BONDORPANEL®/SMOOTHPANEL® SPAN TABLES

(INTERNAL WALL, CEILING & COLD STORAGE APPLICATIONS)

EPS-FR Core Grade SL 0.6mm steel skins

TABLE 1: Maximum Spans for Internal Non-Coldroom Applications:

Application Type	Max Pressure	Single Span (m)							Multi-span (m)						
		50mm	75mm	100mm	125mm	150mm	200mm	250mm	50mm	75mm	100mm	125mm	150mm	200mm	250mm
Walls (Non-Load Bearing)	0.25 kPa	6.9	9.3	10.2	10.8	11.7	13.5	15.0	7.8	9.6	10.2	10.8	11.7	13.5	15.0
Walls (Load Bearing)*		5.1	6.9	7.8	8.7	9.5	11.1	12.5	7.2	8.8	9.5	10.1	10.8	12.2	13.8
Ceilings		4.8	6.0	6.9	7.8	8.4	9.6	9.9	4.5	5.4	6.3	7.2	7.8	9.0	9.9

TABLE 2: Maximum Spans for Internal Coldroom Applications:

Application Type	Type	Max pressure	Single Span (m)							Multi-span (m)						
			50mm	75mm	100mm	125mm	150mm	200mm	250mm	50mm	75mm	100mm	125mm	150mm	200mm	250mm
Walls (Non-Load Bearing)	Chiller > 0°C	0.5 kPa	-	5.7	7.1	8.3	9.3	10.8	12.0	-	6.5	7.5	8.9	9.1	10.5	11.7
	Freezer < 0°C		-	-	-	-	8.9	10.8	12.0	-	-	-	-	8.9	10.2	11.4
	Blast Freezer < -25°C		-	-	-	-	-	9.2	11.1	-	-	-	-	-	9.5	10.6
Walls (Load Bearing)*	Chiller > 0°C	0.5 kPa	-	5.1	6.5	7.5	8.2	9.5	10.7	-	6.0	6.9	7.7	8.4	9.7	10.9
	Freezer < 0°C		-	-	-	-	8.2	9.5	10.6	-	-	-	-	8.2	8.5	10.5
	Blast Freezer < -25°C		-	-	-	-	-	8.6	10.5	-	-	-	-	-	8.7	9.7
Ceilings	Chiller > 0°C	0.5 kPa	-	5.1	6.3	7.2	7.8	9.0	9.9	-	5.3	6.0	6.9	7.5	8.6	9.6
	Freezer < 0°C		-	-	-	-	7.8	9.0	9.9	-	-	-	-	7.2	8.4	9.3
	Blast Freezer < -25°C		-	-	-	-	-	8.5	9.9	-	-	-	-	-	7.8	8.7

NOTES

1. Wall Panel Lateral Loads
   a) Internal wall pressures must be determined for each site specific application.
   b) Span reduction may be required if excess cross wind involved, e.g. large opening on building.
2. Ceiling Panel Loads
   a) Self weight of the panel has been allowed for, plus an allowance of up to 10kg/m^2 for light duty fittings (lights, etc.). No other dead loads permitted.
   b) Non-trafficable maintenance access (concentrated load) of 140kg on any one panel has been allowed for. The capacity of ceiling hangers must be checked to allow for the worst location of this additional load.
   c) Distributed live load of 0.25kPa (as per AS/NZS 1170.1:2001) has been allowed for.
   d) Fixing with mushroom head bolt suspension system (x1 off) minimum per panel per line of support is required.
3. Deflection limit of span/150 applies, and in accordance with Serviceability Limit State criteria per AS1170.0 - TABLE C1.
4. Wall panel is assumed fully-supported at base level when fixed as per Bondor specifications. For multi-span application, fixing with mushroom head bolt (1x off minimum) at intermediate support is required.
5. *Load bearing walls assume load is applied centrally to the top of the panel. The max ultimate load applied to the load bearing panel is 3.0 kN/m. This allows for a 5m loaded width of ceiling panel - self weight of 250mm thk BondorPanel and 0.25 kPa imposed load (0.5kPa imposed load for coldroom application).
6. This span table applies for internal wall, ceiling & cold storage constructed wholly within a larger enclosed building. Pressure relief port is to be provided for a freezer in acoordance with Bondor recommendations.
7. Panel thicknesses of not less than 100mm are recommended for chillers, not less than 150mm for freezers and not less than 200mm for blast freezers, depending on structural considerations. Check 'R' value for insulation requirements.
8. The internal support for multi-span applications induce additional panel stresses in the panel by restraining thermal bowing effects.
9. For free-standing coldroom, the height of the coldroom should be checked against the bracing capacity of the bracing wall panels, i.e. Max height = Sq root of [45.8 x (Bracing Wall Depth / Width)].
10. Skincuts
    a) Spans for panels with skincuts are to be a maximum of the worst case value of the single and multispan,
    b) Supports must be **within 100mm** of skincuts
    c) Skincuts must run **full width** of panels
    d) For loadbearing applications, supports **must** be installed (within 100mm) on **both** sides of skincuts
    e) For corner expansion cuts refer to P.I.G for details
11. This span table applies to non-cyclonic region only. Pressures on cladding panels subject to external wind pressures require assessment by an Engineer.
12. Correct at the time of publishing. Refer Bondor for updates.
13. Refer to your certifying engineer for panel selection.
14. Refer to www.bondor.com.au for your local Bondor branch and representatives.
15. Span tables have been developed by Bligh Tanner Consulting Engineers by interpretation of physical testing conducted & reported by BRANZ.

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