ARCPANEL

Product Colours & Span Tables

VERSION 2021

Refer to Design, Detailing & Installation Guide for full product information

AS 5637.1 GROUP 2
AS 3959 BAL-40

THERMAL RATING
UP TO R6.6

COASTAL &
SEVERE MARINE

LARGE SPANS
& CANTILEVERS

Firetek PIR Panel

STRAIGHT & LARGE CURVED CONFIGURATIONS

Updated: 01/07/2023

Colorbond®
MADE BY AUSTRALIA

Introduction & General Notes
Firetek Panel

FULLY INTEGRATED ROOF SYSTEM

In response to mandatory bushfire attack level ratings, ARCPANEL is proud to introduce its new Firetek roof system; a pre-fabricated insulated panel that consists of two single COLORBOND® steel sheets which are bonded to a fire-retardant PIR core. ARCPANEL Firetek roof systems have an excellent thermal insulation and are especially suitable for use in bushfire prone areas.

ARCPANEL Firetek roof systems combine aesthetic, innovative design, with high strength, durability and excellent fire safety and energy efficiency. The ARCPANEL Firetek roof system is suitable for use in multiple applications including residential, patios, awnings, carports, educational and defence; especially in bushfire prone areas.

The lightweight ARCPANEL panels are easily handled on site, achieving faster, lower cost installation.

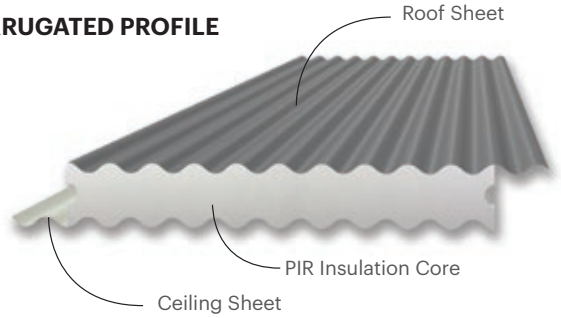
UNIQUE DESIGN & CONSTRUCTION

ARCPANEL pre-fabrication starts with standard COLORBOND® steel sheeting bonded to both sides of a profiled PIR core. The panel yields high strength resulting in large spans & cantilevers along with a high insulation value. Standard ratings from R3.4 to R6.6 can easily be achieved. After the panels are fixed in place, there is virtually no maintenance required other than the occasional wash down of soffits.

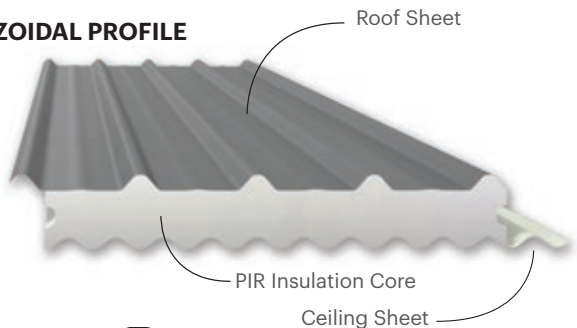
On site time spent fitting trusses, eave linings, plasterboard, battens, insulation lining, roof sheeting and painting, is eliminated when using ARCPANEL Firetek roof panel.

Straight, Curved & Multi-curved panels can be manufactured using COLORBOND® steel, COLORBOND® steel Matt, COLORBOND® Ultra steel, COLORBOND® Metallic steel, SUPERDURA™ Stainless steel, ZINCALUME® steel and Xtreme (Magnaflow®). Available in a range of classic and contemporary COLORBOND® steel colours with limited colours in Stainless Steel and Xtreme (Magnaflow®).

CORRUGATED PROFILE



TRAPEZOIDAL PROFILE



BAL-40 TESTED & CERTIFIED

KEY FEATURES AND BENEFITS

- ✓ BAL 40 - Tested for Bushfire and Fire Resistance (AS3959 - 2018, AS1530.8.1)
- ✓ Finished profile is used on both sides, reducing the need for ceilings and internal painting
- ✓ Fire rated to Group 2 - roof and wall lining material
- ✓ Straight, curved or multi-curved configurations, suitable for most architectural designs
- ✓ ARCPANEL Firetek roof panel top sheet is available in COLORBOND® steel, COLORBOND® steel Matt, COLORBOND® Ultra steel, COLORBOND® Metallic steel, SUPERDURA™ Stainless steel, ZINCALUME® steel & Xtreme (Magnaflow®)
- ✓ Available in corrugated and trapezoidal roof profiles
- ✓ Rapid installation makes the ARCPANEL Firetek roof panel a clear winner over traditional roof construction
- ✓ Suitable for roof pitches from 2 degrees
- ✓ Superior standard thermal ratings up to R6.6 are achieved using the ARCPANEL Firetek roof panel
- ✓ Panels meet the requirements for live and concentrated imposed loads for roofs not accessible except for normal maintenance as per AS1170.1:2002

ROOF TYPES

STRAIGHT PROFILE

Straight panels can be manufactured up to 20 metres in length, suitable for housing, awnings, patios, commercial and industrial projects.

CURVED PROFILE

Curved panels can be manufactured to a minimum radius of 16m (corrugated profile).

Curved panels can be manufactured in lengths up to 20 metres, panels can be joined to achieve longer runs.

MULTI CURVED PROFILE

Multi-curved panels can be manufactured to a minimum radius of 16m (corrugated profile).

Multi-curved panels can be manufactured in lengths up to 20 metres, panels can be joined to achieve longer runs.

ARCPANEL

Version 2021. Always refer to local state building regulations and current safety requirements. Updated: 01/07/2023.

ARCPANEL Insulated panel's offer industry leading warranties, it is important that care is taken when selecting the sheeting material. Environmental conditions, coastal & geographic locations and extreme weather conditions should all be considered. Other points such as roof pitch, metal thickness and direction of lay are also important. The sheeting plays an important part in the structural design of ARCPANEL's insulated roof system.

Please feel free to contact us for further information. Technical Bulletins from Bluescope Steel are available from ARCPANEL or visit www. bluescopesteel.com.au.

Sheeting Material Types

COLORBOND® STEEL (Standard Finish)

While standard COLORBOND® steel will suit most residential and commercial designs in most locations it is most suitable for: Non-Coastal, Coastal Locations 1km-5km and Marine location greater than 200mm from salt or brackish environments.

ZINCALUME® STEEL

Next generation ZINCALUME® steel's patented Activate® technology introduces magnesium into the aluminium-zinc alloy coating, improving galvanic protection by activating the aluminium. The result is a tougher protective coating that's more resistant to scratches and scuffs encountered during construction. Suitable for: Non-Coastal, Coastal Locations 1km-5km and Marine location greater than 200mm from salt or brackish environments.

COLORBOND® ULTRA STEEL

CCOLORBOND® Ultra steel is especially designed for severe coastal and industrial environments - where there is exposure to salt or brackish water in the air and approximately 100 to 200 metres from breaking surf. Similarly, the effects of industrial emissions (fumes and/or particulate fallout) are typically lessened 100 to 200 metres from the source. Suitable for: Severe Marine Locations to Coastal Location and Aquatic/Swimming Pool environments.

SUPERDURA™ STAINLESS STEEL

SUPERDURA™ Stainless steel is the recommended roofing material for coastal areas where there is a constant salt spray in the air – within 100 metres from breaking surf - or within proximity to industrial emissions. Suitable for: Non Coastal, Coastal to Severe Marine Locations and Aquatic/Swimming Pool environments.

ARCPANEL XTREME (MAGNAFLOW)

The superior corrosion resistance of ARCPANEL's Xtreme roofing material is achieved using Magnaflow, means it is an ideal choice for more demanding environments, such as roofs 100m from the coastline. The magnesium in the aluminium/zinc/magnesium alloy coating 'magically' helps zinc flow over cut edges, sealing them and providing long term protection against corrosion. Suitable for: Severe Marine Locations to Coastal Location and Aquatic/ Swimming Pool environments.

AQUATEK APPLICATIONS

For enclosed aquatic applications, ARCPANEL recommends the use of ARCPANEL Aquatek Panel with large spanning capabilities and a range of panel thicknesses to suit your project, the ARCPANEL Aquatek Roof systems is the ultimate roof solution.

Please refer to ARCPANEL's Aquatek Guide for further information.

Colorbond®

COLOUR RANGE - CLASSIC

Dover White™ SA = 0.28 BCA = L	Surfmist® SA = 0.32 BCA = L	Southerly® SA = 0.40 BCA = L	Shale Grey™ SA = 0.45 BCA = M
Bluegum® SA = 0.57 BCA = M	Windspray® SA = 0.58 BCA = M	Basalt® SA = 0.71 BCA = D	Classic Cream™ SA = 0.32 BCA = L
Paperbark® SA = 0.42 BCA = M	Evening Haze® SA = 0.43 BCA = M	Dune® SA = 0.47 BCA = M	Gully® SA = 0.63 BCA = D
Jasper® SA = 0.68 BCA = D	Manor Red® SA = 0.69 BCA = D	Wallaby® SA = 0.64 BCA = D	Woodland Grey® SA = 0.71 BCA = D
Pale Eucalypt® SA = 0.60 BCA = M	Cottage Green® SA = 0.75 BCA = D	Ironstone® SA = 0.74 BCA = D	Deep Ocean® SA = 0.75 BCA = D
Monument® SA = 0.73 BCA = D	Night Sky® SA = 0.96 BCA = D		

COLOUR RANGE - MATT FINISH

Surfmist® SA = 0.35 BCA = L	Dune® SA = 0.48 BCA = M	Shale Grey™ SA = 0.45 BCA = M	Bluegum® SA = 0.57 BCA = M
Basalt® SA = 0.71 BCA = D	Monument® SA = 0.79 BCA = D		

COLORBOND® ULTRA STEEL

Surfmist® SA = 0.32 BCA = L	Shale Grey™ SA = 0.45 BCA = M	Windspray® SA = 0.58 BCA = M	Dune® SA = 0.47 BCA = M
Wallaby® SA = 0.64 BCA = D	Woodland Grey® SA = 0.71 BCA = D	Monument® SA = 0.73 BCA = D	

SUPERDURA™ STAINLESS STEEL

SURFMIST®

Surfmist® Stainless SA = 0.36 BCA = L

COOLMAX® STEEL

WHITEHAVEN®

Whitehaven® SA = 0.23 BCA = L

COLORBOND® STEEL METALLIC FINISH (subject to availability)

Galactic™ SA = 0.34 BCA = L	Cosmic™ SA = 0.39 BCA = L	Rhea™ SA = 0.49 BCA = M	Astro™ SA = 0.62 BCA = D

COLOUR RANGE ARCPANEL XTREME (MAGNAFLOW®)

Off White SA = 0.35 BCA = L	Birch* SA = 0.45 BCA = M	Armour Grey* SA = 0.59 BCA = M
Slate Grey* SA = 0.72 BCA = D	Monolith* SA = 0.75 BCA = D	

*Lead times are subject to supplier availability.

Colour swatches are provided as an indication of colour only and may not be an actual representation of colour. We recommend checking your chosen colour against an actual sample of the product before purchasing.

Corrosion resistant options available for coastal applications - please contact us for more details.

ARCPANEL PRODUCT STRUCTURAL WARRANTY FOR ROOFING APPLICATIONS (SAMPLE ONLY)

INDICATIVE & MAXIMUM STRUCTURAL WARRANTY PERIOD - SUBJECT TO PRIOR APPROVAL

Environment	(ISO Cat.1)	(ISO Cat.2)	(ISO Cat.3)	(ISO Cat.4)	(ISO Cat.5)	(Highly Corrosive)
Panel Material	Non-Coastal 5km+	Coastal 1km to 5km	Marine (calm) & Industrial 500m to 1km	Severe Marine (calm) & Industrial 100m to 500m	Severe Marine (surf) 50m to 500m Corrosive Industrial 0m to 100m	Enclosed Aquatic Centre & Over Swimming Pools
COLORBOND® STEEL/ZINCALUME®	**20 years**	**15 years**	**10 years**	By Enquiry	No Warranty	No Warranty
COLORBOND® ULTRA STEEL	**20 years**	**20 years**	**15 years**	**10 years**	By Enquiry	By Enquiry
COLORCOTE MAGNAFLOW®	**20 years**	**20 years**	**20 years**	**15 years**	By Enquiry	By Enquiry
SUPERDURA™ STAINLESS STEEL	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**

BLUESCOPE STEEL - COLORBOND® STEEL MATERIAL AND COLOUR SELECTION CHART — TABLE 1

Colour	Solar Absorbance	Classification	Availability		Recommended for use		Curving Grade	NCC Climate Zone	NSW Basix
			Standard	Ultra	Roof Side	Ceiling Side			
COLORBOND® steel									
Whitehaven® (COOLMAX®)	0.23	Light	✓		✓	✓		All Zones	L
Dover White™	0.28	Light	✓		✓	✓	✓	SA <=0.32 All Zones	L
Classic Cream™	0.31	Light	✓		✓	✓	✓		L
Surfmist®	0.32	Light	✓	✓	✓	✓	✓		L
ZINCALUME®	<0.35	Light			✓		✓	SA <=0.42 All Zones 1,2,3,4,5,6,7,8	L
Southerly®	0.40	Light	✓		✓	✓	✓		L
Paperbark®	0.42	Medium	✓		✓	✓	✓		L
Evening Haze®	0.43	Medium	✓		✓	✓	✓	SA <=0.53 Zones 2,4,5,6,7,8	L
Shale Grey®	0.43	Medium	✓	✓	✓	✓	✓		L
Dune®	0.47	Medium	✓	✓	✓	✓	✓		L
Bluegum®	0.57	Medium	✓		✓	✓	✓	SA <=0.64 Zones 2,4,5,6,7,8	M
Windspray®	0.58	Medium	✓	✓	✓	✓	✓		M
Pale Eucalypt®	0.60	Medium	✓		✓	✓	✓		M
Gully® Dark	0.63	Dark	✓		✓	✓			M
Wallaby®	0.64	Dark	✓	✓	✓	✓		SA <=0.73 Zones 6,7,8	M
Jasper®	0.68	Dark	✓		✓	✓	✓		M
Basalt®	0.69	Dark	✓		NO**	✓			M
Manor Red®	0.69	Dark	✓		NO**	✓	✓		M
Woodland Grey®	0.71	Dark	✓	✓	NO**	✓			D
Monument®	0.73	Dark	✓	✓	NO**	✓	✓		D
Ironstone®	0.74	Dark	✓		NO**	✓	✓	SA <=0.85 Zones 6,7,8	D
Cottage Green	0.75	Dark	✓		NO**	✓	✓		D
Deep Ocean®	0.75	Dark	✓		NO**	✓	✓		D
Night Sky®	0.96	Dark	✓		NO**	✓		SA <=0.96 Zones 6,7,8	D
SUPERDURA™ STAINLESS STEEL									
Surfmist®	0.318	Light			✓	✓		SA <=0.32 All Zones	L
ARCPANEL XTREME (MAGNAFLOW®)									
Off White	0.35	Light			✓	✓		SA <=0.32 All Zones	L
Birch	0.45	Medium	✓		✓	✓		SA <=0.53 Zones 2,4,5,6,7,8	M
Armour Grey	0.59	Medium	✓		✓	✓		SA <=0.64 Zones 2,4,5,6,7,8	M
Slate Grey	0.72	Dark	✓		NO**	✓		SA <=0.73 Zones 6,7,8	D
Monolith	0.75	Dark	✓		NO**	✓		SA <=0.85 Zones 6,7,8	D

IMPORTANT NOTES: USE OF DARK COLOURS FOR EXTERNAL FINISHES, LIMITED WARRANTY APPLIES, PLEASE CONTACT ARCPANEL FOR FURTHER INFORMATION.
* Galv, ZINCALUME®, COLORBOND® Matt and COLORBOND® dark colours may show minor visible roll forming process marks, this is a characteristic of roll forming process and not a defect.
** Colours with a NCC / BCA 'Dark' classification having a solar absorbance of greater than 0.68 are not recommended to be used as a top roof or outer wall sheeting. Increased surface temperature, expansion, deflection and thermal movement can be expected of an insulated panel when using dark colours exposed to direct sunlight. The building designer is responsible for colour selection, acknowledges and accepts any associated design risks. Arcpanel warranty does not cover structural damage to the building or to the panels caused by extreme or concentrated dry heat loads and surface temperatures in excess of 78 degrees Celsius.

Introduction & General Notes

PANEL SIZES

Standard panel thicknesses are available (other panel thicknesses are available upon request):

85mm - 105mm - 150mm

PANEL LENGTHS

Straight, curved and multi-curved panels can be supplied up to 20 metres in length. Longer lengths can be supplied, please contact ARCPANEL for details.

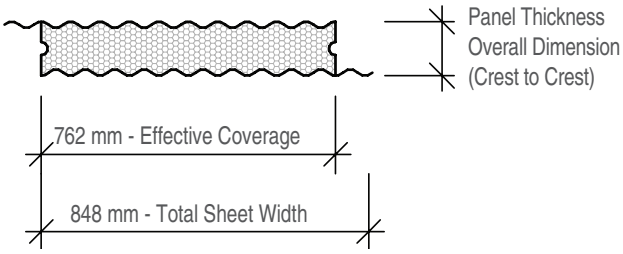
PANEL CONFIGURATIONS

Panels can be manufactured in straight, curved and multi-curved configurations. Refer to roof type guide on page 3 for further information.

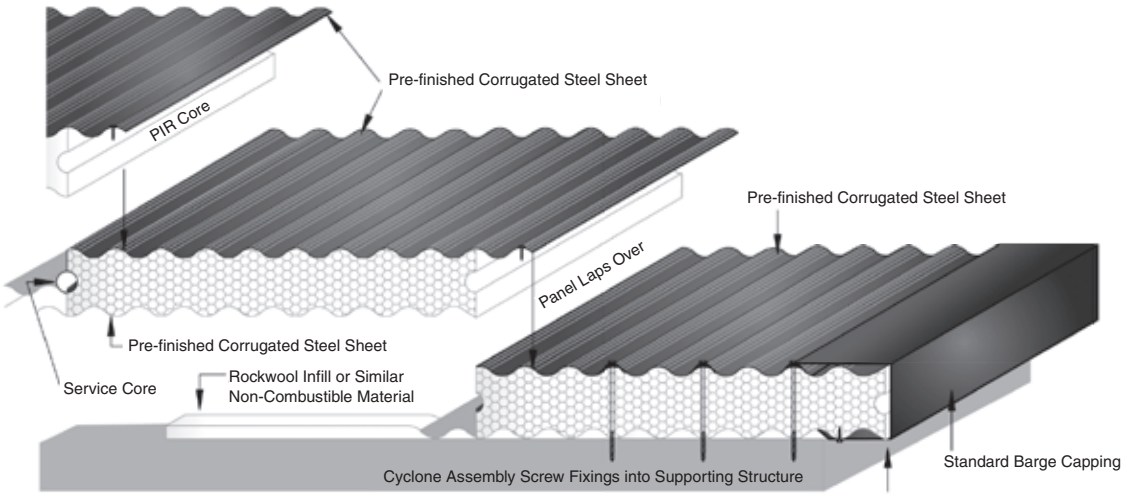
PANEL FINISH

The ARCPANEL Firetek corrugated roof panel is available in a corrugated finish to both the inside and outside linings. Please refer to table 1 on page 5 for further information on colours and material types. Base metal thickness of Steel sheet 0.420mm and a total coated thickness of 0.470mm as standard, unless otherwise stated.

PANEL DIMENSIONS



FIRETEK PANEL COMPONENT ELEMENTS (CORRUGATED)



Drawings not to scale - refer to www.arcpanel.com.au for further information.

Up to 300mm Unsupported Side Overhang Using Full Uncut Panel

ARCPANEL FIRETEK CORRUGATED PROFILE PANEL SPECIFICATIONS — **TABLE 2A**

Cover Width	Core Material	Length	Thermal Conductivity	Top Sheet Finish	Bottom Sheet Finish	Sheet Material	Typical Panel Weight
762mm	PIR Foam	Ordered to Size	0.022 W/mK	COLORBOND® STEEL COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	COLORBOND® STEEL COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	0.42 BMT G550 Steel	85mm = 11.2kg/m^2
							105mm = 12kg/m^2
							125mm = 12.7kg/m^2
							150mm = 13.7kg/m^2

Introduction & General Notes

PANEL SIZES

Standard panel thicknesses are available (other panel thicknesses are available upon request):

105mm - 150mm

PANEL LENGTHS

Generally straight and large curved panels can be supplied up to 20 metres in length. Longer lengths can be supplied, please contact ARCPANEL for details.

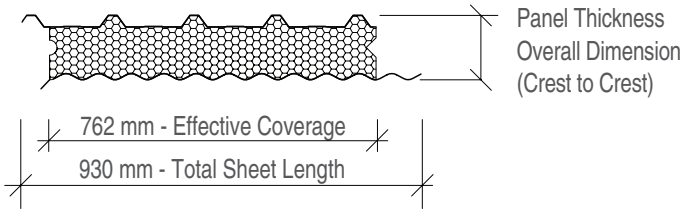
PANEL CONFIGURATIONS

Panels can be manufactured in straight and large curved configurations. Refer to roof type guide on page 3 for further information.

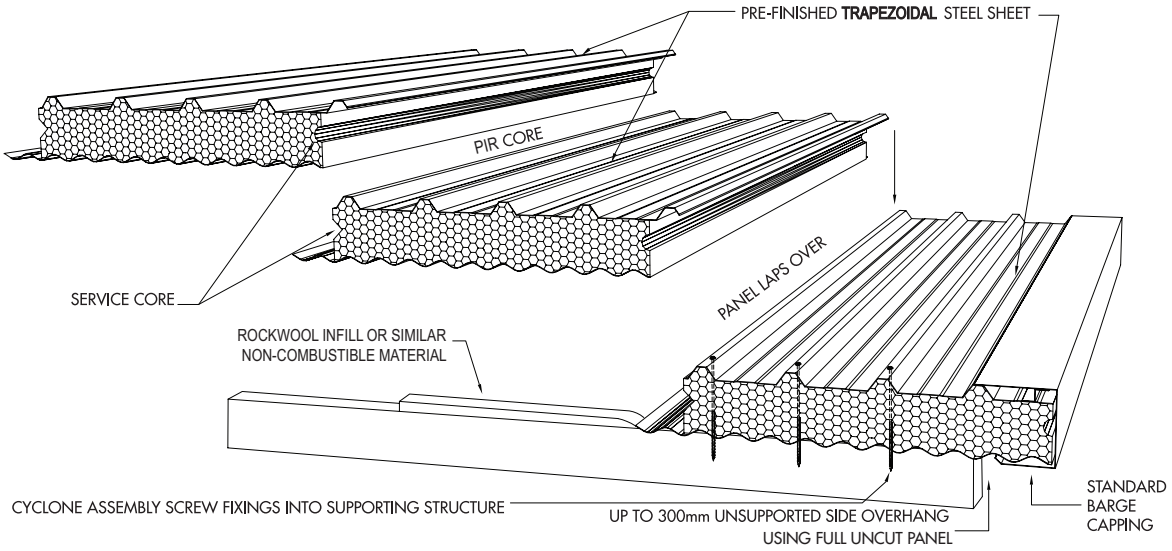
PANEL FINISH

The ARCPANEL Firetek Trapezoidal panel is available in a trapezoidal topside profile and a custom orb (corrugated) underside profile. Please refer to table 1 on page 5 for further information on colours and material types. Base metal thickness of Steel sheet 0.420mm and a total coated thickness of 0.470mm, is used as standard, unless otherwise stated.

PANEL DIMENSIONS



FIRETEK PANEL COMPONENT ELEMENTS (TRAPEZOIDAL)



ARCPANEL FIRETEK TRAPEZOIDAL PROFILE PANEL SPECIFICATIONS — TABLE 2B

Cover Width	Core Material	Length	Thermal Conductivity	Top Sheet Finish	Bottom Sheet Finish	Sheet Material	Typical Panel Weight
762mm	PIR Foam	Ordered to Size	0.022 W/mK	COLORBOND® STEEL COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	COLORBOND® STEEL COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	0.42 BMT G550 Steel	105mm = 11.5kg/m^2
							125mm = 12.3kg/m^2
							150mm = 13.7kg/m^2

NON CYCLONIC - CORRUGATED TOP AND BOTTOM SHEET

TABLE 3A

Midspan deflection up to span / 120 at serviceability limit state; Self weight deflection up to span / 600 Maximum unsupported Spans (mm)

Wind Class (Permissible)	Strength Limit State Design Wind Pressure (P) (kPa)	85mm Panel R3.4 (UP) / R3.2 (DOWN)		105mm Panel R4.3 (UP) / R4.0 (DOWN)		125mm Panel R5.3 (UP) / R5.0 (DOWN)		150mm Panel R6.5 (UP) / R6.0 (DOWN)	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**5750**	**1725**	**6500**	**1950**	**8000**	**2400**	**9000**	**3000**
	1.68	5550	1650	6300	1875	7750	2325	8700	2850
	1.85	5350	1600	6100	1825	7500	2250	8400	2700
	2.01	5150	1525	5900	1750	7250	2175	8100	2550
	2.18	4950	1475	5700	1700	7000	2100	7800	2400
N3-W41	**2.34**	**4750**	**1425**	**5500**	**1650**	**6750**	**2025**	**7500**	**2250**
	2.57	4450	1325	5200	1550	6350	1900	7000	2100
	2.80	4150	1225	4900	1450	5950	1775	6500	1950
	3.03	3850	1150	4600	1375	5550	1650	6000	1800
	3.26	3550	1050	4300	1275	5150	1525	5500	1650
N4-W50	**3.50**	**3250**	**975**	**4000**	**1200**	**4750**	**1425**	**5000**	**1500**
	3.80	3150	925	3850	1150	4600	1375	4900	1425
	4.11	3050	900	3700	1100	4450	1325	4800	1375
	4.41	2950	875	3550	1050	4300	1275	4700	1300
	4.72	2850	850	3400	1000	4150	1225	4600	1250

SPAN & FIXING SELECTION NOTES (NON CYCLONIC AREAS)

1. The above span tables apply to typical enclosed buildings built on the ground, less than 20m high with sealed doors and windows capable of resisting the applied wind pressures.
2. Roof pressure coefficients: Cpe = 1.5 X - 0.9 = - 1.35, Cpi = + 0.2 [Cpi = + 0.7 at cantilever]
3. The buidling designer must take into account any application where the Cpi would exceed > 0.2 in open or partly open structures
4. Maximum cantilever is up to 40% actual backspan for ULS wind pressure up to 3.49 kPa, up to 30% actual backspan for ULS wind pressure 3.50 kPa and greater. Cantilever can not be greater than max length shown. (Maximum cantilever lengths cannot be exceeded. Choose a thicker panel to achieve the required cantilever.) (Minimum width of cantilevered roof is 1.5 x cantilever)
5. Wind Load Serviceability Criteria based on AS 4055, Vs=0.64 x Vu
6. Over sized gutters may affect the cantilever capability, contact ARCPANEL for advice
7. Limited raking, diaphragm action and lateral restraint capacity
8. 300mm maximum side cantilever using full uncut panel
9. Thermal R-Values are Total R Values (Winter - Tested conductivity 0.022 W/m.K at 23^C

The Ultimate Strength Limit State Design Wind Pressures (P) indicated in the above span tables represent generalised design pressures applicable for single span panels located within edge zones of a roof where local pressure factors K(local) apply, for the appropriate Permissible Wind Class. Assumed values of pressure coefficients for Single Spans:- Cpe=1.5x-0.9=-1.35, Cpi=+0.2, Kc=1.0 [Cpi=+0.7 for cantilever]. The above pressure coefficients and design wind pressures are recommended as a minimum. Where a designer determines more severe pressure coefficients than those indicated above or wish to limit deflections, they must select a thicker panel , reduce the span accordingly, or consult ARCPANEL for technical advice.

GENERAL NOTES

Live Loads:
Maximum distributed live load 0.25kPa.
Roofs in Alpine areas: Designer must refer to ARCPANEL for specialist advice regarding snow loadings

Deflection Limits:
The ARCPANEL span tables have been provided with specific deflection limits indicated for Serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation, taking into account the amount of potential roof panel movement relative to any attached non-structural elements, such as internal wall partitions and window frames etc. The building designer must also make allowance for deflections which can exceed those in the tables when wind speeds are occasionally above the designated serviceability wind speed during extreme weather conditions.

Cantilever Deflections:
Note that cantilever deflections will depend on the backspan, rigidity of supports, building geometry and building permeability. Cantilever deflection can be up to (cantilever length) / 50 at serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation taking into account the amount of potential roof panel movement at the ends of and along the sides of cantilevered sections of the roof, relative to any adjacent attached flashings, downpipes, screen partitions and walls. The building designer must also make allowance for cantilever deflections which can exceed (cantilever length) / 50 when wind speeds occasionally exceed serviceability wind speeds during extreme weather conditions. Cantilever deflections due to self weight can be up to (cantilever length) / 500.

NOTE: THE ABOVE SPAN TABLES ARE APPLICABLE TO ARCPANEL PANELS ONLY AND ARE ACHIEVABLE BY USING PROVEN MANUFACTURING METHODS AND PRODUCT TESTING. STRUCTURAL ADEQUACY OF THE PANELS IS CERTIFIED BY TOD CONSULTING ENGINEERS, NOOSAVILLE, QLD.

NON CYCLONIC - TRAPEZOIDAL TOP AND CORRUGATED BOTTOM SHEET

TABLE 3B

Midspan deflection up to span / 120 at serviceability limit state; Self weight deflection up to span / 600 Maximum unsupported Spans (mm)

Wind Class (Permissible)	Strength Limit State Design Wind Pressure (P) (kPa)	105mm Panel R3.6 (UP) / R3.4 (DOWN)		125mm Panel R4.5 (UP) / R4.2 (DOWN)		150mm Panel R5.7 (UP) / R5.3 (DOWN)	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**5950**	**1650**	**7000**	**1950**	**8000**	**2225**
	1.68	5740	1575	6745	1875	7750	2150
	1.85	5530	1525	6490	1800	7500	2075
	2.01	5320	1450	6235	1725	7250	2000
	2.18	5110	1400	5980	1650	7000	1925
N3-W41	**2.34**	**4900**	**1350**	**5725**	**1600**	**6750**	**1875**
	2.57	4640	1275	5435	1500	6300	1750
	2.80	4380	1200	5145	1425	5850	1625
	3.03	4120	1125	4855	1325	5400	1500
	3.26	3860	1050	4565	1250	4950	1375
N4-W50	**3.50**	**3600**	**1000**	**4275**	**1175**	**4500**	**1250**
	3.80	3430	950	4120	1125	4400	1200
	4.11	3260	900	3965	1075	4300	1175
	4.41	3090	850	3810	1050	4200	1150
	4.72	2920	800	3655	1000	4100	1125

Span & fixing selection notes (non cyclonic areas)

1. The above span tables apply to typical enclosed buildings built on the ground, less than 20m high with sealed doors and windows capable of resisting the applied wind pressures.
2. Roof pressure coefficients: Cpe = 1.5 X - 0.9 = - 1.35, Cpi = + 0.2 [Cpi = + 0.7 at cantilever]
3. The buidling designer must take into account any application where the Cpi would exceed > 0.2 in open or partly open structures
4. Maximum cantilever is up to 40% actual backspan for ULS wind pressure up to 3.49 kPa, up to 30% actual backspan for ULS wind pressure 3.50 kPa and greater. Cantilever can not be greater than max length shown. (Maximum cantilever lengths cannot be exceeded. Choose a thicker panel to achieve the required cantilever.) (Minimum width of cantilevered roof is 1.5 x cantilever)
5. Wind Load Serviceability Criteria based on AS 4055, Vs=0.64 x Vu
6. Over sized gutters may affect the cantilever capability, contact ARCPANEL for advice
7. Limited raking, diaphragm action and lateral restraint capacity
8. 300mm maximum side cantilever using full uncut panel
9. Thermal R-Values are Total R Values (Winter - Tested conductivity 0.022 W/m.K at 23^C

The Ultimate Strength Limit State Design Wind Pressures (P) indicated in the above span tables represent generalised design pressures applicable for single span panels located within edge zones of a roof where local pressure factors K(local) apply, for the appropriate Permissible Wind Class. Assumed values of pressure coefficients for Single Spans:- Cpe=1.5x-0.9=-1.35, Cpi=+0.2, Kc=1.0 [Cpi=+0.7 for cantilever]. The above pressure coefficients and design wind pressures are recommended as a minimum. Where a designer determines more severe pressure coefficients than those indicated above or wish to limit deflections, they must select a thicker panel, reduce the span accordingly, or consult ARCPANEL for technical advice.

General notes

Live Loads:
Maximum distributed live load 0.25kPa.

Roofs in Alpine areas:
Designer must refer to ARCPANEL for specialist advice regarding snow loadings

Deflection Limits:
The ARCPANEL span tables have been provided with specific deflection limits indicated for Serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation, taking into account the amount of potential roof panel movement relative to any attached non-structural elements, such as internal wall partitions and window frames etc. The building designer must also make allowance for deflections which can exceed those in the tables when wind speeds are occasionally above the designated serviceability wind speed during extreme weather conditions.

Cantilever Deflections:
Note that cantilever deflections will depend on the backspan, rigidity of supports, building geometry and building permeability. Cantilever deflection can be up to (cantilever length) / 50 at serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation taking into account the amount of potential roof panel movement at the ends of and along the sides of cantilevered sections of the roof, relative to any adjacent attached flashings, downpipes, screen partitions and walls. The building designer must also make allowance for cantilever deflections which can exceed (cantilever length) / 50 when wind speeds occasionally exceed serviceability wind speeds during extreme weather conditions. Cantilever deflections due to self weight can be up to (cantilever length) / 500.

NOTE: THE ABOVE SPAN TABLES ARE APPLICABLE TO ARCPANEL PANELS ONLY AND ARE ACHIEVABLE BY USING PROVEN MANUFACTURING METHODS AND PRODUCT TESTING. STRUCTURAL ADEQUACY OF THE PANELS IS CERTIFIED BY TOD CONSULTING ENGINEERS, NOOSAVILLE, QLD

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