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.

While WE has strived to make the information in this guide as accurate as possible, WE makes no claims, promises or guarantees about the accuracy, completeness or adequacy of the content of this guide and expressly disclaims liability for errors and omissions in its content. It is recommended you seek specialist advice.
**Temporary seating capacity calculation chart**

1. **Ground floor venue?**
   - No → **Upper floor or basement level venue?**
   - Yes → **Single exit room**

2. **Direct exits to open air?**
   - No → **Do venue exit routes pass through stair enclosures?**
     - No → **Exit door width capacity may determine seat numbers (check Table 3 in Section 5)**
     - Yes → **No**
   - Yes → **Yes**

3. **Single Room with one exit and/or one stair will always have a maximum capacity of 60 persons.**
   - This may be reduced subject to room size, seating layout and physical no. that can be safely set out.

4. **Gangways absolute min of 900mm but preferably 1100mm.**

When the capacity of the room/alternative escape stair has been determined then:
- Set out seatway to length and width
- Leave suitable gangways of a minimum of 1100mm or equal to doors if greater
- Gangways should lead to storey exits or stair enclosures
- Ensure provision made for disabled visitors

**WE recommend you always seek specialist advice**
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.
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

<table>
<thead>
<tr>
<th>No. of Upper floors served</th>
<th>Recommended maximum capacity of staircases</th>
<th>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)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>900mm</td>
<td>1000mm</td>
</tr>
<tr>
<td>1st Floor</td>
<td>60</td>
<td>150</td>
</tr>
<tr>
<td>2nd Floor</td>
<td>60</td>
<td>190</td>
</tr>
<tr>
<td>3rd Floor</td>
<td>60</td>
<td>230</td>
</tr>
<tr>
<td>4th Floor</td>
<td>Not Permitted</td>
<td>270</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of Lower floors served</th>
<th>Recommended maximum capacity of Basement staircases</th>
<th>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)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>900mm</td>
<td>1000mm</td>
</tr>
<tr>
<td>Basement -1</td>
<td>X</td>
<td>150</td>
</tr>
<tr>
<td>Basement -2</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
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.
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.

### Table 2

<table>
<thead>
<tr>
<th>Seatway Widths (mm)</th>
<th>Seats in Rows with 1 x Gangway</th>
<th>Seats in Rows with 2 x Gangways</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 to 324 mm</td>
<td>7 seats</td>
<td>14 seats</td>
</tr>
<tr>
<td>325 to 349 mm</td>
<td>8 seats</td>
<td>16 seats</td>
</tr>
<tr>
<td>350 to 374 mm</td>
<td>9 seats</td>
<td>18 seats</td>
</tr>
<tr>
<td>375 to 399 mm</td>
<td>10 seats</td>
<td>20 seats</td>
</tr>
<tr>
<td>400 to 424 mm</td>
<td>11 seats</td>
<td>22 seats</td>
</tr>
<tr>
<td>425 to 449 mm</td>
<td>12 seats (maximum permitted)</td>
<td></td>
</tr>
<tr>
<td>450 to 474 mm</td>
<td></td>
<td>24 seats</td>
</tr>
<tr>
<td>475 to 499 mm</td>
<td></td>
<td>26 seats</td>
</tr>
<tr>
<td>500 mm</td>
<td></td>
<td>28 seats</td>
</tr>
</tbody>
</table>

Seek specialist advice

---

Table 3 gives a guide on the number of occupants allowed for normal risk premises.
Table 3

The following guide can be used to determine the general capacities of escape routes based on clear opening door widths:

<table>
<thead>
<tr>
<th>Door Widths</th>
<th>Number of persons able to pass through</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 mm (absolute minimum width)</td>
<td>60 persons (normal risk)</td>
</tr>
<tr>
<td>850 mm</td>
<td>110 persons (normal risk)</td>
</tr>
<tr>
<td>950 mm (minimum width for wheelchairs)</td>
<td>160 persons (normal risk)</td>
</tr>
<tr>
<td>1050 mm</td>
<td>120 persons (normal risk)</td>
</tr>
<tr>
<td>Doors greater than 1050 mm wide</td>
<td>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)</td>
</tr>
</tbody>
</table>

**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

While **WE** has strived to make the information in this guide as accurate as possible. **WE** makes no claims, promises or guarantees about the accuracy, completeness or adequacy of the content of this guide and expressly disclaims liability for errors and omissions in its content. It is recommended you seek specialist advice.

If you have any queries about the content or resources in this guide, or if you need any advice that is not covered here, please do not hesitate to contact us.