

**TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS^a**

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
1. Apartments (see residential)	—	—
2. Access floor systems		
Office use	50	2,000
Computer use	100	2,000
3. Armories and drill rooms	150	—
4. Assembly areas and theaters		
Fixed seats (fastened to floor)	60	—
Follow spot, projections and control rooms	50	—
Lobbies	100	—
Movable seats	100	—
Stages and platforms	125	—
5. Balconies	100	—
On one- and two-family residences only, and not exceeding 100 sq ft	60	—
6. Bowling alleys	75	—
7. Catwalks	40	300
8. Dance halls and ballrooms	100	—
9. Decks	Same as occupancy served ^h	—
10. Dining rooms and restaurants	100	—
11. Dwellings (see residential)	—	—
12. Cornices	60	—
13. Corridors, except as otherwise indicated	100	—
14. Elevator machine room grating (on area of 4 in ²)	—	300
15. Finish light floor plate construction (on area of 1 in ²)	—	200
16. Fire escapes	100	—
On single-family dwellings only	40	—
17. Garages (passenger vehicles only)	40	Note a
Trucks and buses		See Section 1607.6
18. Grandstands (see stadium and arena bleachers)	—	—
19. Gymnasiums, main floors and balconies	100	—
20. Handrails, guards and grab bars	See Section 1607.7	
21. Hospitals		
Corridors above first floor	80	1,000
Operating rooms, laboratories	60	1,000
Patient rooms	40	1,000
22. Hotels (see residential)	—	—

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
23. Libraries		
Corridors above first floor	80	1,000
Reading rooms	60	1,000
Stack rooms	150 ^b	1,000
24. Manufacturing		
Heavy	250	3,000
Light	125	2,000
25. Marquees	75	—
26. Office buildings		
Corridors above first floor	80	2,000
File and computer rooms shall be designed for heavier loads based on anticipated occupancy	—	—
Lobbies and first-floor corridors	100	2,000
Offices	50	2,000
27. Penal institutions		
Cell blocks	40	—
Corridors	100	—
28. Residential		
One- and two-family dwellings		
Uninhabitable attics without storage ^l	10	—
Uninhabitable attics with limited storage ^{l, j, k}	20	—
Habitable attics and sleeping areas	30	—
All other areas except balconies and decks	40	—
Hotels and multiple-family dwellings		
Private rooms and corridors serving them	40	—
Public rooms and corridors serving them	100	—
29. Reviewing stands, grandstands and bleachers	Note c	
30. Roofs		
All roof surfaces subject to maintenance workers		300
Awnings and canopies		
Fabric construction supported by a lightweight rigid skeleton structure	5	nonreduceable
All other construction	20	
Ordinary flat, pitched, and curved roofs	20	
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		2,000
All other occupancies		300
Roofs used for other special purposes	Note 1	Note 1
Roofs used for promenade purposes	60	
Roofs used for roof gardens or assembly purposes	100	

(continued)

TABLE 1607.1—continued
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND
MINIMUM CONCENTRATED LIVE LOADS^g

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
31. Schools		
Classrooms	40	1,000
Corridors above first floor	80	1,000
First-floor corridors	100	1,000
32. Scuttles, skylight ribs and accessible ceilings	—	200
33. Sidewalks, vehicular driveways and yards, subject to trucking	250 ^d	8,000 ^e
34. Skating rinks	100	—
35. Stadiums and arenas		
Bleachers	100 ^c	—
Fixed seats (fastened to floor)	60 ^c	—
36. Stairs and exits		Note f
One- and two-family dwellings	40	
All other	100	
37. Storage warehouses (shall be designed for heavier loads if required for anticipated storage)		
Heavy	250	
Light	125	
38. Stores		
Retail		
First floor	100	1,000
Upper floors	75	1,000
Wholesale, all floors	125	1,000
39. Vehicle barriers	See Section 1607.7.3	
40. Walkways and elevated platforms (other than exitways)	60	—
41. Yards and terraces, pedestrians	100	—

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm²,
 1 square foot = 0.0929 m²,
 1 pound per square foot = 0.0479 kN/m², 1 pound = 0.004448 kN,
 1 pound per cubic foot = 16 kg/m³

- a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of Table 1607.1 or the following concentrated loads: (1) for garages restricted to vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 4.5 inches by 4.5 inches; (2) for mechanical parking structures without slab or deck which are used for storing passenger vehicles only, 2,250 pounds per wheel.
- b. The loading applies to stack room floors that support nonmobile, double-faced library bookstacks, subject to the following limitations:
 - 1. The nominal bookstack unit height shall not exceed 90 inches;
 - 2. The nominal shelf depth shall not exceed 12 inches for each face; and
 - 3. Parallel rows of double-faced bookstacks shall be separated by aisles not less than 36 inches wide.
- c. Design in accordance with the ICC *Standard on Bleachers, Folding and Telescopic Seating and Grandstands*.
- d. Other uniform loads in accordance with an approved method which contains provisions for truck loadings shall also be considered where appropriate.
- e. The concentrated wheel load shall be applied on an area of 20 square inches.
- f. Minimum concentrated load on stair treads (on area of 4 square inches) is 300 pounds.

- g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a greater snow design determined by the building official (see Section 1608). For special-purpose roofs, see Section 1607.11.2.2.
- h. See Section 1604.8.3 for decks attached to exterior walls.
- i. Attics without storage are those where the maximum clear height between the joist and rafter is less than 42 inches, or where there are not two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.
- j. For attics with limited storage and constructed with trusses, this live load need only be applied to those portions of the bottom chord where there are two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
 - i. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section 1209.2, and
 - ii. The truss shall have a bottom chord pitch less than 2:12.
 - iii. Bottom chords of trusses shall be designed for the greater of actual imposed dead load or 10 psf, uniformly distributed over the entire span.
- k. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.
- l. Roofs used for other special purposes shall be designed for appropriate loads as approved by the building official.

1607.7.3 Vehicle barriers. Vehicle barrier systems for passenger cars shall be designed to resist a single load of 6,000 pounds (26.70 kN) applied horizontally in any direction to the barrier system and shall have anchorage or attachment capable of transmitting this load to the structure. For design of the system, the load shall be assumed to act at a minimum height of 1 foot, 6 inches (457 mm) above the floor or ramp surface on an area not to exceed 1 square foot (305 mm²), and is not required to be assumed to act concurrently with any handrail or guard loadings specified in the preceding paragraphs of Section 1607.7.1. Garages accommodating trucks and buses shall be designed in accordance with an approved method that contains provision for traffic railings.

1607.8 Impact loads. The live loads specified in Section 1607.3 include allowance for impact conditions. Provisions shall be made in the structural design for uses and loads that involve unusual vibration and impact forces.

1607.8.1 Elevators. Elevator loads shall be increased by 100 percent for impact and the structural supports shall be designed within the limits of deflection prescribed by ASME A17.1.

1607.8.2 Machinery. For the purpose of design, the weight of machinery and moving loads shall be increased as follows to allow for impact: (1) elevator machinery, 100 percent; (2) light machinery, shaft- or motor-driven, 20 percent; (3) reciprocating machinery or power-driven units, 50 percent; (4) hangers for floors or balconies, 33 percent. Percentages shall be increased where specified by the manufacturer.

1607.9 Reduction in live loads. Except for roof uniform live loads, all other minimum uniformly distributed live loads, L_o , in Table 1607.1 are permitted to be reduced in accordance with Section 1607.9.1 or 1607.9.2.