



Cooldek® Roofing

DOMESTIC PATIO APPLICATION



FORM AND FUNCTION

The innovative Cooldek® insulated panel provides a roof, insulation and ceiling like finish all in one product. With superior spanning capabilities, two roof profiles and three insulation thicknesses to choose from, it is an ideal solution for domestic patio roof applications.

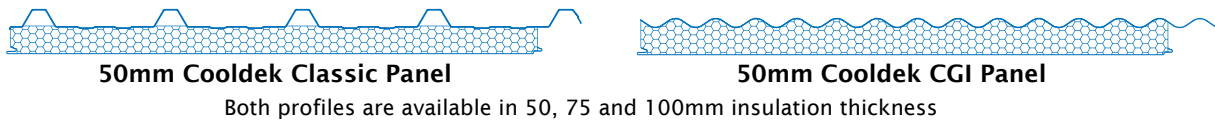


Figure 1

DESIGN CONSIDERATIONS

The minimum recommended roof pitch for “flat” verandahs shall be 2° (1 in 30) for Cooldek Classic panels and 3° (1 in 20) for Cooldek CGI panels. The maximum roof pitch for “flat” verandahs shall be 5° (1 in 12). Care must be taken to ensure the minimum roof pitch is maintained to avoid ponding of rainwater.

The roof is designed to withstand actions incidental to maintenance, roofs are not to be used for floor type activities.

The design contained within these span tables relate to wind classifications N1, N2, N3, and N4 applicable to Regions A & B. Stratco does not accept liability for any loss or damage suffered as a result of any errors in the interpretation or application of these span tables.

MATERIAL SPECIFICATIONS

Material Properties		Cooldek Classic	Cooldek CGI
Base Metal Thickness & Material Grade	Top Skin	0.42mm/G550	0.42mm/G550
	Bottom Skin	0.50mm/G300	0.50mm/G300
Mass (kg/linear metre)	50mm Panel	9.5	9.6
	75mm Panel	9.8	9.9
	100mm Panel	10.1	10.2
Width Coverage (mm)		1000	1000
Minimum Roof Pitch		2°	3°
Core	Material	SL Grade EPS (expanded polystyrene)	
	Thermal Conductivity	0.037 W/mK (0°C mean temp.)	

Table 1

COMPLIANCE

The Wind Capacity Tables are based on testing in accordance with AS1562.1-1992 and AS4040.0, 1 & 2-1992. Span tables have been developed by determining wind pressures in accordance with AS4055-2006 for domestic applications. Capacity tables are in limit state format.

SPANS

Spans given in table 2 are determined for wind speeds for non-cyclonic areas. Indicated spans are suitable for ‘flat’ roof patios. Open freestanding unit spans can be taken from open three sides unless a wall, eaves or boundary exists within 500mm of two or more sides.

For Cooldek roofing in attached or freestanding domestic gable patio application, sheet spans shall not exceed those given for one or no open sides. Alternatively, table 3 indicating wind capacities may be used to determine allowable single spans for any application.

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.

For units with two open sides, spans are based on $C_p, n = -1.0$ while for units with only one or no open sides, $C_p, n = -1.2$. In all cases, relevant consideration has been given to local pressure.

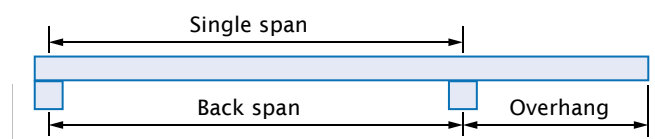


Figure 2

Note: Table 3 provides allowable wind capacities for Cooldek in single span application for serviceability and strength limit states. The pressures given may be used by a suitably qualified engineer for any single span application ensuring appropriate fixing details are applied.

SINGLE SPANS – Domestic Patio Application

COOLDEK CLASSIC						COOLDEK CGI					
Open Sides	Panel Thickness (mm)	N1 (W28)	N2 (W33)	N3 (W41)	N4 (W50)	Open Sides	Panel Thickness (mm)	N1 (W28)	N2 (W33)	N3 (W41)	N4 (W50)
Three	50	5400	5400	5400	4200 (3900)	Three	50	5400	5400	5100	3900
	75	6600	6600	6000	4800 (3900)		75	6600	6600	6000	4800 (3900)
	100	7200	7200	6600	6000		100	7200	7200	6900	6000
Two	50	5400	5400	3900	3300 (3000)	Two	50	5400	5100	3600	3000
	75	6600	5500	4800	3900 (3000)		75	6600	5700	4800	3900 (3000)
	100	7200	6300	5400	4100 (3500)		100	7200	6600	5400	4100 (3500)
One/None or Gable Patio	50	5400	4500	3300	3000 (2000)	One/None or Gable Patio	50	5400	4500	3300	3000 (2000)
	75	6000	4800	3900	3300 (2100)		75	6300	5100	3900	3300 (2100)
	100	6900	5400	4200	3600 (2400)		100	7200	5700	4200	3600 (2400)

Maximum allowable 900mm deck overhang for 50 & 75mm panels and 1200mm for 100mm panels, except in wind classification N4 in which maximum allowable shall be 900mm. 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.

Table 2

SINGLE SPAN WIND CAPACITIES (kPa)

Profile	Panel Thickness (mm)	Limit State	SPAN (mm)									
			1800	2400	3000	3600	4200	4800	5400	6000	6600	7200
Classic	50	Serviceability	3.80	2.69	2.06	1.66	1.38	1.18	1.02	-	-	-
		Strength	6.70	4.50	3.30	2.56	2.07	1.72	1.46	-	-	-
	75	Serviceability	-	4.86	3.43	2.58	2.02	1.64	1.37	1.16	1.00	-
		Strength	-	5.11	3.63	2.75	2.17	1.77	1.48	1.26	1.08	-
	100	Serviceability	-	-	3.51	2.78	2.27	1.91	1.65	1.44	1.27	1.14
		Strength	-	-	4.58	3.47	2.74	2.24	1.87	1.59	1.38	1.21
CGI	50	Serviceability	3.72	2.62	1.99	1.60	1.32	1.13	0.97	-	-	-
		Strength	6.78	4.47	3.24	2.49	1.99	1.64	1.38	-	-	-
	75	Serviceability	-	3.81	2.86	2.27	1.86	1.57	1.35	1.18	1.04	-
		Strength	-	5.84	4.15	3.14	2.48	2.02	1.69	1.44	1.24	-
	100	Serviceability	-	-	3.74	2.89	2.33	1.93	1.63	1.41	1.23	1.09
		Strength	-	-	4.20	3.30	2.69	2.25	1.92	1.67	1.47	1.31

The values in all the above tables are for use with steel supports with a minimum thickness of 1.0mm BMT, G550, or timber supports with fixing details as specified below.

Table 3

FIXING RECOMMENDATIONS

Cooldek roofing should be laid into the prevailing wind and sit neatly on the preceding roof sheet. 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, refer below.

	Fastener Size Selection				Lapping
	Fixing to Steel (minimum 1.0 BMT)		Fixing to Timber		
Cooldek Classic Crest Fixing Only One fixing required per crest	Panel Thickness (mm)		Panel Thickness (mm)		
	50	14-10x125 hex head screw	50	14-10x125 Type 17 screw	
	75	14-10x150 hex head screw	75	14-10x150 Type 17 screw	
	100	14-10x175 hex head screw	100	14-10x175 Type 17 screw	
Cooldek CGI Crest Fixing Only One fixing required every second crest	Panel Thickness (mm)		Panel Thickness (mm)		
	50	14-10x110 hex head screw	50	14-10x110 Type 17 screw	
	75	14-10x125 hex head screw	75	14-10x150 Type 17 screw	
	100	14-10x150 hex head screw	100	14-10x175 Type 17 screw	

Table 4

CONTACT

1300 165 165

WALKING ON COOLDEK

When walking on Cooldek roofing, it is recommended you walk over the support beam to avoid damage. Wear flat, rubber soled shoes and walk flat footed in the sheet pans for Classic, and with your weight spread over as many crests as possible for CGI. For carport and verandah applications, away from supports, crawl boards should be used to avoid damage during installation and maintenance.

MAINTENANCE

The performance of Cooldek over time depends on its correct application and maintenance. Maintenance should be performed as often as is required to remove dirt, salt and pollutants.

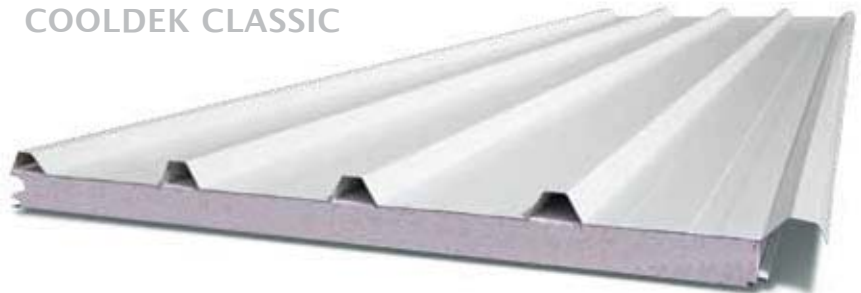
Where used in severely corrosive environments, cleaning should be performed more often.

It is important that screws have the same life expectancy as the cladding you have specified.

Packs of Cooldek should always be kept dry and stored above ground level while on site. If the sheets have become wet, they should be separated, wiped and placed in the open to dry.

Refer to Stratco "Selection, Use and Maintenance" brochure, for more detailed information about the correct use and maintenance of this product.

COOLDEK CLASSIC



COOLDEK CGI

