

Seasoned Softwood Size Tables: Floor Joists for Balconies & Decks - Revised Loading - 1 m & Above the Ground



The 2002 version of the Australian and New Zealand Loading Standard (AS/NZS 1170.1, 2002) introduced changes to the imposed loading for balconies and decks. The new distributed imposed loading on decks is now 2.0 kPa for decks at or above 1 m from the ground and the imposed concentrated load remains at 1.8 kN. For decks less than 1 m from the ground the imposed distributed loading is the same as the internal domestic loading of 1.5 kPa – refer to Timber Information Bulletin 2. The existing AS 1684 Residential Timber-Framed Construction Standard is based on the 1989 version of the Loading Code. This guide has been produced so that designers and builders can take advantage of the reduced loading introduced by the 2002 Loading Standard and easily compare the most commonly used seasoned softwood grades. As the timber is to be used in external exposed situations, it is assumed that the timber will be preservative treated to H3 level for external above ground situations.

Seasoned Softwood Floor Joist Sizes for Standard Spans for Balconies & Decks Revised Loading (Joist Spacing 450 mm)

Single Span			
Span (mm)	F5 Size D×B (mm)	F7 Size D×B (mm)	MGP 10 Size D×B (mm)
1200	120 x 45	90 x 45	90 x 45
1500	120 x 45	120 x 45	90 x 45
1800	120 x 45	120 x 45	120 x 45
2100	140 x 45	140 x 45	120 x 45
2400	190 x 45	140 x 45	140 x 45
2700	190 x 45	190 x 45	140 x 45
3000	190 x 45	190 x 45	190 x 45
3300	190 x 45	190 x 45	190 x 45
3600	190 x 45	190 x 45	190 x 45

Continuous Span			
Span (mm)	F5 Size D×B (mm)	F7 Size D×B (mm)	MGP 10 Size D×B (mm)
1200	90 x 45	90 x 45	90 x 45
1500	120 x 45	90 x 45	90 x 45
1800	120 x 45	120 x 45	120 x 45
2100	120 x 45	120 x 45	120 x 45
2400	140 x 45	120 x 45	120 x 45
2700	140 x 45	140 x 45	140 x 45
3000	190 x 45	140 x 45	140 x 45
3300	190 x 45	190 x 45	140 x 45
3600	190 x 45	190 x 45	190 x 45

- Notes**
- i Maximum deck joist span is based on supporting a maximum decking mass of 20 kg/m², imposed point load of 1.8 kN and imposed distributed loading of 2 kPa.
 - ii Maximum cantilever length is 30% of the backspan. Minimum backspan is 200% of overhang.
 - iii Joists crippled over supports must be considered as single span joists.
 - iv Where joist depth is more than 4 times greater than breadth, restraint may be required. Refer AS1684 2 or 3 Cl. 4.2.2.3
 - v Bearing lengths shall be a minimum of 35 mm at end supports and 70 mm at internal supports for continuous members.
 - vi Continuous indicates continuous members, i.e. where the joists span over 3 or more bearers.
 - vii Cant. indicates the allowable cantilever length.



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