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-29

THERMAL RATING
UP TO R6.5

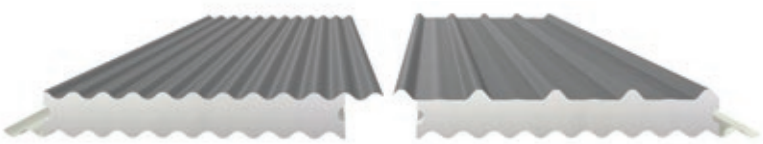
AQUATIC &
SEVERE MARINE

LARGE SPANS
& CANTILEVERS

Aquatek Panel

STRAIGHT, CURVED & MULTI-CURVED CONFIGURATIONS

Updated: 01/07/2023



Colorbond®
MADE BY AUSTRALIA

Introduction & General Notes Aquatek Panel

FULLY INTEGRATED ROOF SYSTEM

ARCPANEL Aquatek roof panel combines aesthetic, innovative design, with high strength, durability and excellent thermal insulation. ARCPANEL panels can also be curved to produce an outstanding architectural feature and provide increased interior space. The ARCPANEL Aquatek roof panel can achieve significant cantilevers, in some applications up to 40% the actual back span and this unique system eliminates the need for complex, expensive roof structures. The lightweight ARCPANEL panels are easily handled on site, achieving faster, lower cost installation.

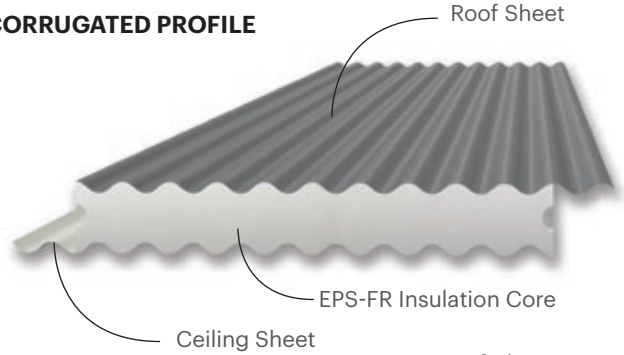
UNIQUE DESIGN & CONSTRUCTION

ARCPANEL pre-fabrication starts with standard Corrugated COLORBOND® steel on the top sheet with Corrugated Aluminium on the bottom sheet, both bonded to a profiled EPS core. The panel yields high strength resulting in large spans and cantilevers along with a high insulation value. Standard ratings from R1.7 to R6.5 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.

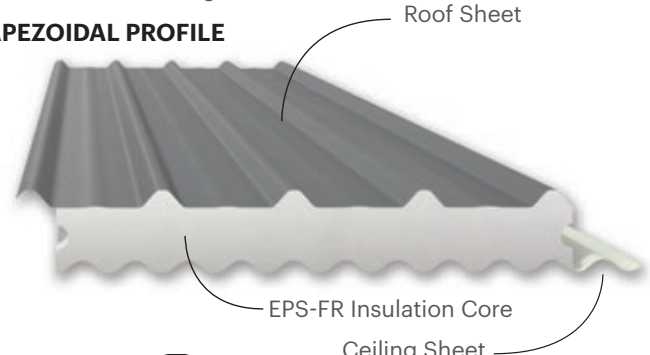
On site time spent fitting trusses, eave linings, plasterboard, battens, insulation lining, roof sheeting and painting, is eliminated when using ARCPANEL Aquatek roof panel.

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-29 CERTIFIED & COMPLIANT

KEY FEATURES AND BENEFITS

- ✓ Achieve up to 8.8m unsupported spans - reduce expensive support structures e.g. roof trusses & support beams
- ✓ Finished profile is used on both sides, reducing the need for ceilings and internal painting
- ✓ Pre-finished - extensive range of COLORBOND® steel colours available
- ✓ Straight, curved or multi-curved configurations, suitable for most architectural designs
- ✓ Designed for Aquatic Centres, Marine and other severe environments
- ✓ ARCPANEL Aquatek 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®)
- ✓ Bottom Sheet available in Aluminium sheeting with a range of colours
- ✓ Rapid installation makes the ARCPANEL Aquatek roof panel a clear winner over traditional roof construction
- ✓ Fire rated to Group 2 - roof and wall lining material
- ✓ Superior standard thermal ratings up to R6.5 are achieved using the ARCPANEL Aquatek 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
- ✓ Bushfire attack level BAL-12.5 to BAL-29

ROOF TYPES

STRAIGHT PROFILE

Straight panels can be manufactured up to 11.3 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 11.3 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 11.3 metres, panels can be joined to achieve longer runs.

*Also available as an elliptical panel, please contact **ARC**PANEL for further details.*

ARCPANEL

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 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

COLORBOND® 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

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.

NOTE: 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.

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	

AQUATEK ALUMINIUM (CEILING SIDE)

STANDARD	SPECIAL ORDER	
Off White	Light Grey	Dark Grey

*Lead times are subject to supplier availability.

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**
AQUATEK ALUMINIUM (Bottom only)	**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	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.

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

Introduction & General Notes

PANEL SIZES

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

75mm - 85mm - 100mm - 125mm - 140mm - 160mm - 175mm - 200mm - 250mm

PANEL LENGTHS

Straight, curved and multi-curved panels can be supplied up to 11.3 metres in length. Longer lengths can be supplied, please contact ARCPANEL for details.

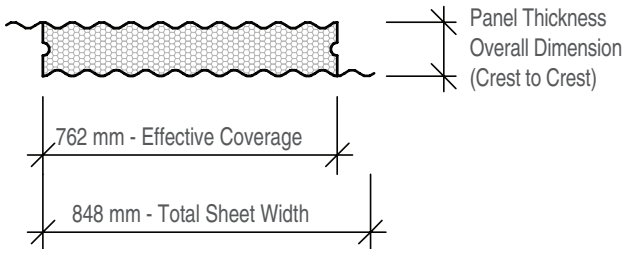
PANEL CONFIGURATIONS

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

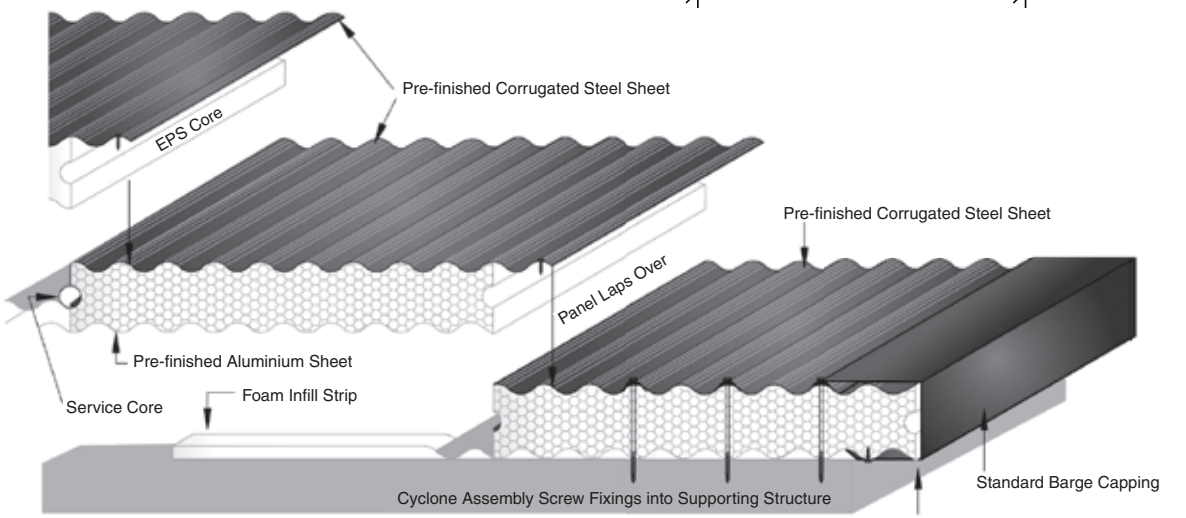
PANEL FINISH

The ARCPANEL Aquatek corrugated roof panel is only 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 for top steel sheet 0.420mm and a total coated thickness of 0.470mm as standard, unless otherwise stated. Thickness of Aluminium bottom sheet is 0.9mm, unless otherwise stated.

PANEL DIMENSIONS



AQUATEK PANEL COMPONENT ELEMENTS (CORRUGATED)



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

ARCPANEL AQUATEK 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	Expanded Polystyrene with Flame Retardant	Ordered to Size	0.038 W/mK	COLORBOND® steel COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	Aluminium	Top Sheet 0.42 BMT G550 Steel Bottom Sheet 0.9mm Aluminium	75mm = 7.5kg/m^2
							85mm = 7.6kg/m^2
							100mm = 7.8kg/m^2
							125mm = 8.1kg/m^2
							140mm = 8.3kg/m^2
							160mm = 8.6kg/m^2
							175mm = 8.8kg/m^2
							200mm = 9.1kg/m^2
							250mm = 9.8kg/m^2

Introduction & General Notes

PANEL SIZES

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

90mm - 110mm - 130mm - 150mm - 175mm - 200mm - 250mm

PANEL LENGTHS

Generally straight and large curved panels can be supplied up to 11.3 metres in length. Longer lengths can be supplied, please contact ARCPANEL for details.

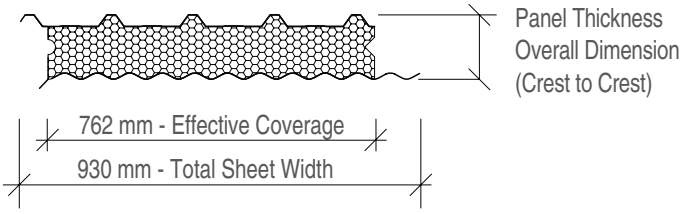
PANEL CONFIGURATIONS

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

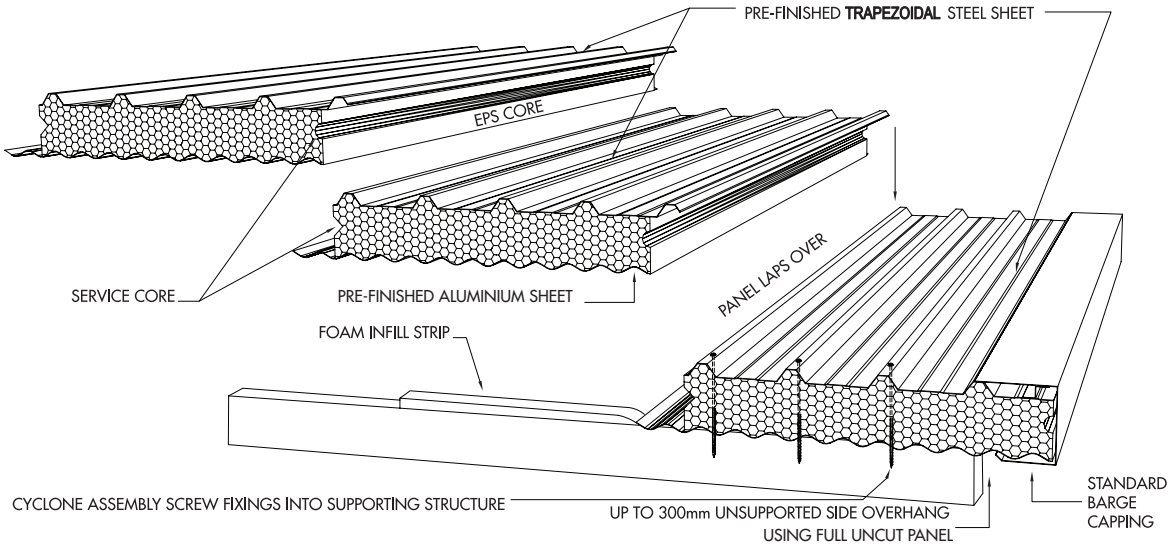
PANEL FINISH

The ARCPANEL Aquatek Trapezoidal panel is only available in a trapezoidal topside profile and a corrugated underside profile. Please refer to table 1 on page 5 for further information on colours and material types. Base metal thickness for top XRW Steel sheet 0.420mm and a total coated thickness of 0.470mm, is used as standard, unless otherwise stated. Thickness of Aluminium bottom sheet is min 0.9mm, unless otherwise stated.

PANEL DIMENSIONS



AQUATEK PANEL COMPONENT ELEMENTS (TRAPEZOIDAL)



ARCPANEL AQUATEK 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	Expanded Polystyrene with Flame Retardant	Ordered to Size	0.038 W/mK	COLORBOND® STEEL COLORBOND® ULTRA ZINCALUME® Xtreme Stainless Steel	Aluminium	Top Sheet 0.42 BMT G550 Steel Bottom Sheet 0.9mm Aluminium	90mm = 7.5kg/m^2 110mm = 7.7kg/m^2 130mm = 8.0kg/m^2 150mm = 8.3kg/m^2 175mm = 8.6kg/m^2 200mm = 9.0kg/m^2 250mm = 9.7kg/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)	75mm Panel		85mm Panel		100mm Panel		125mm Panel		140mm Panel		160mm Panel		175mm Panel		200mm Panel		250mm Panel	
		R1.7 (UP)	R1.7 (DOWN)	R2.0 (UP)	R2.0 (DOWN)	R2.4 (UP)	R2.4 (DOWN)	R3.1 (UP)	R3.0 (DOWN)	R3.5 (UP)	R3.4 (DOWN)	R4.0 (UP)	R3.9 (DOWN)	R4.4 (UP)	R4.3 (DOWN)	R5.1 (UP)	R4.9 (DOWN)	R6.5 (UP)	R6.2 (DOWN)
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**3900**	**1150**	**4300**	**1250**	**4950**	**1450**	**6000**	**1800**	**6475**	**1850**	**6800**	**1950**	**7025**	**2000**	**7750**	**2100**	**8875**	**2350**
	1.68	3760	1110	4145	1210	4775	1400	5775	1730	6250	1790	6560	1880	6800	1930	7500	2030	8580	2270
	1.85	3620	1070	3990	1170	4600	1350	5550	1660	6025	1730	6320	1810	6575	1860	7250	1960	8285	2190
	2.01	3480	1030	3835	1130	4425	1300	5325	1590	5800	1670	6080	1740	6350	1790	7000	1890	7990	2110
	2.18	3340	990	3680	1090	4250	1250	5100	1520	5575	1610	5840	1670	6125	1720	6750	1820	7695	2030
N3-W41	**2.34**	**3200**	**950**	**3525**	**1050**	**4075**	**1200**	**4875**	**1450**	**5350**	**1550**	**5600**	**1600**	**5900**	**1650**	**6500**	**1750**	**7400**	**1950**
	2.57	3070	910	3400	1010	3920	1150	4700	1390	5160	1495	5405	1550	5695	1590	6280	1690	7160	1880
	2.80	2940	870	3275	970	3765	1100	4525	1330	4970	1440	5210	1500	5490	1530	6060	1630	6920	1810
	3.03	2810	830	3150	930	3610	1050	4350	1270	4780	1385	5015	1450	5285	1470	5840	1570	6680	1740
	3.26	2680	790	3025	890	3455	1000	4175	1210	4590	1330	4820	1400	5080	1410	5620	1510	6440	1670
N4-W50	**3.50**	**2550**	**750**	**2900**	**850**	**3300**	**950**	**4000**	**1150**	**4400**	**1275**	**4625**	**1350**	**4875**	**1350**	**5400**	**1450**	**6100**	**1600**
	3.80	2420	710	2760	810	3165	910	3855	1110	4240	1230	4465	1300	4695	1300	5205	1400	5780	1520
	4.11	2290	670	2620	770	3030	870	3710	1070	4080	1185	4305	1250	4515	1250	5010	1350	5460	1440
	4.41	2160	630	2480	730	2895	830	3565	1030	3920	1140	4145	1200	4335	1200	4815	1300	5140	1360
	4.72	2030	590	2340	690	2760	790	3420	990	3760	1095	3985	1150	4155	1150	4620	1250	4820	1280
N5-W60	**5.03**	**1900**	**550**	**2200**	**650**	**2625**	**750**	**3275**	**950**	**3600**	**1050**	**3825**	**1100**	**3975**	**1100**	**4425**	**1200**	**4500**	**1200**

PLEASE NOTE: Maximum cantilever is 40% of backspan (span closest to cantilever) in N1 to N3 wind classes, 30% maximum cantilever for N4 & N5 wind classes.

Top sheet = 0.42 COLORBOND® XRW/Ultra steel Bottom sheet = 0.8 Aluminium

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 0.038 W/m.K at 23^C
10. Spans shown are for COLORBOND® steel XRW, COLORBOND® ULTRA steel materials used on the top side (roof) sheet and aluminium materials used on the bottom side (ceiling) sheet only.

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 or 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 3C

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)	90mm Panel R1.7 (UP) | R1.7 (DOWN)		110mm Panel R2.2 (UP) | R2.2 (DOWN)		130mm Panel R2.8 (UP) | R2.7 (DOWN)		150mm Panel R3.3 (UP) | R3.2 (DOWN)		175mm Panel R4.0 (UP) | R3.9 (DOWN)		200mm Panel R4.7 (UP) | R4.5 (DOWN)		250mm Panel R6.0 (UP) | R5.8 (DOWN)	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**3900**	**1150**	**4950**	**1450**	**6000**	**1750**	**6475**	**1800**	**6800**	**1900**	**7025**	**1950**	**8425**	**2200**
	1.68	3760	1110	4775	1400	5775	1680	6250	1740	6560	1830	6800	1890	8145	2130
	1.85	3620	1070	4600	1350	5550	1610	6025	1680	6320	1760	6575	1830	7865	2060
	2.01	3480	1030	4425	1300	5325	1540	5800	1620	6080	1690	6350	1770	7585	1990
	2.18	3340	990	4250	1250	5100	1470	5575	1560	5840	1620	6125	1710	7305	1920
N3-W41	**2.34**	**3200**	**950**	**4075**	**1200**	**4875**	**1400**	**5350**	**1500**	**5600**	**1550**	**5900**	**1650**	**7025**	**1850**
	2.57	3070	910	3920	1150	4700	1350	5160	1450	5405	1500	5695	1590	6800	1790
	2.80	2940	870	3765	1100	4525	1300	4970	1400	5210	1450	5490	1530	6575	1730
	3.03	2810	830	3610	1050	4350	1250	4780	1350	5015	1400	5285	1470	6350	1670
	3.26	2680	790	3455	1000	4175	1200	4590	1300	4820	1350	5080	1410	6125	1610
N4-W50	**3.50**	**2550**	**750**	**3300**	**950**	**4000**	**1150**	**4400**	**1250**	**4625**	**1300**	**4875**	**1350**	**5900**	**1550**
	3.80	2420	710	3165	910	3855	1110	4240	1200	4465	1250	4695	1300	5560	1470
	4.11	2290	670	3030	870	3710	1070	4080	1150	4305	1200	4515	1250	5220	1390
	4.41	2160	630	2895	830	3565	1030	3920	1100	4145	1150	4335	1200	4880	1310
	4.72	2030	590	2760	790	3420	990	3760	1050	3985	1100	4155	1150	4540	1230
N5-W60	**5.03**	**1900**	**550**	**2625**	**750**	**3275**	**950**	**3600**	**1000**	**3825**	**1050**	**3975**	**1100**	**4200**	**1150**

PLEASE NOTE: Maximum cantilever is 40% of backspan (span closest to cantilever) in N1 to N3 wind classes, 30% maximum cantilever for N4 & N5 wind classes.

Top sheet = 0.42 COLORBOND® XRW/Ultra steel Bottom sheet = 0.8 Aluminium

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 0.038 W/m.K at 23^C
10. Spans shown are for COLORBOND® XRW steel, COLORBOND® ULTRA steel materials used on the top side (roof) sheet and aluminium materials used on the bottom side (ceiling) sheet only.

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General notes

Live Loads:
Maximum distributed live load 0.25kPa.

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