

Minimum Uniformly Distributed Live Loads, L_o , and Minimum Concentrated Live Loads

Occupancy or Use	Uniform kN/m ²	Concentrated kN
Access floor systems		
Office use	2.40	8.90
Computer use	4.79	8.90
Air-conditioning (machine space)	9.58	
Amusement park structure	4.79	
Apartments (see Residential)		
Armories and drill rooms	7.18 a	
Assembly areas and theaters		
Fixed seats (fastened to floor)	2.87 a	
Lobbies	4.79 a	
Movable seats	4.79 a	
Platforms (assembly)	4.79 a	
Stage floors	7.18 a	
Attic, Nonresidential		
Non-storage	1.20	
Storage	3.83	8.90
Bakery		
Exterior	4.79	
Interior (fixed seats)	2.87	8.90
Interior (movable seats)	4.79	8.90
Balconies and decks		
(1.5 times the live load for the occupancy served. Not required to exceed 100 psf (4.79 kN/m ²))		
On one- and two-family residences only.	4.79	
(not exceeding 100 ft ² 9.3 m ²)	2.87	
Catwalks for maintenance access	1.92	
Corridors		
First floor	4.79	
Other floors, same as occupancy served except as indicated		
Dining rooms and restaurants	4.79 a	
Dwellings (see Residential)		
Elevator machine room grating (on area of 2 in. by 2 in. (50 mm by 50 mm))		1.33
Finish light floor plate construction (on area of 1 in. by 1 in. (25 mm by 25 mm))		0.89
Fire escapes	4.79	
On single-family dwellings only	1.92	
Fixed ladders		See Section 4.5
Garages		
Passenger vehicles	1.92 a,b	
Trucks and buses see notes	c	
Grandstands (see stadiums and arenas, bleachers)		
Handrails, guardrails, and grab bars		See section 4.5
Helipads	2.87 d,e	
Hospitals		
Operating rooms, laboratories	2.87	
Patient rooms	1.92	e,f,g
Corridors above first floor	3.83	
Hotels (see Residential)		
Libraries		
Reading rooms	2.87	4.45
Stack rooms	7.18 a,h	4.45
Corridors above first floor	3.83	4.45
Manufacturing		
Light	6.00 a	4.45
Heavy	11.97 a	4.45
Marquees	3.59	

Occupancy or Use	Uniform kN/m ²	Concentrated kN
Office buildings		
File and computer rooms shall be designed for heavier loads based on anticipated occupancy		
Lobbies and first-floor corridors	4.79	8.90
Offices	2.40	8.90
Corridors above first floor	3.83	13.40
Penal institutions	1.92	
Cell Blocks		
Corridors	4.79	8.90
Recreational uses		
Gymnasiums	4.79 a	
Bowling alleys, poolrooms, and similar uses	3.59 a	
Dance halls and ballrooms	4.79 a	
Reviewing stands, grandstands, and bleachers	4.79 a,k	
Stadiums and arenas with fixed seats (fastened to the floor)	2.87 a,k	
Residential		
One- and two-family dwellings		
Uninhabitable attics without storage	0.48 l	
Uninhabitable attics with storage	0.96 m	
Habitable attics and sleeping areas	1.44	
All other areas except stairs	1.92	
All other residential occupancies (ex. Hotels)		
Private rooms and corridors serving them	1.92	
Public rooms and corridors serving them	4.79 a	
Reviewing stands, grandstands, and bleachers	4.79	
Roofs		
Ordinary flat, pitched, and curved roofs	0.96 n	
Roofs used for roof gardens	4.79	
Roofs used for promenade purposes	2.87 a,k	
Roofs used for assembly purposes	Same as occupancy served	
Roofs used for other occupancies	o	o
Awnings and canopies		
Fabric construction supported by a lightweight rigid skeleton structure	0.24 non-reducible	1.33 applied to skeleton structure
Screen enclosure support frame	0.24 non-reducible and applied to the roof frame members only, not the screen	0.89 applied to supporting roof frame members only
All other construction	0.96	
Primary roof members, exposed to a work floor		
Single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs over manufacturing, storage warehouses, and repair garages		8.90
All other primary roof members		1.33
All roof surfaces subject to maintenance workers		1.33
Schools		
Classrooms	1.92	4.45
Corridors above first floor	3.83	4.45
First-floor corridors	4.79	4.45

Occupancy or Use	Uniform kN/m ²	Concentrated kN
Scuttles, skylight ribs, and accessible ceilings		0.89
Sidewalks, vehicular driveways, and yards subject to trucking	11.97 a,p	35.60 q
Stairs and exit ways	4.79	r
One- and two-family dwellings only	1.92	r
Storage areas above ceilings	0.96	
Storage warehouses (shall be designed for heavier loads if required for anticipated storage)		
Light	6.00 a	300 r
Heavy	11.97 a	300 r
Stores		
Retail		
First floor	4.79	4.45
Upper floors	3.59	4.45
Wholesale, all floors	6.00 a	4.45
Vehicle barriers		See Section 4.5
Walkways and elevated platforms (other than exit ways)	2.87	
Yards and terraces, pedestrian	4.79 a	

Notes:

- (a) Live load reduction for this use is not permitted by Section 4.7 unless specific exceptions apply.
- (b) Floors in garages or portions of a building used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of Table 4-1 or the following concentrated load: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 lb (13.35 kN) acting on an area of 4.5 in. by 4.5 in. (114 mm by 114 mm); and (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 lb (10 kN) per wheel.
- (c) Design for trucks and buses shall be per AASHTO LRFD Bridge Design Specifications; however, provisions for fatigue and dynamic load allowance are not required to be applied.
- (d) Uniform load shall be 40 psf (1.92 kN/m²) where the design basis helicopter has a maximum take-off weight of 3,000 lbs. (13.35 kN) or less. This load shall not be reduced.
- (e) Labeling of helicopter capacity shall be as required by the authority having jurisdiction.
- f Two single concentrated loads, 8 ft (2.44 m) apart shall be applied on the landing area (representing the helicopter's two main landing gear, whether skid type or wheeled type), each having a magnitude of 0.75 times the maximum take-off weight of the helicopter and located to produce the maximum load effect on the structural elements under consideration. The concentrated loads shall be applied over an area of 8 in. by 8 in. (200 mm by 200 mm) and shall not be concurrent with other uniform or concentrated live loads.
- (g) A single concentrated load of 3,000 lbs. (13.35 kN) shall be applied over an area 4.5 in. by 4.5 in. (114 mm by 114 mm), located so as to produce the maximum load effects on the structural elements under consideration. The concentrated load need not be assumed to act concurrently with other uniform or concentrated live loads.
- h The loading applies to stack room floors that support non-mobile, double-faced library book stacks subject to the following limitations: (1) The nominal book stack unit height shall not exceed 90 in. (2,290 mm); (2) the nominal shelf depth shall not exceed 12 in. (305 mm) for each face; and (3) parallel rows of double-faced book stacks shall be separated by aisles not less than 36 in. (914 mm) wide.
- (k) In addition to the vertical live loads, the design shall include horizontal swaying forces applied to each row of the seats as follows: 24 lb per linear ft of seat applied in a direction parallel to each row of seats and 10 lb per linear ft of seat applied in a direction perpendicular to each row of seats. The parallel and perpendicular horizontal swaying forces need not be applied simultaneously.
- (l) Uninhabitable attic areas without storage are those where the maximum clear height between the joist and rafter is less than 42 in. (1,067 mm), or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 in. (1,067 mm) in height by 24 in. (610 mm) in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirement.
- (m) Uninhabitable attic areas with storage are those where the maximum clear height between the joist and rafter is 42 in. (1,067 mm) or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 in. (1,067 mm) in height by 24 in. (610 mm) in width, or greater, within

the plane of the trusses. At the trusses, the live load need only be applied to those portions of the bottom chords where both of the following conditions are met:

- i. The attic area is accessible from an opening not less than 20 in. (508 mm) in width by 30 in. (762 mm) in length that is located where the clear height in the attic is a minimum of 30 in. (762 mm); and
- ii. The slope of the truss bottom chord is no greater than 2 units vertical to 12 units horizontal (9.5% slope).

The remaining portions of the bottom chords shall be designed for a uniformly distributed non-concurrent live load of not less than 10 lb/ft² (0.48 kN/m²).

(n) Where uniform roof live loads are reduced to less than 20 lb/ft² (0.96 kN/m²) in accordance with Section 4.8.1 and are applied to the design of structural members arranged so as to create continuity, the reduced roof live load shall be applied to adjacent spans or to alternate spans, whichever produces the greatest unfavorable load effect.

(o) Roofs used for other occupancies shall be designed for appropriate loads as approved by the authority having jurisdiction.

(p) Other uniform loads in accordance with an approved method, which contains provisions for truck loadings, shall also be considered where appropriate.

(q) The concentrated wheel load shall be applied on an area of 4.5 in. by 4.5 in. (114 mm by 114 mm).

(r) Minimum concentrated load on stair treads (on area of 2 in. by 2 in. [50 mm by 50 mm]) is to be applied non-concurrent with the uniform load.