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Residential Decking - Safe Load Tables

RESIDENTIAL DECKING

100mm x 25mm decking unit	SPAN (mm)				
	300	450	600	750	900
UNFACTORED LIVE LOAD CAPACITY (kPa)	300	450	600	750	900
(a) Based on strength only (5.0kPa maximum)	5.0	5.0	5.0	NR	NR
(b) Based on serviceability limit state - (Span/300mm maximum)	5.0	4.0*	2.0*	NR	NR
(c) Maximum short term deflection limitation - (Span/300mm)	1.0mm	1.5mm	2.0mm	NR	NR
UNFACTORED CONCENTRATED LOAD (kN) per deck unit	300	450	600	750	900
(a) Based on strength only (span/300mm maximum)	1.3	0.9	0.6	NR	NR
(b) Based on serviceability limit state (span/300mm maximum)	300kg*	150kg*	80kg*	NR	NR

*Deflection limits control safe loading.

NB: The 100mm x 25mm decking is not recommended for use in public walkways or boardwalks.

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 were conducted by Hyder Consulting Pty Ltd in accordance with AS 1170 Loading Code. It is the sole responsibility of the decking designer to assess and determine that the information contained in this table satisfies the design loads and acceptable serviceability criteria for which the decking is to be used.

Notes:

1. Unfactored 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 $Z_e=bt^2/4$, $M^*=f_y Z_e$
 3. For permissible design, allowable section capacity $S=0.6f_y$
 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:
- 100mm x 25mm Section (RESIDENTIAL DECKING)**
- > Flexural Strength (f_y)= 12.0 Mpa > Modulus of Elasticity - 1000 Mpa
 8. 1.0kN force equals 102 kg weight
 9. 1.0kPa equates to 102kg/sq.metre of pressure
 10. Where the load tables recommend that 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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