

Design & Load Tables

These tables have been created to inform designers, engineers or other users of the uniform distribution and concentrated loads the Magnedure™ flooring boards have been tested to withstand.

These tables use Table 3.1 in AS/NZA 1170.1 as the basis.

The following assumptions have been made in developing these table loads:

- 1. 45mm wide joists supports are assumed.
- 2. Partitions are to be loaded on joists only.
- 3. All applications require perimeter joists at floor edges.
- 4. Panels are assumed to be a minimum of 600mm wide.
- 5. All panel end joists are to be supported on a joist.
- 6. Panels are to be screwed down into timber joists to prevent panel uplift.
- 7. Any panel splices shall be glued together.
- 8. The joist spacings are based on strength criteria for the specified uniformly distributed and point loads. Serviceability has not been specifically assessed and will require project-specific evaluation.

Table results determined based on engineering report PTL Structural & Fire, Version 1.0, 28/5/2025.

✓ = suitable

Type of activity / occupancy for part of building or structure	Specific uses	Uniformly distributed actions (kPa)	Concentrated actions (kN)	Magnedure™ 19mm board					
				Continuous span			Single span		
				Maximum joist centres (mm)					
				300	450	600	300	450	600
A Domestic and residential activities (see also Cat C)									
A1 Self-contained dwellings	General areas, private kitchens and laundries in self-contained dwellings	1.5	1.8	✓	✓	✓	✓	✓	✓
	Balconies used for floor type activities in self-contained dwellings:								
	(a) less than 1 m above ground level	1.5	1.5kN/m run along edge	✓	✓	✓	✓	✓	✓
	(b) other	2.0	1.8	✓	✓	✓	✓	✓	✓
	Stairs and landings in self-contained dwellings	2.0	2.7	✓	✓	✓	✓	✓	✓
	Non-habitable roof spaces in self-contained dwellings	0.5	1.4	✓	✓	✓	✓	✓	✓

Type of activity / occupancy for part of building or structure	Specific uses	Uniformly distributed actions (kPa)	Concentrated actions (kN)	Magnedure™ 19mm board					
				Continuous span			Single span		
				Maximum joist centres (mm)					
				300	450	600	300	450	600
A2 Other	General areas, bedrooms, hospital wards, hotel rooms, toilet areas	2.0	1.8	✓	✓	✓	✓	✓	✓
	Communal kitchens	3.0	2.7	✓	✓	✓	✓	✓	✓
	Balconies used for floor-type activities with community access	Same as areas providing access but not less than 4.0	1.8	✓	✓		✓	✓	
B Offices & work areas not covered elsewhere									
	Operating theatres, X-ray rooms, utility rooms	3.0	4.5	✓			✓		
	Work rooms (light industrial) without storage	3.0	3.5	✓	✓		✓	✓	
	Offices for general use	3.0	2.7	✓	✓	✓	✓	✓	✓
	Offices for general use with allowance for a safe	3.0	6.7						
	Communal kitchens	3.0	2.7	✓	✓	✓	✓	✓	✓
	Commercial / institutional kitchens	5	4.5	✓			✓		
	Laundries	3.0	4.5	✓			✓		
	Laboratories	3.0	4.5	✓			✓		
	Factories, workshops & similar buildings (general industrial)	5.0	4.5	✓			✓		
	Balconies used for floor-type activities	Same as areas providing access but not less than 4.0	1.8	✓	✓		✓	✓	
C Areas where people may congregate									
C1 Areas with tables	Public, institutional & communal dining rooms & lounges, cafes & restaurants	2.0	2.7	✓	✓	✓	✓	✓	✓
	Reading rooms with no book storage	2.5	4.5	✓			✓		
	Classrooms	3.0	2.7	✓	✓	✓	✓	✓	✓

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C2 Areas with fixed seats	Institutional assembly areas such as classrooms, lecture theatres & similar	3.0	2.7	✓	✓	✓	✓	✓	✓
	Public assembly areas such as public halls, theatres, courts of law, auditoria, conference centres & similar	4.0	2.7	✓	✓		✓	✓	
	Places of worship	4.0	2.7	✓	✓		✓	✓	
C Areas where people may congregate <i>continued</i>									
C3 Areas without obstacles for moving people	Corridors, hallways, aisles, stairs, landings, concourses, terraces, plazas etc not subject to wheeled vehicles	4.0	4.5	✓			✓		
	Corridors, hallways, aisles, stairs, landings, concourses, terraces, plazas etc subject to wheeled vehicles	5.0	4.5	✓			✓		
	Footpaths, terraces and plazas at ground level subject to wheeled vehicles	5.0	31						
	Museum floors and art galleries for exhibition purposes	4.0	4.5	✓			✓		
	Balconies used for floor-type activities	Same as areas providing access but not less than 4.0	1.8	✓	✓		✓	✓	
C4 Areas with possible physical activities	Dances halls and studios, gymnasias	5.0	3.6	✓	✓		✓	✓	
	Drill halls and drill rooms	5.0	9.0						
C5 Areas susceptible to overcrowding	Assembly areas without fixed seating (concert halls, bars, vestibules, public lounges, places of worship, shopping malls) and grandstands	5.0	3.6	✓	✓		✓	✓	
	Stages in public assembly areas	7.5	4.5						
D Shopping areas									
	Shop floors for the sale and purchase of merchandise	4.0	3.6	✓	✓		✓	✓	
E Warehousing & storage areas. Areas subject to accumulation of goods. Areas for equipment and plant									
	Reading rooms with book storage e.g. libraries	4.0	4.5	✓			✓		

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	General storage other than those specified in this table	2.4 for each meter of storage height	7.0						
	Free rolling office compactus, for general filing, up to 2m high	3.0 for each meter of storage height	To be calculated						
	File rooms, office storage space, vaults and strongrooms	5.0	4.5	✓			✓		
E Warehousing & storage areas. Areas subject to accumulation of goods. Areas for equipment and plant <i>continued</i>									
	Stack rooms (books)	3.3 for each meter of storage height	7.0						
	Paper storage for printing plants and stationery stores, packed book storage	4.0 for each meter of storage height	9.0						
	Mobile stacking, mechanically operated heavy shelving (wheels on rails e.g. compactus)	4.0 for each meter of storage height, but not less than 10.0	To be calculated						
	Cold storage	4.5 for each meter of storage height, but not less than 15.0	9.0						
	Plant rooms, fan rooms etc, including weight of machinery	5.0	4.5	✓			✓		
	Areas around equipment in boiler rooms (weight of equipment to be determined)	5.0	4.5	✓			✓		