

Public Decking Safe Load Tables

PUBLIC WALKWAYS & BOARD WALKS

150mm x 50mm decking unit		SPAN (mm)				
UNFACTORED LIVE LOAD CAPACITY (kPa)		300	450	600	750	900
(a)	Based on strength only (10.0kPa maximum)	10.0*	10.0*	10.0*	10.0*	10.0*
(b)	Based on serviceability limit state – (Span/300mm maximum)	10.0	10.0	10.0	10.0	10.0
(c)	Maximum short-term deflection limitation – (Span/300mm) *Strengths limits control safe loading	1.0mm	1.5mm	2.0mm	2.5mm	3.0mm
UNFACTORED CONCENTRATED LOAD (Kn) per deck unit		300	450	600	750	900
(a)	Based on strength only (span/300 maximum)	8.5	5.7	4.2	3.3	2.8
(b)	Based on serviceability limit state (span/300mm maximum) ** Deflection limits control safe loading	8.1**	5.5**	2.8**	1.5**	1.3**

NB: The information set out in this table is provided by Integrated Recycling as a guide only and is based on testing conducted by ALS global Laboratory Group in accordance with the ASTM (American Society for Testing Materials) methodology and the relevant Australian Standards and the detailed design calculations of the loading capacities to assess and determine that the information contained in this table satisfies the design load and acceptable serviceability criteria for which the decking is to be used.

Notes:

1. Un-factored live loads include the self-weight of the deck unit
2. For limit state design, section capacity $S^* = \phi R_u$ $\phi = 0.7$, effective section modulus $Z_e = bt^2/4$, $M_8 = f_y Z_e$
3. For permissible design, allowable section capacity $S = 0.6 f_y$
4. All load capacities are based on deck units spanning a minimum of 2 spans per length of deck unit
5. Unit weight of the decking material – 1000kg/m³
6. NR – means Not Recommended for this span for any decking arrangement
7. Design loads are based on the following material properties:
8. 150mm x 50mm Section (PUBLIC BOARDWALKS & WALKWAYS)
>Flexural strength (f_y)=14.0 Mpa >Modulus of Elasticity – 3000 Mpa
9. 1.0kPa equates to 102kg/sp.metre of pressure
10. 1.0kPa equates to 102kg/sq.metre of pressure
11. Where the load tables recommend that the deflection controls the design, the deck unit should not be considered for greater loading unless deflections greater than 5mm can be tolerated by the designer.

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