

MODEL SPECIFICATION

Ref: RWR FM 01a

Project:

**Product: KS1000 RW/FM Trapezoidal Roof Panel System (Australian Manufactured)
Factory Mutual Certified – 4 degree or above pitch
Standard (non-corrosive) internal and external environments**

APPLICATION

The following specification is for the KS1000 RW/FM Trapezoidal Insulated Roof Panel used for a normal factory or warehouse type of building, with a roof slope greater than 4° and where the occupants or processes do not add significant quantities of water vapour to the air and a Factory Mutual Certified System is required.

MATERIALS & COATINGS

External Weather Sheet

Substrate to be a minimum 0.55mm thick Zinalume G300S AZ150 coated steel to AS1397. Colours as per Kingspan Standard range – Colorbond is also available.

Note : Some colours carry longer lead times and additional prices – Please consult Kingspan Sales Team for more information.

Insulation Core

To consist of 30,40,60,or 100mm thick, closed cell, Zero ODP, FM certified polyisocyanurate (PIR) insulation.

The auto adhesive properties of the core bond the external and internal sheets together, and control the panel thickness achieved during manufacture.

Internal Liner Sheet

Substrate to be a minimum 0.40mm thick Zinalume G300S AZ100 coated steel to AS1397. Coating to be Standard White liner – 10-15 microns thick.

PERFORMANCE

Thermal Insulation

The panel will have a Thermal Resistance (R Value) of (see below), based on an aged thermal conductivity of 0.020 W/mK.

30mm = 1.82 m²K/W.

40mm = 2.34 m²K/W.

60mm = 3.36 m²K/W.

100mm = 5.35 m²K/W.

Fire

The external and internal faces of the panel to be Class 0 in accordance with the Building Regulations when tested to BS476: Parts 6: 1989 and Part 7: 1987.

The panel must be rated SAA when tested to BS476: Part 3: 1975.

The System has the following FM test results ASTM E-180 Spread of Flame Test-Pass Class A, Class 1 Test (Calorimeter)-Pass Class 1, Wind uplift Test-Pass 1-90.

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SEALS & FILLERS

Side Lap

All external side laps to be weather sealed along the full length by an unbroken bead of 6 x 4mm butyl rubber sealant tape. (Kingspan reference S-EXT).

End Lap

All external end laps to be 150mm long, and weather sealed along the full width using two unbroken runs of 6 x 4mm butyl rubber sealant tape. (Kingspan reference S-EXT).

Fillers

Where flashings are fixed across the profile of the insulated panel, closed cell polyethylene foam fillers should be used to seal and close the profile.

Seal the top, bottom and sides of each profiled filler with non-curing gun-grade sealant.

Junctions

Junctions between the roof panel system and walls / penetrations filled with a FR fire rated gun applied canister urethane insulation.

FASTENERS

Primary

All primary fasteners must be the high threaded type manufactured from carbon steel, anti-corrosion coated, and fitted with a 16 (or 25mm) diameter bonded stainless steel (or aluminium) washer and colour matched head (if required).

All fasteners to be located through every valley (or every crown) of the profile.

To comply with local windload requirements, and those of Factory Mutual it may be necessary to provide additional fixings in areas of high local suction.

(See fixing chart for correct ITW Buildex fastener)

Secondary

Side laps and flashings to be stitched at 450mm centres (maximum) with carbon steel stitching screws, complete with bonded 14mm diameter carbon steel washers.

(ITW Buildex ref: 6-030-3308-3c4)

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CONSTRUCTION DETAILS

Flashings

All external flashings to be made from 0.55mm thick coated steel to the same specification as the outer sheet of the panel.

All external flashings to be weather sealed at laps and along the full length by an unbroken bead of 6 x 4mm thick butyl rubber sealant tape (Kingspan reference S-EXT).

All internal flashings to be made from 0.55mm thick steel substrate, to the same specification as the liner sheet of the panel.

All internal flashings to be air sealed at laps and along the full length by an unbroken bead of 4mm diameter butyl rubber sealant tape (Kingspan reference S-INT).

End laps to be air sealed with gun grade sealant.

Panel Lengths.

Exact lengths to be determined by the cladding contractor from the steelwork drawing.

Purlin Centres

The Maximum Purlin Centres for FM certification is 2000mm, for all panel thickness.

Note : Only if FM Approval is required.

Rooflights

Rooflights to be specified to suit project requirements and approved by the FM Project Engineer and installed to the manufacturers details.

CONSTRUCTION REQUIREMENTS

Steelwork Tolerance

The steel frame must be made and assembled to an accuracy of L/600 between fixing planes of adjacent purlins, where L. is the purlin spacing.

See note above for Maximum Purlin Centres.

Installation

Panels to be laid with side lap joints away from prevailing wind unless otherwise shown on drawings.

All fasteners, seals and fillers to be of correct specification and installed as indicated on the project construction drawings.

Site cut panels must provide accurate, true lines with no distortion. Panels to be cut with powered reciprocating type saw and all exposed site cut panels to be treated with a suitable edge protection lacquer. Cut openings for outlets, vents, flues etc. to be the minimum size necessary.

Remove all swarf and any foreign matter immediately from the external surface of panels.

Fasteners to be checked and adjusted if necessary to ensure they are weather tight and external panel facing is not distorted.

Safety

The contractor is to determine and use a safe method of working throughout the installation and construction period, which complies with HSE requirements.