

- Polyisocyanurate (PIR), with zero Ozone Depletion Potential (Zero ODP).
- PIR foam is a thermosetting material. It does not melt, flow or drip when exposed to fire. It will form a strong char that helps protect the foam core and prevent flame spread within the panels.

Internal Liner Sheet:

- Zinalume G300S AM100 coated steel to AS1397:2021
- Rib Profile
- Paint coating in accordance with AS/NZS 2728:2013
- Colour: Standard White Liner
- Other colours available on extended lead time and price
- AQUAsafe 25 or 55 (white) stocked in limited quantities for high humidity environments

Ancillaries:

Kingspan also provides daylighting systems, profiled foam closers, butyl tapes and other ancillary items.

Westmere School | Te Rehu, Auckland



Masterspec

Masterspec CBI 4257KR.



The KS1000RW Trapezoidal Roof & Wall Panel is listed in [Masterspec's product database and online specifications tool](#).

Acoustic Performance

KS1000RW Trapezoidal Roof & Wall Panels have a single figure weighted sound reduction index $R_w = 25$ dB. Results are based on panels with a similar profile and core material.

| Frequency (Hz) | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | R _w |
|----------------|----|-----|-----|-----|------|------|------|------|----------------|
| SRI (dB) | 20 | 18 | 20 | 24 | 20 | 29 | 39 | 46 | 24 |

* Please contact Technical Services for project specific support and product specification where $R_w = 26$ dB is required.

NZBC Compliance

The KS1000RW Trapezoidal Roof & Wall Panel has been used around New Zealand, on many building types for in excess of 15 years.

KS1000RW Trapezoidal Roof & Wall Panels hold a CodeMark Certificate of Conformity stating the provisions of the Building Regulations 2008 (New Zealand) the product conforms to.



CodeMark Certificate of Conformity is certified under the name KS1000 RW – Trapezoidal Roof & Wall Panels. Certificate number: CM20104 Rev 2.

For further details please contact the Kingspan Technical Service Department or alternatively refer to the MBiE - Product Certificate Register and search for 'Kingspan KS1000RW'.

When designed, used, installed and maintained in accordance with Kingspan standard details, the KS1000RW Trapezoidal Roof & Wall Panel is compliant with the following clauses on the NZBC:

- B1 Structure – B1.3.1; B1.3.2; B1.3.3(a, f, g, h, j); B1.3.4
- B2 Durability – B2.3.1(b)
- C3 Fire Affecting Areas Beyond the Fire Source – C3.4(a); C3.5; C3.7
- E2 External Moisture – E2.3.1 (roof only); E2.3.2; E2.3.7
- E3 Internal Moisture – E3.3.5
- F2 Hazardous Building Materials – F2.3.1
- H1 Energy Efficiency – H1.3.1

Codemark Certification demonstrates compliance to the NZBC equivalent of an Acceptable Solution. Some specialist buildings may fall partially or wholly outside of the scope of the Codemark Certificate, should this occur then please contact Kingspan Technical for assistance in demonstrating NZBC compliance via an Alternative Solution.

Remarkable Ski Field, Queenstown

New build • Roof and Wall: KS1000RW Trapezoidal Roof and Wall Panel



Fire Performance

The KS1000RW Trapezoidal Roof & Wall Panel has been rigorously tested to both NZ and international building standards and the standards expected of the insurance industry.

Internal Surface Finish (Walls & Ceiling) (to ISO 9705)

Standard Details

Group 2S

External Radiation (NZBC C.5.8) (to ISO 5660-1)

| Building Code Document | Cladding Material Type |
|--|---|
| NZBC Acceptable Solutions C/AS1 Table 5.1 | < 100kW/m ² and < 25 MJ/m ² |
| NZBC Acceptable Solutions C/AS2 Table C1.3 | Type A |

Foam Plastic Core (All)

Core meets the requirements of AS1366.2

Insurance

Kingspan KS1000RW Trapezoidal Roof & Wall Panels are approved by FM Global to the following Approval Standards:

- **FM4880 - Class 1** Internal wall and ceiling panels without height restriction (40, 60, 70, 100 and 120 mm thicknesses only)
(certified name: KS1000RW)
- **FM4881 - Class 1** External Wall Panel System without height restriction (40, 60, 70, 100 and 120 mm thicknesses only)
(certified name: KS1000RW)
- **FM4471 - Class 1** Roof panel systems (40, 60, 70, 100 and 120 mm thicknesses only)
(certified name: KS1000 RWFM)



Insurer approvals are large scale testing regimes that provide objective third party testing, which is underpinned by quarterly, half-yearly and yearly factory surveillance audits (depending on the region) to verify compliance. Insurer approvals are subject to panel thickness, width, orientation, method of assembly, steel coating and manufacturing facility. Please contact Kingspan for project specific details.

Sprinkler Code NZS 4541:2020

The Sprinkler Standard NZS 4541:2013 contains levels of sprinkler protection required for buildings constructed with "Approved" and "Not Approved" panels - refer to clause 2.12 and Appendix K.

Most thicknesses of Kingspan's PIR-cored KS1000RW Trapezoidal Roof & Wall Panels are classed as "Approved" as they have FM Global approval.

Product Selection Assistance

Sales representatives are available nationwide to answer queries on product options, assist with detailing, spans, colour swatches and other queries. They can also provide early stage budget estimates and co-ordinate the provision of project specifications.

Technical Assistance

Our technical team is available to provide specific advice on panel spans, product specifications, standard and bespoke detailing, panel optimisation, fire wall options, project specific acoustic solutions, panel guarantees, thermal condensation risk calculation along with general building science cladding advice.

Kingspan Technical Services can provide 'side by side' assistance with regard to project detailing, attending design meetings, providing training and undertaking site visits when required.

Guarantees

Kingspan will provide product guarantees on an individual project basis.

Guarantees are typically up to 15 years in a non marine/ geothermal environment. All guarantees are subject to a maintenance regime.

Specialist coatings are available for marine and other more corrosive areas, ie swimming pools. Guarantees will vary for these projects

Biological

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

Quality and Durability

KS1000RW Trapezoidal Roof & Wall Panels are manufactured from the highest quality materials using state-of-the-art production equipment to rigorous quality control standards, complying with ISO 9001 standard, ensuring long-term reliability and service life. The panels are also being manufactured under Environmental Management System Certification ISO 14001 and Occupational Health and Safety Certification ISO 45001.

Delivery & Packing

Standard Packing

Protective film is applied to the external face.

Kingspan panels are stacked horizontally.

The number of panels in each pack depends on panel thickness.

Delivery

All deliveries (unless indicated otherwise) are by road transport to project site by flat bed truck for off-loading by crane or fork hoist.

Off-loading is the responsibility of the installer.

Handling guidelines are available from Kingspan Technical Services.

Site Installation Procedure

A site assembly instruction brochure is available from Kingspan Technical Services.

Environmental

Kingspan Insulated Panels manufacturing facility in Australia sources 100% certified renewable electricity and procures steel that is made from 15-25% recycled content.

KS1000RW Trapezoidal Roof & Wall Panels have Environmental Product Declarations (under the certified names 'KS1000RW Trapezoidal Roof Panel' and 'KS1000RW Trapezoidal Wall Panel') in accordance with the requirements of ISO 14025 and EN 15804: 2012 + A2: 2019 for 40mm to 120mm thickness.

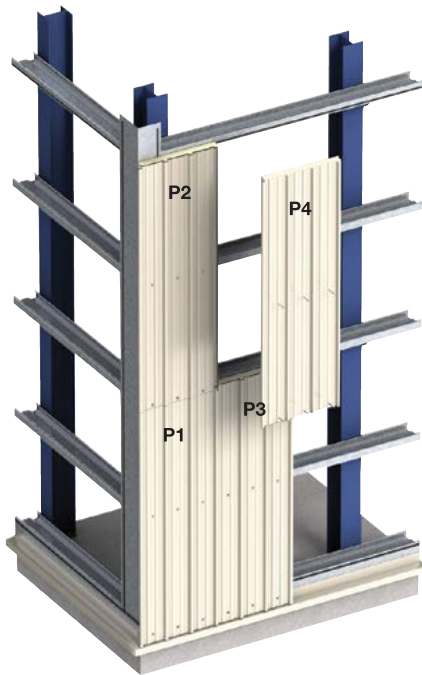
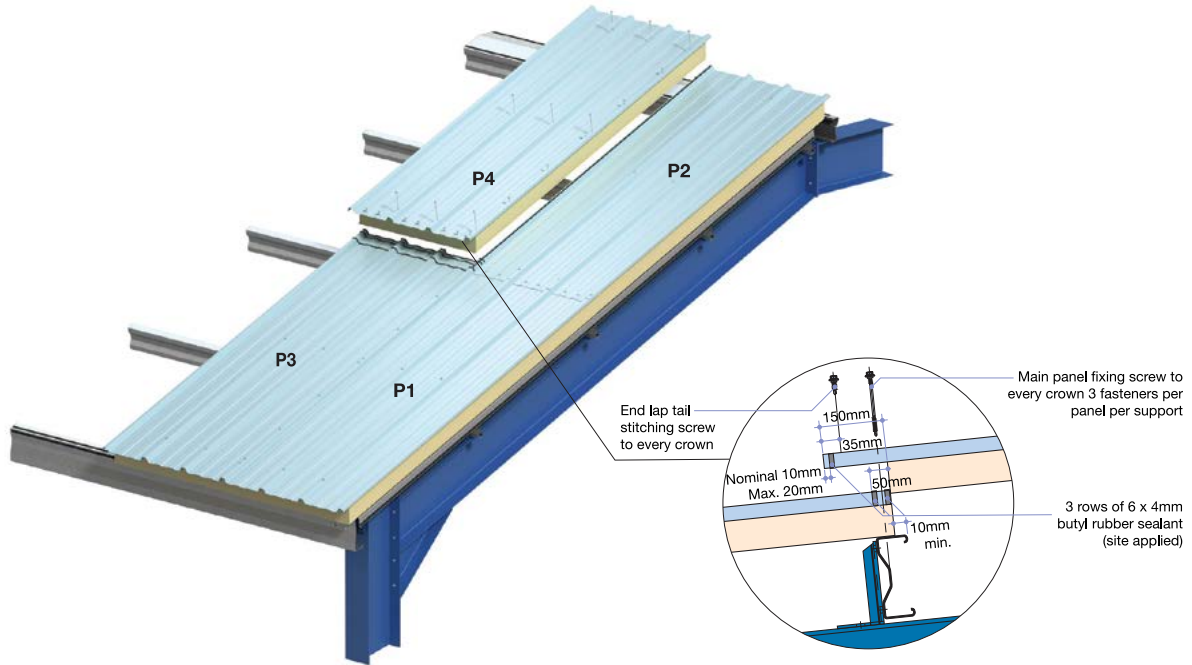
KS1000RW Trapezoidal Roof Panels is certified with a Global GreenTag GreenRate™ Level A certification to Version 4.0 of the Global GreenTag International Product Certification Standard, under the certified names Kingspan Roof Panels and Kingspan Wall Panels.

A GreenRate Level A license is the highest-ranking level in GreenTag's GreenRate program. As a result, KS1000RW Trapezoidal Roof Panels receives the maximum recognition by the New Zealand Green Building Council's Green Star® building rating tools scheme. The recognition provides assurance to green building projects that the product has demonstrated a maximum commitment to low toxicity, compliance to relevant social and environmental laws in the country of operation, fit for purpose certification, availability of replacement parts, a design for recycling and/or reuse and healthy VOC levels.

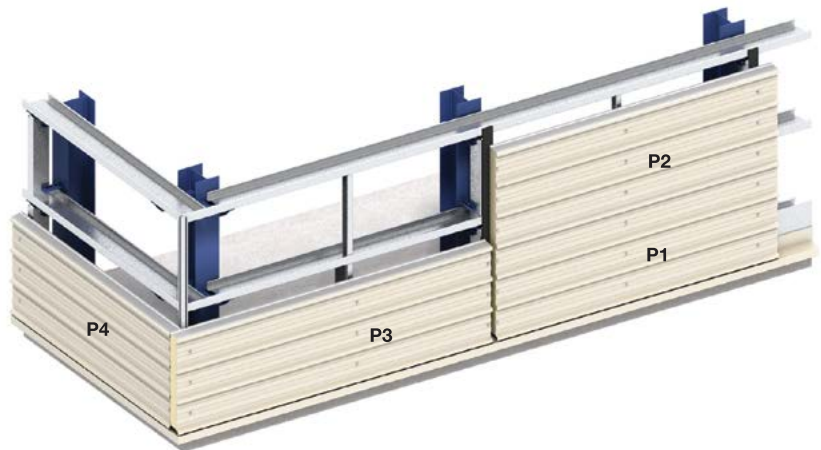


Installation Examples

KS1000RW Trapezoidal Roof & Wall Panel



Vertical Wall



Horizontal Wall

Please refer to Kingspan website for additional details, installation guides and training (if required).

Span Tables

KS1000RW Trapezoidal Roof & Wall Panel

Note

The following notes apply to the span tables for both the KS1000RW Trapezoidal Roof Panel and the KS1000RW Trapezoidal Wall Panel. The building designer (typically the project engineer) should use the following span tables to design the structure to support the panels and ensure the specified panels are not outside of stated capacity, the designer should take into account the environmental factors that apply to the building (wind, snow, internal pressures, localised loads) as they design their structure.

1. Checks must be made on both ULS and SLS capacity of the panels. With changes to AS/NZS 1170.2, SLS load capacity is likely to govern the maximum allowable panel spans
2. If the panels are spanning over more than one support use the 'double span' tables. Note that depending on the specific load and span combination the panels in double span condition may not resist the same SLS load as they would in single span condition
3. The panel is a 'cladding' element that is intended to be fixed to the building structure. The structure (Purlins, Girts or Posts) maybe hot or cold rolled steel or timber, fixing to concrete is impractical. The structural elements and connections must be designed to resist any forces, including wind, internal pressures, localised pressures, snow etc along with any relevant combination of those forces that will be either transferred by or to the panels
4. Values have been calculated in accordance with AS/NZS 1170.0, and also take into account the methods described in EN 14509:2006 titled 'Self-supporting double skin metal face insulating panels - Factory made products - Specifications', taking imposed loads (excluding snow), temperature and creep into account.
5. The serviceability limit state is defined by local buckling, bending or crushing failure at an intermediate support or the exceedance of a specified deflection limit.
6. Deflection limit for pressure loading (inward) is $L/200$ and suction loading (outward) is $L/150$.
7. The allowable steelwork tolerance between bearing panels of adjacent supports is $\pm 5\text{mm}$ or $L/600$, whichever is the least.
8. The total wind suction load resisted by the panel is dependent on the number of fasteners used, the support width as well as the fasteners used, the performance tables are based on a support width of 60mm. A competent person will need to confirm fastener performance in accordance with the appropriate design standards applicable to the building.
9. For FM approved applications, a maximum span of 2000mm applies.
10. For load span information for other panel specifications not shown, please contact Kingspan Technical Services.
11. For roofs, the gravity load of the panel is included based on 0.9G upward, 1.2G downward
12. The effects of temperature have been included within the span tables based external surface temperatures of +65degC Summer -5degC Winter and Internal Temperatures of 25degC Summer +18degC Winter (light colour exterior steel). Where a medium or dark coloured panels are selected, it is advised to reduce SLS suction capacity to 90% (medium) and 80% (dark). Buildings being held at lower internal temperatures will require specific calculations.
13. Long-term point loads (such as equipment supported by the panel only) require specific calculations. Loads from PV installations may create significant point loads from wind uplift which must be considered by the PV supplier and the structural engineer.
14. Panel cantilevers at both side and end should be limited to 300mm max. (assuming a backspan of at least 600mm). Beyond this, specific calculations are required, please contact Kingspan.
15. Penetrations through the panels greater than 300mm dia will require additional structural support
16. Snow: in high alpine regions where snow may be on the panel for long periods contact Kingspan Technical for specific calculations

Span Tables – Roof Application

Single Span Condition

Span capability of composite systems can depend on a number of external factors. The following table is based on typical light colour selections. For darker colours contact Kingspan Technical Services.

| Panel Thickness (mm) | Load Type | Span L in metres | | | | | | | | |
|---|-----------|------------------|------|------|------|------|------|------|------|------|
| | | 1.8 | 2.2 | 2.6 | 3.0 | 3.4 | 3.8 | 4.2 | 4.6 | 5.0 |
| Uniformly distributed loads kN/m² | | | | | | | | | | |
| Ultimate Limit State (ULS) | | | | | | | | | | |
| 40 | Pressure | 3.72 | 2.67 | 2.00 | 1.53 | | | | | |
| | Suction | 4.94 | 3.54 | 2.51 | 1.88 | | | | | |
| 60 | Pressure | 5.19 | 3.89 | 2.97 | 2.33 | 1.86 | 1.50 | | | |
| | Suction | 6.90 | 4.52 | 3.20 | 2.40 | 1.88 | 1.52 | | | |
| 70 | Pressure | 5.78 | 4.40 | 3.41 | 2.71 | 2.18 | 1.78 | 1.50 | | |
| | Suction | 7.58 | 4.97 | 3.52 | 2.64 | 2.07 | 1.67 | 1.45 | | |
| 100 | Pressure | 7.55 | 5.94 | 4.74 | 3.83 | 3.12 | 2.60 | 2.18 | 1.83 | 1.56 |
| | Suction | 9.63 | 6.32 | 4.49 | 3.36 | 2.63 | 2.12 | 1.74 | 1.47 | 1.26 |
| 120 | Pressure | 7.86 | 6.27 | 5.07 | 4.14 | 3.42 | 2.85 | 2.37 | 2.01 | 1.71 |
| | Suction | 10.59 | 6.96 | 4.98 | 3.75 | 2.91 | 2.34 | 1.92 | 1.62 | 1.38 |
| 140 | Pressure | 7.86 | 6.27 | 5.07 | 4.14 | 3.42 | 2.85 | 2.37 | 2.01 | 1.71 |
| | Suction | 10.59 | 6.96 | 4.98 | 3.75 | 2.91 | 2.34 | 1.92 | 1.62 | 1.38 |
| Serviceability Limit State (SLS) | | | | | | | | | | |
| 40 | Pressure | 2.72 | 1.55 | 0.91 | 0.55 | | | | | |
| | Suction | 3.83 | 2.31 | 1.49 | 1.00 | | | | | |
| 60 | Pressure | 4.07 | 2.50 | 1.59 | 1.03 | 0.68 | 0.44 | | | |
| | Suction | 5.79 | 3.75 | 2.55 | 1.80 | 1.31 | 0.98 | | | |
| 70 | Pressure | 4.64 | 2.94 | 1.93 | 1.30 | 0.89 | 0.60 | 0.50 | | |
| | Suction | 6.63 | 4.42 | 3.09 | 2.24 | 1.67 | 1.27 | 1.10 | | |
| 100 | Pressure | 6.33 | 4.26 | 2.96 | 2.09 | 1.50 | 1.08 | 0.79 | 0.57 | 0.41 |
| | Suction | 9.14 | 6.32 | 4.49 | 3.36 | 2.63 | 2.12 | 1.70 | 1.38 | 1.13 |
| 120 | Pressure | 7.86 | 5.76 | 4.28 | 3.27 | 2.55 | 2.02 | 1.61 | 1.30 | 1.07 |
| | Suction | 8.05 | 5.98 | 4.56 | 3.50 | 2.80 | 2.26 | 1.86 | 1.55 | 1.30 |
| 140 | Pressure | 7.86 | 5.76 | 4.28 | 3.27 | 2.55 | 2.02 | 1.61 | 1.30 | 1.07 |
| | Suction | 8.05 | 5.98 | 4.56 | 3.50 | 2.80 | 2.26 | 1.86 | 1.55 | 1.30 |

Please refer to notes on page 7.

NOTE: Both ULS and SLS should be checked, as a general rule SLS loads are likely to govern.



Span Tables – Roof Application

Double Span Condition

Span capability of composite systems can depend on a number of external factors. The following table is based on typical light colour selections. For darker colours contact Kingspan Technical Services.

| Panel Thickness (mm) | Load Type | Span L in metres | | | | | | | | |
|---|-----------|------------------|------|------|------|------|------|------|------|-----|
| | | 1.8 | 2.2 | 2.6 | 3.0 | 3.4 | 3.8 | 4.2 | 4.6 | 5.0 |
| Uniformly distributed loads kN/m² | | | | | | | | | | |
| Ultimate Limit State (ULS) | | | | | | | | | | |
| 40 | Pressure | 3.72 | 2.67 | 2.00 | 1.53 | 1.20 | | | | |
| | Suction | 4.94 | 3.54 | 2.51 | 1.88 | 1.47 | | | | |
| 60 | Pressure | 5.19 | 3.89 | 2.97 | 2.33 | 1.86 | 1.50 | | | |
| | Suction | 6.90 | 4.52 | 3.20 | 2.40 | 1.88 | 1.52 | | | |
| 70 | Pressure | 5.78 | 4.40 | 3.41 | 2.71 | 2.18 | 1.78 | 1.48 | | |
| | Suction | 7.58 | 4.97 | 4.52 | 2.64 | 2.07 | 1.67 | 1.37 | | |
| 100 | Pressure | 7.55 | 5.94 | 4.74 | 3.83 | 3.12 | 2.60 | 2.18 | 1.83 | |
| | Suction | 9.63 | 6.32 | 4.49 | 3.36 | 2.63 | 2.12 | 1.74 | 1.47 | |
| 120 | Pressure | 7.86 | 6.27 | 5.07 | 4.14 | 3.42 | 2.85 | 2.37 | 2.01 | |
| | Suction | 10.59 | 6.96 | 4.98 | 3.75 | 2.91 | 2.34 | 1.92 | 1.62 | |
| 140 | Pressure | 7.86 | 6.27 | 5.07 | 4.14 | 3.42 | 2.85 | 2.37 | 2.01 | |
| | Suction | 10.59 | 6.96 | 4.98 | 3.75 | 2.91 | 2.34 | 1.92 | 1.62 | |
| Serviceability Limit State (SLS) | | | | | | | | | | |
| 40 | Pressure | 2.57 | 1.83 | 1.38 | 1.07 | 0.86 | | | | |
| | Suction | 1.94 | 1.45 | 1.14 | 0.94 | 0.80 | | | | |
| 60 | Pressure | 2.96 | 2.15 | 1.64 | 1.30 | 1.05 | 0.87 | 0.73 | | |
| | Suction | 2.33 | 1.76 | 1.41 | 1.17 | 1.00 | 0.87 | 0.78 | | |
| 70 | Pressure | 3.10 | 2.26 | 1.73 | 1.38 | 1.12 | 0.93 | 0.78 | | |
| | Suction | 2.50 | 1.90 | 1.52 | 1.27 | 1.08 | 0.95 | 0.85 | | |
| 100 | Pressure | 3.53 | 2.60 | 2.01 | 1.61 | 1.32 | 1.10 | 0.93 | | |
| | Suction | 3.02 | 2.30 | 1.85 | 1.55 | 1.33 | 1.17 | 1.05 | 0.95 | |
| 120 | Pressure | 3.85 | 2.83 | 2.22 | 1.78 | 1.46 | 1.23 | 1.04 | 0.89 | |
| | Suction | 3.18 | 2.43 | 1.94 | 1.60 | 1.37 | 1.20 | 1.06 | 0.95 | |
| 140 | Pressure | 3.85 | 2.83 | 2.22 | 1.78 | 1.46 | 1.23 | 1.04 | 0.89 | |
| | Suction | 3.18 | 2.43 | 1.94 | 1.60 | 1.37 | 1.20 | 1.06 | 0.95 | |

Please refer to notes on page 7.

NOTE: Both ULS and SLS should be checked, as a general rule SLS loads are likely to govern.



Span Tables – Wall Application

Single Span Condition \overleftarrow{L}

Span capability of composite systems can depend on a number of external factors. The following table is based on typical light colour selections. For darker colours contact Kingspan Technical Services.

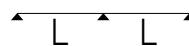
| Panel Thickness (mm) | Load Type | Span L in metres | | | | | | | | |
|---|-----------|------------------|------|------|------|------|------|------|------|------|
| | | 1.8 | 2.2 | 2.6 | 3.0 | 3.4 | 3.8 | 4.2 | 4.6 | 5.0 |
| Uniformly distributed loads kN/m² | | | | | | | | | | |
| Ultimate Limit State (ULS) | | | | | | | | | | |
| 40 | Pressure | 3.93 | 2.87 | 2.17 | 1.69 | 1.35 | 1.10 | 0.92 | | |
| | Suction | 4.76 | 3.47 | 2.45 | 1.82 | 1.40 | 1.12 | 0.91 | | |
| 60 | Pressure | 5.47 | 4.14 | 3.21 | 2.55 | 2.06 | 1.70 | 1.42 | 1.20 | 1.03 |
| | Suction | 6.85 | 4.45 | 3.13 | 2.33 | 1.80 | 1.43 | 1.17 | 0.97 | 0.82 |
| 70 | Pressure | 6.10 | 4.69 | 3.68 | 2.59 | 2.40 | 1.99 | 1.67 | 1.42 | 1.22 |
| | Suction | 7.53 | 4.90 | 3.45 | 2.57 | 1.99 | 1.58 | 1.29 | 1.07 | 0.91 |
| 100 | Pressure | 7.97 | 6.34 | 5.10 | 4.16 | 3.43 | 2.87 | 2.43 | 2.08 | 1.79 |
| | Suction | 9.56 | 6.24 | 4.40 | 3.28 | 2.54 | 2.02 | 1.65 | 1.37 | 1.16 |
| 120 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |
| 140 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |
| Serviceability Limit State (SLS) | | | | | | | | | | |
| 40 | Pressure | 3.93 | 2.87 | 2.17 | 1.69 | 1.23 | 0.89 | 0.66 | | |
| | Suction | 4.76 | 3.47 | 2.27 | 1.50 | 1.03 | 0.72 | 0.52 | | |
| 60 | Pressure | 5.47 | 4.14 | 3.21 | 2.55 | 2.06 | 1.59 | 1.21 | 0.93 | 0.73 |
| | Suction | 6.85 | 4.45 | 3.13 | 2.33 | 1.80 | 1.38 | 1.02 | 0.78 | 0.60 |
| 70 | Pressure | 6.10 | 4.69 | 3.68 | 2.59 | 2.40 | 1.99 | 1.54 | 1.21 | 0.96 |
| | Suction | 7.53 | 4.90 | 3.45 | 2.57 | 1.99 | 1.58 | 1.29 | 1.04 | 0.81 |
| 100 | Pressure | 7.97 | 6.34 | 5.10 | 4.16 | 3.43 | 2.87 | 2.43 | 2.03 | 1.64 |
| | Suction | 9.56 | 6.24 | 4.40 | 3.28 | 2.54 | 2.02 | 1.65 | 1.37 | 1.16 |
| 120 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |
| 140 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |

Please refer to notes on page 7.



Span Tables – Wall Application

Double Span Condition



Span capability of composite systems can depend on a number of external factors. The following table is based on typical light colour selections. For darker colours contact Kingspan Technical Services.

| Panel Thickness (mm) | Load Type | Span L in metres | | | | | | | | |
|---|-----------|------------------|------|------|------|------|------|------|------|------|
| | | 1.8 | 2.2 | 2.6 | 3.0 | 3.4 | 3.8 | 4.2 | 4.6 | 5.0 |
| Uniformly distributed loads kN/m² | | | | | | | | | | |
| Ultimate Limit State (ULS) | | | | | | | | | | |
| 40 | Pressure | 3.93 | 2.87 | 2.17 | 1.69 | 1.35 | | | | |
| | Suction | 4.76 | 3.47 | 2.45 | 1.82 | 1.40 | | | | |
| 60 | Pressure | 5.47 | 4.14 | 3.21 | 2.55 | 2.06 | 1.70 | | | |
| | Suction | 6.85 | 4.45 | 3.13 | 2.33 | 1.80 | 1.43 | | | |
| 70 | Pressure | 6.10 | 4.69 | 3.68 | 2.59 | 2.40 | 1.99 | 1.67 | | |
| | Suction | 7.53 | 4.90 | 3.45 | 2.57 | 1.99 | 1.58 | 1.29 | | |
| 100 | Pressure | 7.97 | 6.34 | 5.10 | 4.16 | 3.43 | 2.87 | 2.43 | 2.08 | |
| | Suction | 9.56 | 6.24 | 4.40 | 3.28 | 2.54 | 2.02 | 1.65 | 1.37 | |
| 120 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |
| 140 | Pressure | 8.37 | 6.78 | 5.55 | 4.59 | 3.81 | 3.21 | 2.73 | 2.34 | 2.04 |
| | Suction | 10.5 | 6.90 | 4.89 | 3.60 | 2.79 | 2.25 | 1.83 | 1.53 | 1.29 |
| Serviceability Limit State (SLS) | | | | | | | | | | |
| 40 | Pressure | 2.69 | 1.96 | 1.51 | 1.20 | 0.99 | | | | |
| | Suction | 1.82 | 1.32 | 1.01 | 0.81 | 0.66 | | | | |
| 60 | Pressure | 3.11 | 2.31 | 1.80 | 1.46 | 1.21 | 1.03 | | | |
| | Suction | 2.18 | 1.60 | 1.25 | 1.01 | 0.84 | 0.72 | | | |
| 70 | Pressure | 3.13 | 2.33 | 1.83 | 1.48 | 1.24 | 1.05 | | | |
| | Suction | 2.34 | 1.72 | 1.35 | 1.09 | 0.91 | 0.78 | | | |
| 100 | Pressure | 3.19 | 2.40 | 1.90 | 1.55 | 1.31 | 1.12 | 0.97 | 0.86 | |
| | Suction | 2.82 | 2.09 | 1.64 | 1.34 | 1.13 | 0.97 | 0.84 | 0.74 | |
| 120 | Pressure | 4.05 | 3.06 | 2.41 | 2.00 | 1.68 | 1.46 | 1.26 | 1.12 | 0.99 |
| | Suction | 3.06 | 2.30 | 1.82 | 1.48 | 1.26 | 1.07 | 0.94 | 0.82 | 0.73 |
| 140 | Pressure | 4.05 | 3.06 | 2.41 | 2.00 | 1.68 | 1.46 | 1.26 | 1.12 | 0.99 |
| | Suction | 3.06 | 2.30 | 1.82 | 1.48 | 1.26 | 1.07 | 0.94 | 0.82 | 0.73 |

Please refer to notes on page 7.



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