

Certificate no: CM20104

Version: 04

Original issue date: 23 December 2015

Version date: 30 May 2024

Product Certificate

Kingspan Limited

KS1000RW – Trapezoidal Roof & Wall Panels

1. Certificate Holder Details



Kingspan Limited
97 Montreal St, Sydenham, Christchurch, 8023
New Zealand
PO Box 39136 Harewood, Christchurch 8545
New Zealand
<http://www.kingspanpanels.co.nz>
Ph: 0800 12 12 80 | +64 3260 5530

2. Product Certification Body


SAI GLOBAL
SAI Global Certification Services Pty Limited
(ACN 108 716 669) Trading as "SAI Global"

Operating as "Intertek & Intertek SAI Global"
Address: Level 7 Suite 7.01. 45 Clarence Street,
Sydney NSW 2000 Australia

www.saiglobal.com

Complaints: The complaints process for this certificate can be found here:
<https://saiassurance.com.au/complaints-appeals/>

3. Description of Building Method or Product

KS1000RW roof and wall panels consist of an external & internal steel sheet liner with a Polyisocyanurate (PIR) core. The exterior weather sheet liner is nominal 0.5mm thick Zincalume G300S AM100/150 coated steel sheet. The internal steel sheet liner is nominal 0.4mm thick Zincalume G300S AM100 coated steel.

Matters that should be taken into account in the use or application of the building method or product can be found in item 6. Conditions and Limitations of Use. Continuation of description can be found in item 10 – Supporting Information about Description.

Product brochure/catalogue or models identification numbers:

- KS1000RW

4. Intended use of Building Method or Product

KS1000RW is an insulated core roof and wall panel. It is suitable for new & refurbishment building applications as a roofing element and as an external wall façade.

KS1000RW is a through fixed system which can be used for building applications with roof slopes of 4° (3° with low pitch details) and above and in both vertical and horizontal wall façade applications.

Continuation of intended use can be found in item 11 – Supporting Information about Intended use.

5. New Zealand Building Code Provisions

Clause B1 Structure — B1.3.1; B1.3.2; B1.3.3(a, f, g, h, j); B1.3.4

Clause B2 Durability — B2.3.1(b)

Clause C3 Fire affecting areas beyond the fire source — C3.4(a); C3.5; C3.7

Clause E2 External moisture — E2.3.1 (contributes to); E2.3.2 (contributes to); E2.3.7

Clause E3 External moisture — E3.3.5

Clause F2 Hazardous building materials — F2.3.1

Clause H1 Energy efficiency provisions — H1.3.1 (contributes to)

How the building method or product complies or contributes can be found in item 8. Basis for Certification.

Any qualifications on the extent of that compliance can be found in item 6. Conditions and limitations of use.

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6. Conditions and Limitations of Use

1. Kingspan KS1000RW, must be installed in accordance with the manufacturer's Installation Guides as per below:
 - a. KS1000RW Trapezoidal Wall Panel Installation Guide – Vertically Laid – Q4 2023
 - b. KS1000RW Trapezoidal Wall Panel Installation Guide – Horizontally Laid – Q4 2023
 - c. Trapezoidal Roof KS1000RW Installation Guide – 150mm End Lap – Q4 2023
 - d. Trapezoidal Roof KS1000RW Installation Guide – 75mm End Lap – November 2019
 - e. Kingspan Trapezoidal RW Product Data Sheet – KS1000RW Trapezoidal Roof and Wall Panel – Q3 2023
2. Panel spans must not exceed the manufacturer's specification for design wind speeds, where the design wind speed is to be either as determined by NZS3604 Table 5.4 (for buildings within the scope of NZS3604:2011 para 1.1.2), or as specifically calculated in accordance with AS/NZS 1170 by a chartered professional engineer (CPENG).
3. Fixing/fastening (including number of fasteners) of the panels to the supporting structure is not covered by this certification. Contact Kingspan Technical Services via their website for project specific advice for fastener requirements.
4. The product is suitable for use within 1 m of the boundary.
5. The product is suitable for use where the inner face of the panel is exposed as the internal lining, in:
 - a. any building or use where protected by an automatic fire sprinkler system, or
 - b. any un-sprinklered building except:
 - i. where care/protection is provided or
 - ii. in exit ways or
 - iii. in occupied spaces in Importance Level 4 buildings or
 - iv. in crowd and sleeping uses (except household units)
6. The product is suitable for exposure zones B, C and D as defined by NZS3604:2011.
7. Certification does not include accessories used with the product.

NOTE: Together, items 3,4,5 and 6 define scope of use

Reference Documents:

- Kingspan KS1000 RW CodeMark Wall Details Vertical Ver. Q4 2023 – Technical Drawings
- Kingspan KS1000 RW CodeMark Wall Details Horizontal Ver. Q4 2023 – Technical Drawings
- Kingspan KS1000 RW CodeMark Roof Details Ver. Q4 2023 -Technical Drawings
- Kingspan KS1000 RW CodeMark Roof High Humidity Details Ver. Q4 2023 -Technical Drawings
- KS1000RW Trapezoidal Roof & Wall Panel Product Data Sheet - Q4 2023

7. Health and Safety Information

- Kingspan Trapezoidal RW Product Data Sheet – KS1000RW Trapezoidal Roof and Wall Panel – Q4 2023



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8. Basis for Certification

- **B1 Structure** – by testing and comparison with provisions of Verification Method B1/VM1
- **B2 Durability** – by testing and comparison with provisions of Verification Method B2/VM1
- **C3 Fire affecting areas beyond the fire** - by testing and comparison with the provisions of Verification Method C/VM2 and Acceptable Solutions C/AS1 and C/AS2
- **E2 External Moisture** – Comparison with Verification Method E2/VM1 and referenced standard AS/NZS4284
- **E3 Internal Moisture** – By comparison with Acceptable Solution E3/AS1
- **F2 Hazardous building materials** – by testing and comparison with the performance requirements of cl F2.3.1
- **H1 Energy Efficiency** – by testing and comparison with Verification Methods H1/VM1 and H1/VM2

9. Supporting Documentation for Certification

Acceptable Solutions and Verification Methods for New Zealand Building Code:

1. Building regulations 1992 (SR 1992/150) – Reprinted as at 23 December 2023.
2. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause B1 Structure. Amendment 21, (02 November 2023)
3. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B2 Durability. Amendment 12 (28 November 2019).
4. Verification Method: Framework for Fire Safety Design For New Zealand Building Code Clauses C1-C6 Protection from Fire – C/VM2. Amendment 7, (02 November 2023)
5. C/VM1 Verification Method for Solid Fuel Appliances C/AS1 Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH) For New Zealand Building Code Clauses C1-C6 Protection from Fire. Amendment 5, (5 November 2020)
6. C/AS2 Acceptable Solution for Buildings other than Risk Group SH for New Zealand Building Code Clauses C1-C6 Protection from Fire First edition Amendment 3, (2 November 2023).
7. Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 For New Zealand Building Code Clauses E2 External Moisture Amendment 10, (5 November 2020).
8. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause E3 Internal Moisture. Amendment 7, (5 November 2020).
9. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause F2 Hazardous Building Materials. Amendment 3 (1 January 2017).
10. H1 Energy Efficiency, Verification Method H1/VM1, Energy efficiency for all housing, and buildings up to 300 m², Fifth edition Amendment 1, (4 August 2022).
11. H1 Energy Efficiency, Verification Method H1/VM2, Energy efficiency for all housing, and buildings greater than 300 m², First edition Amendment 1, (4 August 2022)



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Test Reports

12. CostinRoe Consulting - Kingspan KS1000RW & KS1000DLTR 1.6 Roof and Wall Panel Opinion on Weathertightness Report (13 February 2015). This report provides an opinion on the panel performance to the Australian National Construction Code performance requirement FP1.4 and draws upon testing to AS/NZS 4284 Testing of Building Facades and EN14509 Self-supporting double skin metal faced insulating panels.
13. Technology Centre, Taylor Woodrow Technology – Weathertightness Testing of a sample of Kingspan KS1000RW Roof Panels. Report No. N950/07/13893 (dated 22 August 2007). This report provides the results of weathertightness testing undertaken generally to the CWCT Standard Test methods for building envelopes 2005. The following properties were tested, and all received a pass result: Air permeability, Watertightness – static, Watertightness – dynamic, Watertightness – hose, Wind resistance – serviceability, Wind resistance – safety.
14. CSIRO Report No. DTF824 Determination of Dynamic Weather Resistance of Kingspan Insulated Metal Roofing Tile to AS4046.9-2002 June 2007. This report presents the results of dynamic weather resistance tests.
15. CSIRO - Assessment of Kingspan KS1000RW roof panel assembly, tested to AS4046.9-2002 -Determination of dynamic weather resistance (75mm end lap) Report number HHI 3182 – (dated 20-Aug-2018) This report provides results of the testing of Kingspan KS1000RW roof panel assembly, tested to AS4046.9-2002 -Determination of dynamic weather resistance (75mm end lap)
16. James M Fricker – Thermal Performance of Insulated Building System for Kingspan Panels Pty Ltd. Report No. i231 (dated 17 February 2022). This report provides calculations from CSIRO test report XC3678/R5 and XC3678/R6 for the R-Values, Declared @ 15°C, for roofs and walls incorporating Kingspan KS1000RW panels as determined in accordance with AS/NZS 4859.1:2018.
17. AWTA Test Report 14-001849 (1 January 2015). This report provides the results of testing PIR foam to AS2122.1-1993 Determination of Flame Propagation – Surface Ignition of Vertically Oriented Specimens of Cellular Plastics and presents the results in compliance with AS 1366-1992.
18. BRANZ – ISO 5660-1:2002 – 40mm KS1000RW - Cladding Material Classification. Project No. FH17612-05-1-C1 (dated 03 August 2023) IANZ accreditation No. 37. This report provides calculations of the results of testing in report FH17612-05-01 dated 03-Aug-2023 - to AS/ISO 5660-1:2002 - and concludes that 40mm thick KS1000RW (Beige) achieve a Group Number Classification of Type A in accordance with NZBC Acceptable Solutions C/AS2 Table C1.3.
19. BRANZ – Technical Opinion Summary Project No. FC16154-02-1-C3 (dated 28 October 2022) IANZ accreditation No. 37. This Technical Opinion Summary of referenced report - FC16154-02-1 dated 28-Oct-2022– to referenced standards AS ISO 9705 – 2003 (R2016), ISO 9705:1993, AS 5637.1:2015 and concludes that 40mm to 140mm thick KS1000RW achieve a Group Classification 2-S with a Smoke Production Rate not more than 5m²/s in accordance with NZBC Verification Method C/VM2 – Framework for Fire Safety Design, Appendix A (2020).
20. Buildex Engineering Test Lab – Test for pull through testing using Kingspan composite panels. Report No. ELTR 1537 (dated 23rd March 2011). This report provides the results of mechanical testing to QCM-020 of 14-20 x 65 TEK Screw with and without 25mm aluminium washers.



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21. Buildex Engineering Test Lab – Test for pull through testing using Kingspan composite panels. Report No. ELTR 1579, Issue 2 (dated 3rd September 2012). This report provides the results of mechanical testing to Bx QCM-020 of 14-14 and 14-10 Hex Washer TEK Screws into purlins F100, F150 and F200 sections.
22. Buildex Engineering Test Lab – Test for pull through testing using Kingspan composite panels. Report No. ELTR 1590 (dated 1st February 2013). This report provides the results of mechanical testing to Bx QCM-020 of 14-14 x 110 Hex Washer TEKs from G450 studs and purlins.
23. CostinRoe Consulting – Kingspan Insulated Wall/Roof Panels – KS1000RW Load-Span Tables for Non-Cyclonic Areas Structural Analysis Report - CO12519.00-02.rpt (5 June 2015). The load-span tables have been prepared for 40mm, 60mm and 100mm core thickness panels for both single and double span conditions. The Assessment was carried out using the method of analysis recommended in the European Standards EN14509: 2006 "Self-Supporting Double Skin Metal Faced Insulating Panels – Factory made Products – Specifications".
24. CostinRoe Consulting – Kingspan Insulated Roof Panels – KS1000RW Panel Compliance with AS1562.1-1992 (Non-cyclonic Areas) 30 June 2015 November 2015). This report reviews the structural performance of KS1000RW roof panels.

10. Supporting Information About Description

Any supporting information for section 3.

KS1000 RW roof and wall panels consist of an external & internal steel sheet liner with a Polyisocyanurate (PIR) core.

The exterior weather sheet liner is nominal 0.5mm thick Zincalume G300S AM100/150 coated steel sheet.

The internal steel sheet liner is nominal 0.4mm thick Zincalume G300S AM100 coated steel.

Standard lengths are from 2.0m to 11.8m including end lap / gutter cut back. Panel core thickness range from 40mm to 140mm. Factory cutbacks are available in 75mm or 150mm.

Components:

The components are detailed in the manufacturer's installations Guides and consist of:

- a) KS1000 RW Trapezoidal Panel
- b) Fasteners
- c) Butyl tape sealant – 6mm x 4mm
- d) Profiled ridge filler
- e) Fire Rated canister foam
- f) Gun grade sealant



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11. Supporting Information About Intended Use

Any supporting information for section 4.

KS1000RW is an insulated core roof and wall panel. It is suitable for new & refurbishment building applications as a roofing element and as an external wall façade.

KS1000RW is a through fixed system which can be used for building applications with roof slopes of 4° (3° with low pitch details) and above and in both vertical and horizontal wall façade applications.

Reference Documents:

- a) KS1000RW Trapezoidal Wall Panel Installation Guide – Vertically Laid – Q4 2023
- b) KS1000RW Trapezoidal Wall Panel Installation Guide – Horizontally Laid – Q4 2023
- c) Trapezoidal Roof KS1000RW Installation Guide – 150mm End Lap – Q4 2023
- d) Trapezoidal Roof KS1000RW Installation Guide – 75mm End Lap – November 2019
- e) Kingspan Trapezoidal RW Product Data Sheet – KS1000RW Trapezoidal Roof and Wall Panel – Q3 2023
- f) Kingspan KS1000 RW CodeMark Wall Details Vertical Ver. Q4 2023 – Technical Drawings
- g) Kingspan KS1000 RW CodeMark Wall Details Horizontal Ver. Q4 2023 – Technical Drawings
- h) Kingspan KS1000 RW CodeMark Roof Details Ver. Q4 2023 -Technical Drawings
- i) Kingspan KS1000 RW CodeMark Roof High Humidity Details Ver. Q4 2023 -Technical Drawings
- j) KS1000RW Trapezoidal Roof & Wall Panel Product Data Sheet - Q4 2023

12. Supporting Information About Conditions and Limitations of Use

Any supporting information for section 6.

Signatures

Name and Signature of the Product Certification Body's (PCB) authorised representative and, where different, the person assigned by the PCB to make the certification decision.

A handwritten signature in black ink, appearing to read "Calin Moldovean".

Calin Moldovean
President, Business Assurance
SAI Global Assurance



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All CodeMark certificates that are current must be registered with MBIE. MBIE maintains a register of valid product certificates. [Please find the register here.](#)

If the certificate is not listed on this register or it appears as (SUSPENDED), it is not a valid CodeMark certificate and does not have to be accepted by a building consent authority as establishing compliance with the New Zealand Building Code.



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