

NFPA 101 (2003): Table 6.1.14.4.1 - Required Separation of Occupancies (in hours)^(a)

	Assembly <300	Assembly >300	Assembly >1000	Educational	Daycare >12	Daycare Homes	Health Care (b)	Ambulatory Health Care	Detention & Correctional (b)	One & Two Family	Lodging & Rooming	Hotels & Dormitories	Apartment Buildings	Board & Care Small	Board & Care Large	Mercantile	Mercantile Mall	Mercantile Bulk	Business	Industrial General Purpose	Industrial Special Purpose	Industrial High Hazard	Storage Low & Ordinary	Storage High Hazard	
Assembly <300	0	0	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	3	1	2	2	3	2	3	Assembly <300
Assembly >300		0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	3	2	3	Assembly >300
Assembly >1000			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	2	3	3	3	Assembly >1000
Educational				2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3	Educational
Daycare >12					1	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3	Daycare >12
Daycare Homes						2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	2	3	Daycare Homes
Health Care (b)							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	Health Care
Ambulatory Health Care								2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	Ambulatory Health Care
Detention & Correctional (b)									2	2	2	2	2	2	2	2	2	2	2	2	2	NP	2	NP	Detention & Correctional
One & Two Family										1	1	1	1	2	2	2	3	2	2	2	3	2	3	3	One & Two Family
Lodging & Rooming											1	1	2	2	2	2	3	2	2	2	3	2	3	3	Lodging & Rooming
Hotels & Dormitories												1	2	2	2	2	3	2	2	2	3	2	3	3	Hotels & Dormitories
Apartment Buildings													2	2	2	2	3	2	2	2	3	2	3	3	Apartment Buildings
Board & Care Small														1	2	2	3	2	3	3	3	3	3	3	Board & Care Small
Board & Care Large															2	2	3	2	3	3	3	3	3	3	Board & Care Large
Mercantile																0	3	2	2	2	3	2	3	3	Mercantile
Mercantile Mall																	3	2	3	3	3	2	3	3	Mercantile Mall
Mercantile Bulk																		2	2	2	3	2	2	2	Mercantile Bulk
Business																				2	2	2	2	2	Business
Industrial General Purpose																					1	1	1	1	Industrial General Purpose
Industrial Special Purpose																						1	1	1	Industrial Special Purpose
Industrial High Hazard																							1	1	Industrial High Hazard
Storage Low & Ordinary																								1	Storage Low & Ordinary
Storage High Hazard																									Storage High Hazard

NP = Not Permitted

(a) Fire resistance rating is permitted to be reduced by 1 hour, but in no case to less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with 9.7

(b) The 1-hour reduction due to the presence of sprinklers in accordance with the previous footnote (a) is not permitted

Table 7.3.1.2 Occupant Load Factors

Use	ft ² (per person) ¹
Assembly Use	
Concentrated use, without fixed seating	7 net
Less concentrated use, without fixed seating	15 net
Bench-type seating	1 person/18 linear in.
Fixed seating	Number of fixed seats
Waiting spaces	See 12.1.7.2 and 13.1.7.2
Kitchens	100
Library stack areas	100
Library reading rooms	50 net
Swimming pools	50 (water surface)
Swimming pool decks	30
Exercise rooms with equipment	50
Exercise rooms without equipment	15
Stages	15 net
Lighting and access catwalks, galleries, gridirons	100 net
Casinos and similar gaming areas	11
Skating rinks	50
Educational Use	
Classrooms	20 net
Shops, laboratories, vocational rooms	50 net
Day-Care Use	
Spaces occupied by Clients (excludes toilet rooms, offices, kitchens etc)	35 net
Health Care Use	
Inpatient treatment departments	240
Sleeping departments	120
Detention and Correctional Use	
	120
Residential Use	
Hotels and dormitories	200
Apartment buildings	200
Board and care, large	200
Industrial Use	
General and high hazard industrial	100
Special purpose industrial	NA
Business Use	
	100
Storage Use (other than mercantile storerooms)	
	NA
Mercantile Use	
Sales area on street floor ^{2,3}	30
Sales area on two or more street floors ³	40
Sales area on floor below street floor ³	30
Sales area on floors above street floor ³	60
Floors or portions of floors used only for offices	See business use
Floors or portions of floors used only for storage, receiving, and shipping, and not open to general public	300
Mall buildings ⁴	Per factors applicable to use of space ⁵

Note: NA = not applicable. The occupant load is the maximum probable number of occupants present at any time.

¹All factors are expressed in gross area unless marked "net."

²For the purpose of determining occupant load in mercantile occupancies where, due to differences in grade of streets on different sides, two or more floors directly accessible from streets (not including alleys or similar back streets) exist, each such floor is permitted to be considered a street floor. The occupant load factor is one person for each 40 ft² of gross floor area of sales space.

³For the purpose of determining occupant load in mercantile occupancies with no street floor, as defined in 3.3.216, but with access directly from the street by stairs or escalators, the floor at the point of entrance to the mercantile occupancy is considered the street floor.

⁴For any food court or other assembly use areas located in the mall that are not included as a portion of the gross leasable area of the mall building, the occupant load is calculated based on the occupant load factor for that use as specified in Table 7.3.1.2. The remaining mall area is not required to be assigned an occupant load.

Mall Buildings are treated separately:

⁵The portions of the mall that are considered a pedestrian way and not used as gross leasable area are not required to be assessed an occupant load based on Table 7.3.1.2. However, means of egress from a mall pedestrian way are required to be provided for an occupant load determined by dividing the gross leasable area of the mall building (not including anchor stores) by the appropriate lowest whole number occupant load factor from Figure 7.3.1.2(a) or Figure 7.3.1.2(b).

Each individual tenant space is required to have means of egress to the outside or to the mall based on occupant loads calculated by using the appropriate occupant load factor from Table 7.3.1.2.

Each individual anchor store is required to have means of egress independent of the mall.

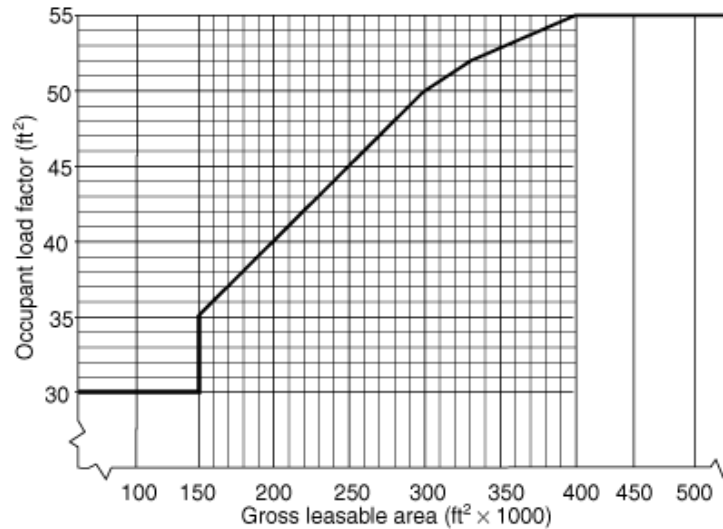


FIGURE 7.3.1.2(b) Mall Building Occupant Load Factors in Square Feet.

Occupant Load Factors for Airport Terminals

Suggested occupant load factors for components of large airport terminal buildings are given in Table A.7.3.1.2. However, the authority having jurisdiction might elect to use different occupant load factors, provided that egress requirements are satisfied.

Table A.7.3.1.2 Airport Terminal Occupant Load Factors

Airport Terminal Area	ft ² (gross)
Concourse	100
Waiting areas	15
Baggage claim	20
Baggage handling	300

Table 3-1 Fire Resistance Ratings (in hours) for Type I through Type V Construction

	Type I		Type II			Type III		Type IV	Type V	
	443	332	222	111	000	211	200	2HH	111	000
Exterior Bearing Walls										
Supporting more than one floor, columns, or other bearing walls	4	3	2	1	0 ¹	2	2	2	1	0 ¹
Supporting one floor only	4	3	2	1	0 ¹	2	2	2	1	0 ¹
Supporting a roof only	4	3	1	1	0 ¹	2	2	2	1	0 ¹
Interior Bearing Walls										
Supporting more than one floor, columns, or other bearing walls	4	3	2	1	0	1	0	2	1	0
Supporting one floor only	3	2	2	1	0	1	0	1	1	0
Supporting roofs only	3	2	1	1	0	1	0	1	1	0
Columns										
Supporting more than one floor, columns, or other bearing walls	4	3	2	1	0	1	0	H ²	1	0
Supporting one floor only	3	2	2	1	0	1	0	H ²	1	0
Supporting roofs only	3	2	1	1	0	1	0	H ²	1	0
Beams, Girders, Trusses, and Arches										
Supporting more than one floor, columns, or other bearing walls	4	3	2	1	0	1	0	H ²	1	0
Supporting one floor only	3	2	2	1	0	1	0	H ²	1	0
Supporting roofs only	3	2	1	1	0	1	0	H ²	1	0
Floor Construction	3	2	2	1	0	1	0	H ²	1	0
Roof Construction	2	1 ^{1/2}	1	1	0	1	0	H ²	1	0
Exterior Nonbearing Walls ³	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹

Those members that shall be permitted to be of approved combustible material.

¹ See A-3-1 (table).

² “H” indicates heavy timber members; see text for requirements.

³ Exterior nonbearing walls meeting the conditions of acceptance of NFPA 285, *Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus*, shall be permitted to be used.

A-3-1 (table)

Requirements for fire resistance of exterior walls located in close proximity to property lines, other buildings, or exposures, the provision of spandrel wall sections, and the limitation or protection of wall openings are not related to type of construction. They could be specified in other standards and codes, where appropriate, and could be required in addition to the requirements of this standard for the type of construction.

Table A.7.6 – Travel Distance Limits by Occupancy

Chapter - Type of Occupancy	Common Path Limit		Dead-End Limit		Travel Distance Limit	
	Unsprinklered	Sprinklered	Unsprinklered	Sprinklered	Unsprinklered	Sprinklered
12 - Assembly						
New	20/75	20/75	20	20	150	250
Existing	20/75	20/75	20	20	150	250
14 - Educational						
New	75	100	20	50	150	200
Existing	75	100	20	50	150	200
16 - Day Care						
New	75	100	20	50	150	200
Existing	75	100	20	50	150	200
18 - Health Care						
New	NR	NR	30	30	NA	200
Existing	NR	NR	NR	NR	150	200
20 - Ambulatory Health Care						
New	75	100	20	50	150	200
Existing	75	100	50	50	150	200
22 - Detention and Correctional						
New - Use conditions II, III, IV	50	100	50	50	150	200
New - Use condition V	50	100	20	20	150	200
Existing - Use conditions II, III, IV, V	50	100	NR	NR	150	200
24 - Residential						
One- and two-family dwellings	NR	NR	NR	NR	NR	NR
26 - Lodging or rooming houses	NR	NR	NR	NR	NR	NR
28 - Hotels and dormitories						
New	35	50	35	50	175	325
Existing	35	50	50	50	175	325
30 - Apartments						
New	35	50	35	50	175	325
Existing	35	50	50	50	175	325
32 - Board and care						
Small, new and existing	NR	NR	NR	NR	NR	NR
Large, new	NA	125	NA	50	NA	325
Large, existing	110	160	50	50	175	325
36 - Mercantile						
Class A, B, C						
New	75	100	20	50	150	250
Existing	75	100	50	50	150	250
Open air	NR	NR	0	0	NR	NR
36.4.4 – Mall Buildings						
New	75	100	20	50	150	400
Existing	75	100	50	50	150	400
38 - Business						
New	75	100	20	50	200	300
Existing	75	100	50	50	200	300
40 - Industrial						
General	50	100	50	50	200	250
Special purpose	50	100	50	50	300	400
High hazard	0	0	0	0	0	75
Aircraft servicing hangars, ground floor	50	100	50	50	note n	note n
Aircraft servicing hangars, mezzanine floor	50	75	50	50	75	75
42 - Storage						
Low hazard	NR	NR	NR	NR	NR	NR
Ordinary hazard	50	100	50	100	200	400
High hazard	0	0	0	0	75	100
Parking structures, open	50	50	50	50	300	400
Parking structures, enclosed	50	50	50	50	150	200
Aircraft storage hangars, ground floor	50	100	50	50	note n	note n
Aircraft servicing hangars, mezzanine floor	50	75	50	50	75	75
Under-ground spaces in grain elevators	50	100	50	100	200	400

Table A.10.2.2 Interior Finish Classification Limitations

Occupancy	Exits	Exit Access Corridors	Other Spaces
Assembly — New			
>300 occupant load	A I or II	A or B I or II	A or B
≤300 occupant load	A I or II	A or B I or II	A, B, or C
Assembly — Existing			
>300 occupant load	A	A or B	A or B
≤300 occupant load	A	A or B	A, B, or C
Educational — New	A I or II	A or B I or II	A or B; C on low partitions†
Educational — Existing	A	A or B	A, B, or C
Day-Care Centers — New	A I or II	A I or II	A or B
Day-Care Centers — Existing	A or B	A or B	A or B
Day-Care Homes — New	A or B I or II	A or B	A, B, or C
Day-Care Homes — Existing	A or B	A, B, or C	A, B, or C
Health Care — New	A	A, B on lower portion of corridor wall†	A, B in small individual rooms†
Health Care — Existing	A or B	A or B	A or B
Detention and Correctional — New (sprinklers mandatory)	A or B I or II	A or B I or II	A, B, or C
Detention and Correctional — Existing	A or B I or II	A or B I or II	A, B, or C
1- and 2-Family Dwellings, Lodging or Rooming Houses	A, B, or C	A, B, or C	A, B, or C
Hotels and Dormitories — New	A I or II	A or B I or II	A, B, or C
Hotels and Dormitories — Existing	A or B I or II†	A or B I or II†	A, B, or C
Apartment Buildings — New	A I or II	A or B I or II	A, B, or C
Apartment Buildings — Existing	A or B I or II†	A or B I or II†	A, B, or C
Residential, Board and Care — (See Chapter 32 and Chapter 33)			
Mercantile — New	A or B I or II	A or B	A or B
Mercantile — Existing Class A or Class B Stores	A or B	A or B	Ceilings — A or B; walls — A, B, or C
Mercantile — Existing Class C Stores	A, B, or C	A, B, or C	A, B, or C
Business and Ambulatory Health Care — New	A or B I or II	A or B	A, B, or C
Business and Ambulatory Health Care — Existing	A or B	A or B	A, B, or C
Industrial	A or B I or II	A, B, or C I or II	A, B, or C
Storage	A or B I or II	A, B, or C I or II	A, B, or C

Notes:

1. Class A interior wall and ceiling finish — flame spread 0–25, (new) smoke developed 0–450.
2. Class B interior wall and ceiling finish — flame spread 26–75, (new) smoke developed 0–450.
3. Class C interior wall and ceiling finish — flame spread 76–200, (new) smoke developed 0–450.
4. Class I interior floor finish — critical radiant flux, not less than 0.45 W/cm².
5. Class II interior floor finish — critical radiant flux, not less than 0.22 W/cm² but less than 0.45 W/cm².
6. Automatic sprinklers — where a complete standard system of automatic sprinklers is installed, interior wall and ceiling finish with flame spread rating not exceeding Class C is permitted to be used in any location where Class B is required and with rating of Class B in any location where Class A is required; similarly, Class II interior floor finish is permitted to be used in any location where Class I is required, and no critical radiant flux rating is required where Class II is required. These provisions do not apply to new detention and correctional occupancies.
7. Exposed portions of structural members complying with the requirements for heavy timber construction are permitted.

†See corresponding chapters for details.

Protection Requirements by Occupancy Classification for NEW CONSTRUCTION

	Fire Alarm Required?	Exception	Sprinkler Required?	Exception
Assembly <300	NO		NO	
Assembly >300	YES		YES	for WORSHIP and not multiple occupancy; Single multipurpose <12,000 sf and not mixed occupancy; Gym, rinks etc w/ <300 audience; and certain areas of stadiums -see 12.3.5.2(4 & 5)
Assembly - Multi Theater	YES		YES	
Educational	YES	<1000 sf; and Single room; and 50 ft from another building	Yes IF BELOW LED or IF unprotected vertical openings per 8.6.6	
Daycare >12	YES	One Room	Yes IF unprotected Vertical openings per 8.6.6	
Daycare Homes		Smoke Alarms Required	NO	Portable Extinguishers
Health Care (b)	YES		YES	
Ambulatory Health Care	YES		YES	
Detention & Correctional (b)	YES		YES	
One & Two Family	NO	Smoke Alarms Required	NO	
Lodging & Rooming	YES	Doors direct to exterior	YES	Exit door at grade; OR Exterior exit stair meeting 26.2.1.1
Hotels & Dormitories	YES		YES	Exit door at grade; OR Exterior exit access per 7.5.3
Apartment Buildings	YES IF >3 Stories; or >11 units	1 hr separation and; direct exit to ground at each unit <16 units; and < 4 stories; and sprinklered	YES	Exit door at grade; OR Outside stair serving less than 2 units; Or unit with Stair Direct to grade and separated by 1 hr
Board & Care Small	YES	Smoke Alarms Also required	YES	Except Conversions w/ < 8 occupants Ambulatory
Board & Care Large	YES		YES	
Mercantile	YES IF >30,000 SF		> 3 stories; OR >12,000 sf; OR >2500 sf below LED; OR if Mixed Occupancy with any of the above	ALL Class A Mercantile (>30,000 SF)
Mercantile Mall	YES		YES	
Mercantile Bulk	YES		YES	
Business	YES IF 2 stories above LED; OR 50 or more occ above or below LED; OR >300 OCC		NO	Portable Extinguishers
Industrial General Purpose	YES	<100 occ load; and <25 above or below LED	NO	
Industrial Special Purpose			NO	
Industrial High Hazard	YES		NO	
Storage Low & Ordinary			NO	
Storage High Hazard	YES		NO	
Storage Parking Structures	NO IF <100,000 sf	NO IF OPEN NO IF SPRINKLER	NO	

Note: If MIXED occupancy, then use the most restrictive requirement of the most restrictive classification throughout the entire building

OTHER SECTIONS OF THE INDIVIDUAL CHAPTERS MAY PERMIT ALTERNATIVES WHERE SPRINKLER PROTECTION IS PROVIDED