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COOLDEK ROOFING - Domestic Patio Application (CYCLONIC REGIONS)

AUG 2014

Product Description

Classic and CGI 1m wide panels, Top Skin: 0.42mm BMT, G550, Bottom Skin: 0.50mm BMT, G300

Design Criteria

The following criteria were used in development of the tables:

Pressure Coefficients:

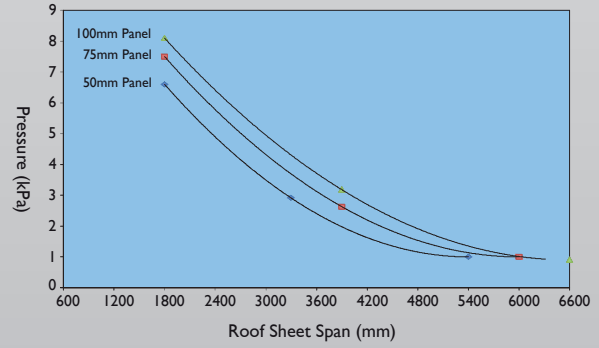
Three sides open, C_p varies according to eq $C_{p,n} = -0.6(h_e/W_e)-0.3$

Two sides open, $C_p = -1.0$

One side open, $C_p = -1.2$

Note: 3m maximum column height (from ground or deck level). In all cases relevant consideration has been given to local pressure.

Single Span Performance of Cooldek in Cyclonic Regions



Limitations

1. The minimum recommended roof pitch for "flat" verandahs shall be 2° (1in 30) for Cooldek Classic panels and 3° (1 in 20) for Cooldek CGI panels.
2. Spans specified for units with three sides open are suitable for units considered 'empty under' and not exceeding 3 metres in height (from ground or deck level). For units in which goods or materials stored under the roof are expected to block greater than 50% of any open side exposed to the wind, spans are to be taken from open two sides.
3. Single spans have been determined for domestic application, for alternative applications (or conditions outside of the design criteria), utilise the Wind Capacities table to calculate relevant spans

Notes:

4. Testing in accordance with the Building Code of Australia (BCA) - Low - High - Low Pressure Testing
5. Design Criteria determined in accordance with AS/NZS 1170.2 & AS 4055
6. Cyclonic Pressure Test - Cooldek, Report No. 162, 10/2011

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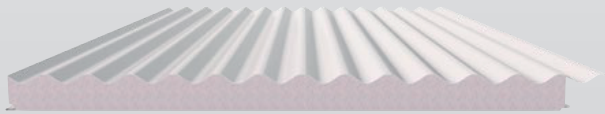
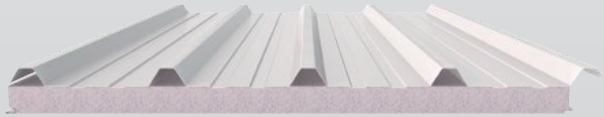


Cooldek CGI



Cooldek Classic

Both profiles available in 50, 75 & 100mm insulation core thickness.

Domestic Patio Application - Single Spans, Classic and CGI

Open Sides	Panel Core Thickness (mm)	C1 (W41)		C2 (W50)		C3 (W60)		C4 (W70)	
		Single Span (mm)	Max. Overhang (mm)	Single Span (mm)	Max. Overhang (mm)	Single Span (mm)	Max.Overhang (mm)	Single Span (mm)	Max. Overhang (mm)
Three	50	4600	900	3850	900	2950 (2750)	300	1800 (1700)	100
	75	5300	900	4350	900	3550	300	2450	100
	100	5700	900	4800	900	3950	300	3100	100
Two	50	4000	900	3400 (3100)	600	2800 (2350)	300	2200	100
	75	4450	900	3850 (3700)	600	3150 (2750)	300	2550	100
	100	4800	900	4100 (3900)	600	3450 (3050)	300	2800 (2700)	100
One/None or Gable Patio	50	3750 (3200)	900	3150 (3050)	300	2450 (1850)	300	1850	100
	75	4150 (4000)	900	3550	300	2800 (2200)	300	2100	100
	100	4500	900	3850 (3700)	300	3100 (2400)	300	2250	100

The cladding back span shall be no less than 1.5 times the deck overhang. If values are shown in brackets they represent the maximum allowable span if an overhang is used. for a side to be considered open, the full length of the side must be open.

Wind Capacities (kPa) - Single Spans, Classic and CGI

Panel Core Thickness (mm)	Limit State	Span (mm)								
		1800	2400	3000	3600	4200	4800	5400	6000	6600
50	Serviceability	3.72	2.62	1.99	1.60	1.32	1.13	0.97	-	-
	Strength	6.60	4.89	3.49	2.40	1.63	1.16	1.00	-	-
75	Serviceability	4.95	3.81	2.86	2.27	1.86	1.53	1.14	1.00	-
	Strength	7.50	5.78	4.32	3.13	2.20	1.53	1.14	1.00	-
100	Serviceability	6.15	4.85	3.51	2.78	2.27	1.91	1.35	1.01	0.90
	Strength	8.10	6.41	4.95	3.71	2.70	1.91	1.35	1.01	0.90

The values in the above table are for use with steel supports with a minimum thickness of 1.5mm BMT, G450, or timber supports with fixing details as specified in the Fastener Details table.

Fastener Details

Support Type		Panel Core Thickness (mm)	Classic	CGI
Steel	Min 1.5 BMT (G450)	50	14-10 x 125	14-10 x 110
		75	14-10 x 150	14-10 x 125
		100	14-10 x 175	14-10 x 150
Timber	Hard Wood (F11) Soft Wood (F5)	50	14-10 x 125 Type 17	14-10 x 110 Type 17
		75	14-10 x 150 Type 17	14-10 x 150 Type 17
		100	14-10 x 175 Type 17	14-10 x 175 Type 17

For Classic profile fasten through each crest and for CGI profile fasten through every second crest. Use cyclone caps and neoprene washers in all crest fixings. Fix side laps with 12x20 hex head screws with neoprene washers at approximately 1000mm centres.