

Smartek Roof Panel Span Tables & Thermal Ratings

Version 2015.02



A fully customised insulated panel solution with a contemporary dual sided trapezoidal profile.



UP TO 30 YEAR WARRANTY



GROUP 2 FIRE RATED



HIGH THERMAL RATING



SUPERIOR SPAN & CANTILEVERS



CORROSIVE SOLUTION

ARCPANEL's Smartek panel is a contemporary, pre fabricated structural insulated panel, ideal for roofing solutions and wall

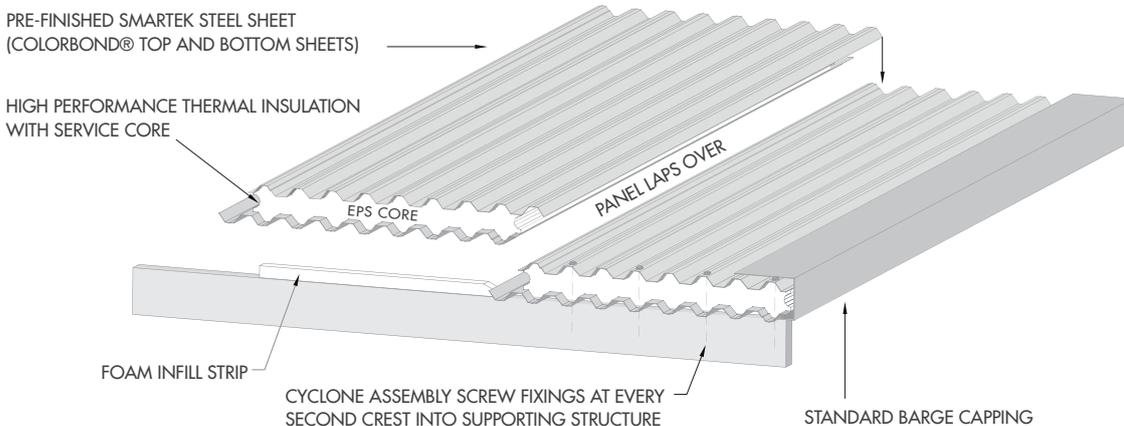
Smartek is a pre-fabricated structural insulated panel in a contemporary looking trapezoidal profile comprising of Colorbond® steel sheeting, which is bonded to both sides of a profiled fire retardant EPS core.

The panel's top and bottom sheets are pre-finished in an extensive range of Colorbond® colours.

Features & Benefits

- Achieves up to 10.2m unsupported span which can reduce expensive support structures eg. roof trusses and support beams
- The contemporary trapezoidal profile is used on both sides of the panel
- Fire rated to NCC/BCA Group 1, roof and wall lining material
- Meets BCA bush fire ratings up to BAL 29
- Minimum roof pitch as low as 2°
- Cantilevers of up to 4m
- Smartek is available in Colorbond®, XRW, Ultra and Zinalume on both sides of the panel
- Fast and simple to install, built-in service core
- High comfort, all in one insulated roof system
- Peace of mind – up to 25 years warranty (conditions apply)

Roof Detail



ARCPANEL Smartek Panels combine aesthetic, innovative design, with high strength, durability, thermal insulation and have exceptional spans available for roof pitches as low as 2°.

Panel Types



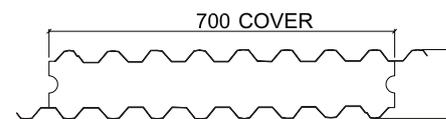
Straight panels can be manufactured up to 24m in length, suitable for residential, commercial, educational, industrial and government projects.

Straight panels can be manufactured using XRW, Ultra and Zinalume for the top and bottom sheets.

Panel Thermal R Values at 23°C

- 100mm = R2.4
- 125mm = R2.7
- 140mm = R3.1
- 175mm = R4.1
- 200mm = R4.8

Panel Coverage



ARCPANEL Smartek Roof Panel - Applications



Credit
Latitude Architects

Project Example

The Mazenod College Provence Centre is a specialist sports facility incorporating a large sports hall (creating the equivalent of three courts) linked to flexible classroom/function spaces and associated amenities.

The **ARCPANEL** Smartek trapezoidal profile was selected to be used as part of the exterior wall cladding and linings.

Options

The Smartek Trapezoidal panel system comes in a selection of colours to suit your design. Please refer to the colour selection chart.

High Comfort

The Smartek trapezoidal panel system provides climate comfort having a 3 layered system, with insulation wrapped in Colorbond® steel.

Simple to Install

The Smartek trapezoidal panel has been designed, engineered and tested to comply with all relevant Australian standards. Rapid installation makes the Smartek trapezoidal panel a clear winner over traditional roof construction.

Smartek trapezoidal panels have inbuilt service ducts within to conceal electrical wiring for fans and light fittings. No need for ceiling plastering or painting.

Colorbond®

COLOUR RANGE

	Basalt™
	Classic Cream™
	Cottage Green
	Cove™
	Deep Ocean®
	Dune®
	Evening Haze®
	Gully™
	Ironstone®
	Jasper®
	Mangrove™
	Manor Red®
	Monument®
	Night Sky®
	Pale Eucalypt®
	Paperbark®
	Shale Grey®
	Surfmist®
	Terrain™
	Wallaby™
	Whitehaven®
	Windspray®
	Woodland Grey®
	Zincalume

For further information on COLORBOND® steel, the following technical bulletins are available from ARCPANEL.

- Tb-1a steel roofing products – selection guide
- Tb-4 maintenance of Colorbond® steel and Zincalume® steel
- Tb-8 flashing materials for Zincalume® steel and Colorbond® steel sheet
- Tb-10 cut edge protection of Zinc-coated and Zinc/aluminium alloy-coated steel

The ARCPANEL advantage



Australian Owned
and Manufactured



Cyclone
Rated



Industry Leading
Warranties



Large Spans
Less Structure



Fast Track
Project Delivery



Fire Rated
Superior Protection



High Thermal
Comfort Rating



BCA Building Code
Certified



Colorbond®
Made for Australia

ARCPANEL Smartek Panel Specifications

Cover Width	Insulation Core Material	Thermal Conductivity	Top Sheet Finish	Bottom Sheet Finish	Sheet Material	Typical Panel Weight
700mm	Fire retardant, polystyrene (EPS)	0.038 W/m.K	Colorbond® Colorbond® ULTRA Zincalume®	Colorbond® Colorbond® ULTRA Zincalume®	0.42 BMT G550 Steel	100mm = 10.6kg/m ² 125mm = 10.9kg/m ² 140mm = 11.2kg/m ² 175mm = 11.6kg/m ² 200mm = 12.0kg/m ²

ARCPANEL Smartek Span Table - Non Cyclonic

1) Midspan deflection up to span / 120 at serviceability limit state; Self weight deflection up to span / 600 Maximum unsupported Spans (mm)
2) Spans in accordance with AS1170, refer to full span selection notes

Wind Class (Permissible)	Ultimate Limit State Design Wind Pressure (P) (kPa)	Total R Value									
		R2.4		R2.7		R3.1		R4.1		R4.8	
		100mm Panel		125mm Panel		140mm Panel		175mm Panel		200mm Panel	
		Max Span	Max Cantilever								
N2-W33	1.52	6020	2410	7280	2910	7860	3150	9070	3630	10200	4010
N3-W41	2.34	5000	2000	5980	2390	6500	2600	7640	3050	8400	3360
N4-W50	3.5	4030	1210	4900	1470	5340	1600	6300	1890	6970	2100

ARCPANEL Smartek Panel - Fixing class 4 with square-lok cyclone assembly

FIXING TO STEEL						FIXING TO TIMBER					
MINIMUM FIXING SCREW EMBEDMENT 30MM						MINIMUM FIXING SCREW EMBEDMENT 35MM					
PANEL SIZE (MM)	MINIMUM FIXING SCREW LENGTH (MM)	ACTUAL TO ORDER STEEL SCREW STEEL THICKNESS 2.0MM TO 5.0MM		ACTUAL TO ORDER STEEL SCREW STEEL THICKNESS 5.1MM TO 12.0MM		MINIMUM FIXING SCREW LENGTH (MM)	ACTUAL TO ORDER TIMBER SCREW		MINIMUM FIXING SCREW LENGTH (MM)	ACTUAL TO ORDER TIMBER SCREW	
		SCREW TYPE	SIZE	SCREW TYPE	SIZE		SCREW TYPE	SIZE			
100	130	METAL TEK	14-14 x 135 MM	METAL TEK	14-20 x 150MM Series 500	135	TIMBER T17	14-10 x 150MM	135	TIMBER T17	14-10 x 150MM
125	155	METAL TEK	14-14 x 175 MM	METAL TEK	14-20 x 200MM Series 500	160	TIMBER T17	14-10 x 175MM	160	TIMBER T17	14-10 x 175MM
140	170	METAL TEK	14-14 x 175 MM	METAL TEK	14-20 x 200MM Series 500	175	TIMBER T17	14-10 x 175MM	175	TIMBER T17	14-10 x 175MM
175	205	METAL TEK	14-14 x 205MM	METAL TEK	14-20 x 250MM Series 500	210	TIMBER T17	14-10 x 240MM	210	TIMBER T17	14-10 x 240MM
200	230	METAL TEK	14 - 10 x 230 MM (*CC1)	MATERIAL	14-20 x 250MM Series 500	235	TIMBER T17	14-10 x 240MM	235	TIMBER T17	14-10 x 240MM
		METAL TEK	14 - 20 x 250 MM SERIES 500 (1.0mm to 5.0mm)								

- NOTES:**
- Suffix (* cc1) = 14-10 x "x" can be used for steel 4.1mm to 5mm if suitable cutting compound is used, refer to technical services
 - 14-10 X 'x' mm screws can be substituted for 14-14-'x' mm screws in steel between 1.3mm to 4.0mm
 - Clearance must be checked to allow for protruding screw length through fixing point
 - Fixing beam / top plate must be pitched to suit the roof panel pitch
 - Fixing to other substrates (aluminium, stainless steel etc) may be possible, refer to technical services
 - Fixing to steel substrates less than 2.0mm, refer to technical services
 - Fixing screw table reflects the range of screws currently available on the market

Early Fire Hazard AS / NZS 1530.3	
INDEX	RESULT
Ignitability	0
Spread of Flame	0
Heat Evolved	0
Smoke Developed	4

Full Scale Room Test AS ISO 9705:2003	
INDEX	RESULT
Group Number	Group 1
Smoke Rate Index	(SMOGRRC) < 100
Bushfire Attack Level Assessment AS 3959:2009	
BAL Rating	BAL 12.5, BAL 19 & BAL 29

Referenced Australian Standards:	
NCC/BCA 2014 AS 1170 AS 1562.1	Building Code of Australia Parts 1 & 2 Loading Code Design and Installation of Metal Roofing
AS 3959:2009	Construction of buildings in bushfire prone areas
AS 1530.3 1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS ISO 9705:2003	Full scale room test for surface products

Panel Material	Non Coastal Location (ISO Cat. 1)	Coastal Location >1km to 5km (ISO Cat. 2)	Marine / Industrial >200m to 1km (ISO Cat. 3)	Severe Marine / Industrial >100m to 200m (ISO Cat. 4)	Very Severe Marine / Industrial 0 to 100m (ISO Cat. 5)	Aquatic / Chemical / Swimming Pool Exposure
XRW COLORBOND / ZINCALUME	25yrs Corrosion 20yrs Paint System	20yrs Corrosion 20yrs Paint System	12yrs Corrosion 10yrs Paint System	No Warranty	No Warranty	No Warranty
COLORBOND ULTRA	25yrs Corrosion 20yrs Paint System	25yrs Corrosion 20yrs Paint System	20yrs Corrosion 18yrs Paint System	15yrs Corrosion 10yrs Paint System	10yrs Corrosion 10yrs Paint System	6yrs Corrosion 6yrs Paint System

Product Quality

ARCPANEL manufactures its range of structural insulated panels using only high quality materials which have been rigorously tested to Australian standards and for Australian conditions. ARCPANEL provides industry leading product warranty of up to 25 years.

ARCPANEL has established an enviable track-record of supply to successful projects, produced over one million square metres of building products in the last few years alone and has been able to consistently demonstrate significant time and cost savings against conventional building practices.

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