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A Guide to Setting Out Non-fixed Seating

Edition 1 – January 2015

A Guide to Setting Out Non-Fixed Seating

WE are frequently asked by our clients:

1. How many chairs are we allowed to use in our space?
2. What is the correct way to lay them out?
3. Does the seating need to be linked?

To help with these questions **WE** have prepared this short guide to assist.

Please note this document should be used as a guide only and for detailed advice on your seating capacities you should consult your local Fire or Licensing authority to ensure local district procedures are met.

For more detailed reading on this issue please see the reference documents used in the compilation of this guide:

- BS 999:2008
- BR - Fire safety – Volume 2 – Buildings other than dwelling houses
- UCL Fire Technical note no: 104 (source used to provide table data in this guide)
- Building regulations and Fire safety procedural guidance – July 2007
- Regulatory reform (fire safety) order 2005

The simplified capacity calculation flow chart overleaf provides a quick reference diagram which is supported by further detail in the following pages.

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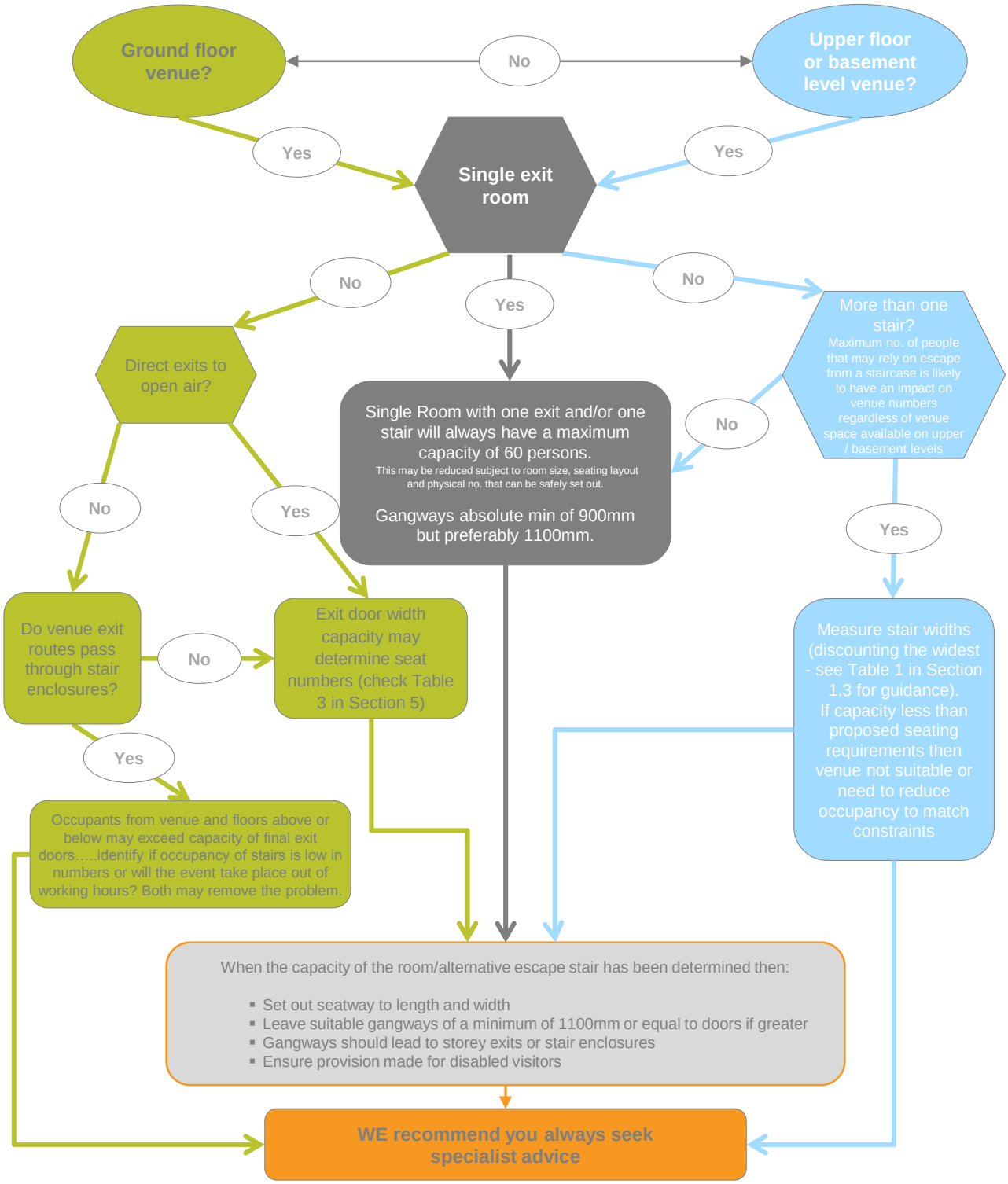
chester house, kennington park, 1-3 brixton rd, london, SW9 6DE
t 020 7736 6636 f 0870 706 0066 e info@we.uk.com w we.uk.com

Temporary seating capacity calculation chart



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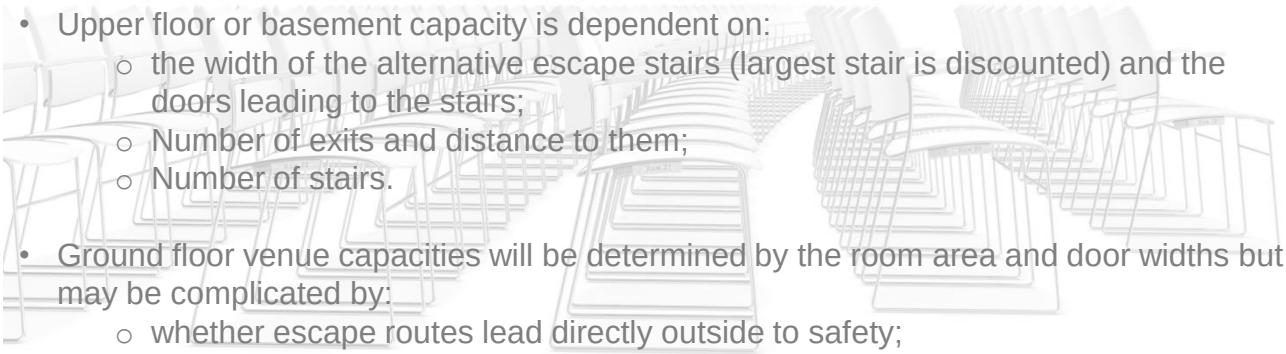
Determining whether seats need to be linked depends on the environment in which they are to be used, venue capacities and partial or full occupancy during the period of use.

It is important for venues using non-fixed seating to set out the seating correctly. Whilst this will vary for each distinct venue there are some guidelines that can be followed which will greatly facilitate the setting out. The reason for following these guidelines is that in the event of a fire the occupants must be capable of evacuating the room or building in the most effective way.

The "responsible person" for the premises, under the Fire Safety Order 2005, must calculate the maximum seating capacities for a space before use. This maximum amount can then be set out in the premises Fire Safety Policy & Function Emergency plan.

The following factors will need to be taken into consideration when estimating your capacities:

1.1 Venue capacity



- Upper floor or basement capacity is dependent on:
  - the width of the alternative escape stairs (largest stair is discounted) and the doors leading to the stairs;
  - Number of exits and distance to them;
  - Number of stairs.

- Ground floor venue capacities will be determined by the room area and door widths but may be complicated by:
  - whether escape routes lead directly outside to safety;
  - whether escape is through a stair enclosure, which may impact on escaping occupants on upper floors;
  - capacity may then be further reduced depending on seating arrangements and layout and the provision of gangways/seatway widths and the general setting out of means of escape.

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1.2 Seating capacity

- Once the gangways and seatways have been established then the remaining space will determine the seating capacity.

- If there is one room and one exit then the maximum capacity would be 60 persons (including above ground and basement level); subject to room size.

- If one room and more than one exit leading to independent stair enclosures (above ground or at basement level):
    i. Assess stair widths and their capacities (minus the largest staircase). **See Table 1 below**;
    ii. If your room capacity is less than the capacity of the stairs then you can proceed. If room capacity exceeds the stairs capacity, use stair capacity to determine the number of permitted occupants;
    iii. Set out seating in rows with gangways ensuring gangways lead to exits and allowing for circulation space by exits.

1.3 Complex venue?

- If the building characteristics are more complicated than those set out above then you should consult your local fire or licensing authority, or obtain specialist advice from fire safety staff, to ensure all factors are considered.

Table 1

No. of Upper floors served	Recommended maximum capacity of staircases Maximum number of people that may rely on escape from a staircase with width of stairs measured between walls or ballustrades ignoring handrails (as long as they do not project more than 100mm)								
	900mm	1000mm	1050mm	1100mm	1200mm	1300mm	1400mm	1500mm	1600mm
1st Floor	60	150	200	220	240	260	280	300	320
2nd Floor	60	190	225	260	285	310	335	360	385
3rd Floor	60	230	265	300	330	360	390	420	450
4th Floor	Not Permitted	270	305	340	375	410	445	480	515

No. of Lower floors served	Recommended maximum capacity of Basement staircases Maximum number of people that may rely on escape from a staircase with width of stairs measured between walls or ballustrades ignoring handrails (as long as they do not project more than 100mm)								
	900mm	1000mm	1050mm	1100mm	1200mm	1300mm	1400mm	1500mm	1600mm
Basement -1	X	150	185	220	240	260	280	300	320
Basement -2	X	X	X	150	220	240	260	280	300

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2.0 Should seats be fixed together?

- If the capacity is 50 seats or more then the seats should be fixed or linked together when in rows of 4 or more to prevent separation, snaking or “row topple” under pressure thereby risking obstructing the escape of occupants in other rows.

- If the capacity is 250 or more then secure the seats together in rows and then fix the ends of the rows to the floor or each other by using chamfered bars.

- Over 600 seats and all chairs should be fixed to the floor. Where this is impractical to fix floor plates, other means will be needed. Contact **WE** to discuss options.

3.0 Setting out guidelines

- The seatway is the distance from the furthest rear point of the chairs on row A to the nearest forward point of row B behind it. This should include any armrests or other seating features.

- Audiences seated in rows would first have to make their way to the end of the row before being able to use escape routes provided. Seating and gangways therefore need to be arranged to allow easy access direct to the exits.

- Temporary seating in rooms and venues should be set out in relation to the seatway allowed between seat rows and the number of gangways in the venue. Please **see Table 2 below** for this relationship.

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Table 2

Seatway Widths (mm)	Recommended maximum Number of Seats in a row	
	Seats in Rows with 1 x Gangway	Seats in Rows with 2 x Gangways
300 to 324 mm	7 seats	14 seats
325 to 349 mm	8 seats	16 seats
350 to 374 mm	9 seats	18 seats
375 to 399 mm	10 seats	20 seats
400 to 424 mm	11 seats	22 seats
425 to 449 mm	12 seats	24 seats
450 to 474 mm	(maximum permitted) In single direction of escape	26 seats
475 to 499 mm		28 seats
500 mm	Seek specialist advice	

4.0 Gangways

- Gangways need to be a minimum of 1100mm wide
- They should have no projections or obstructions and should provide a clear route throughout its length
- The end of rows of seats should be aligned to maintain a uniform width of the gangway
- Gangways should not be wider than doors or stairs to prevent “funnelling”
- Gangways being used by less than 60 persons can be a minimum of 900mm wide but it is strongly recommended that gangways are generally not less than 1100mm.

5.0 Door widths

- The risk rating of the premises is a major factor for calculating time available for escape as well as the distance to be travelled. However **Table 3** gives a guide on the number of occupants allowed for normal risk premises.

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Table 3

The following guide can be used to determine the general capacities of escape routes bsed on clear opening door widths	
Door Widths	**Number of persons able to pass through**
750 mm (absolute minimum width)	60 persons (normal risk)
850 mm	110 persons (normal risk)
950 mm (minimum width for wheelchairs)	160 persons (normal risk)
1050 mm	120 persons (normal risk)
Doors greater than 1050 mm wide	1050mm = 220 and then 5mm per person on width greater than 1050mm (e.g. door width of 1500mm – 1050mm = 450mm (450 /5mm=90) 220 + 90 = max 310 persons)

SUMMARY

Do my chairs need to link? A reliable rule of thumb is if over 50 chairs and if they are used in rows of 4 or more then Yes!

For help selecting the correct chairs to meet your requirements please contact us at Working Environments Furniture, 020 7736 6636 info@we.uk.com

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