



As the responsible person of the premises, you will need to calculate the occupant capacity as part of your fire risk assessment and in order to assess the means of escape.

The occupant capacity is the number of people who can safely occupy a building or part thereof which is made available to relevant persons (e.g. member of the public).

In order to calculate the occupancy figure you will need to take into account the following:

- Confirm what the specific rooms or areas are going to be used for e.g. dancing, seating, standing etc. In areas with fixed seating the majority of the occupancy figures will be based on the number of fixed seats available. In areas without fixed seating, the numbers will be calculated based on the floor areas available.
- In order to facilitate maximum space utilisation the number of available exits should be sufficient in both size and number to cope with the calculated occupancy.

Calculating Floor Occupancy Figures

The calculated occupant capacity of a premises or part thereof should be determined by the following:

- In areas where there is fixed seating, by the number of such seats, or if there is bench seating, by dividing the total width of each bench by 450mm. e.g. for a bench of 4.5m, $4.5\text{m} = 4500\text{mm} / 450 = 10$ people.
- In other areas (including mixed areas with both standing and fixed seating) divide the total floor area in m^2 by the load factor from the table below.

Note/ This should exclude toilets, stairway enclosures, bar serving areas, DJ Booths, stores, fixed furniture and other similar areas.

Table 1 - Floor Space Factors

	Type of accommodation	Floor space factor m^2/person
1	Standing spectator areas, bar areas (within 2m of serving point) similar refreshment areas	0.3
2	Amusement arcade, assembly hall (including a general purpose place of assembly), bingo hall, club, crush hall, dance floor or hall, venue for pop concert and similar events and bar areas without fixed seating	0.5
3	Concourse, queuing area or shopping mall	0.7
4	Committee room, common room, conference room, dining room, licensed betting office (public area), lounge or bar (other than in 1 above), meeting room, reading room, restaurant, staff room or waiting room	1.0
5	Exhibition hall or studio (film, radio, television, recording)	1.5
6	Skating ring	2.0
7	Shop sales areas	2.0
8	Art gallery, dormitory, factory production area, museum or workshop	5.0
9	Office	6.0
10	Shop sales area	7.0
11	Kitchen or library	7.0
12	Bedroom or study bedroom	8.0
13	Bed-sitting room, billiards or snooker room or hall	10.0
14	Storage and warehouse	30.0
15	Car park	Two persons per parking space

Where the room or area is going to be used for a variety of purposes, then the purpose giving the greatest occupancy capacity is to be used.

Calculating Occupancy figures from the Exits Available

In addition, although the calculated number of persons can be accommodated in a specific room or area, there has to be sufficient provision to get all these people out of the room in the event of an emergency. Therefore there must be a sufficient number of exit doors available, each of adequate width, to allow all persons in the premises to evacuate as quickly as possible.

The number can be calculated using Table 2

Table 2 - Exit Widths

Max No. of Persons	Minimum Clear Opening
60	750mm
110	850mm
220	1050mm
More than 220	*5 per person
Notes	
Width less than 1050mm should not be interpolated	
*5mm/person does not apply to openings less than 220 persons	

Within rooms or premises, there is generally a requirement for two or more exits to be made available from each room/area. It is automatically assumed that one of these exits will be unavailable in the event of a fire, so therefore all other exits would need to be of sufficient size and accessibility to evacuate all persons from the room or area.

All exit doors and other doors on the route of exit must open in the direction of exit travel. All exit doors from rooms/premises that accommodate more than 60 persons are to be fitted with push bar pressure type fitting and open outwards. Any inwards opening exit doors will restrict occupancy to 60 people through that door. All rooms that have only one exit have a maximum occupancy of 60 people.

Worked Example

Our assembly building consists of 3 areas, i.e.

- 20m^2 bar area near serving point = $20/0.3 = 66.6$ persons
- 100m^2 bar area away from serving point = $100/0.5 = 200$
- Restaurant area with 60 covers = 60 persons
- 100m^2 Lounge area = $100/ 1.0 = 100$

This gives a maximum floor occupancy figure of 426 people permitted in the premises at any one time; however there must be sufficient exits for all these people to escape in the event of an emergency

In order to make sure we have enough exit capacity we need to examine the doors available from these areas.

The following doors are available:

- Exit 1 - 750mm - Capacity 60 persons
- Exit 2 - 1050mm - Capacity 220 persons
- Exit 3 – 750mm – Capacity 60 persons
- Exit 3 – 850 mm – Capacity 110 persons

This gives an exit capacity for 450 people, i.e. $60+60+220+110 = 450$, however, in the event of a fire then it is always assumed that one exit is unavailable and this is always the largest exit. This gives a reduced capacity of $60+60+110 = \mathbf{230}$ people.

If it is impracticable to provide additional exit widths, then the occupancy figure should be restricted to **230 persons**