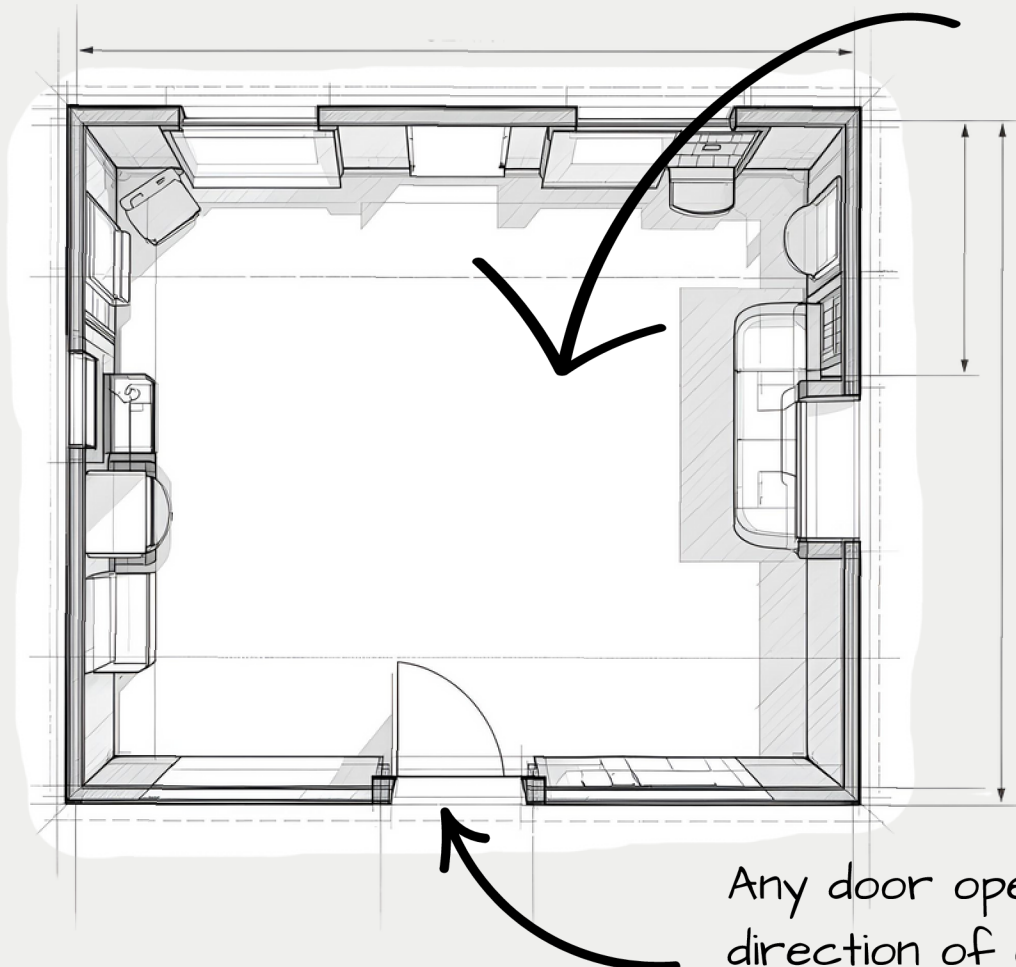


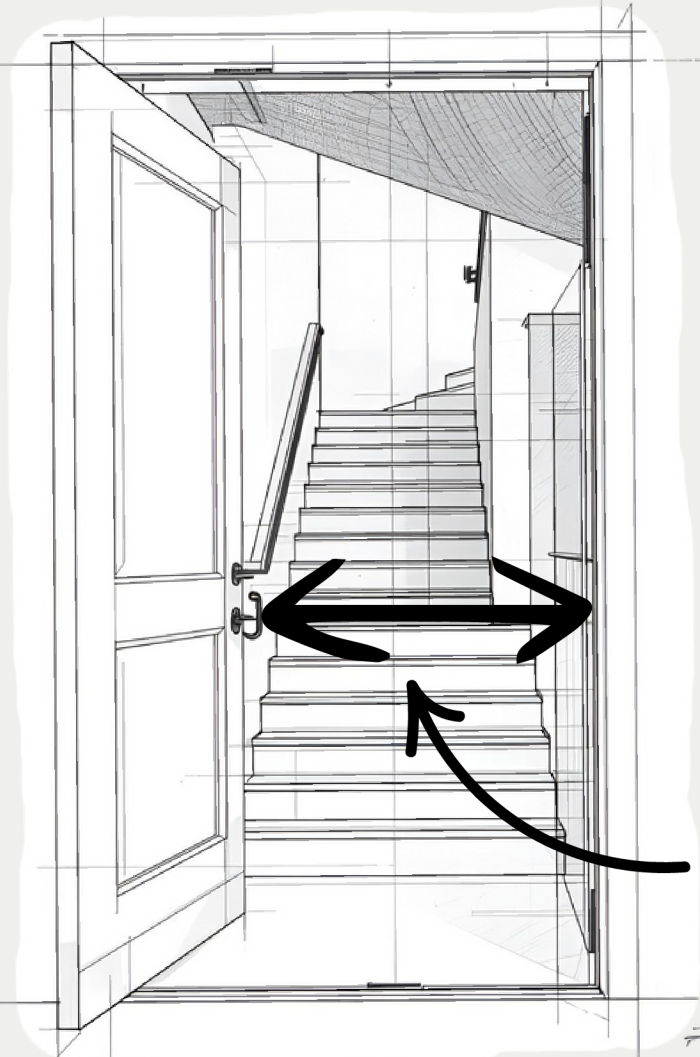
HORIZONTAL ESCAPE CAPACITY EXPLAINED



Any room or floor provided with only one exit is limited to maximum 60 occupants

This is in order to limit the number of people such that everyone is able to escape through the single exit at an early stage of a fire before the exit becomes compromised

Any door opening against the direction of escape is limited to 60 people in order to avoid risk of crushing at the exit



Effective clear width measured between the door stop (frame) and any projecting ironmongery or the door leaf (whichever is less)

Doors should generally not be less than 850mm effective clear width where unassisted wheelchair access is provided (BS 9999)

Approved Document B

Minimum effective door width:	Maximum number of people:
850mm	110
1050mm	220
>1050mm	5mm / person

For doors wider than 1050mm, Approved Document B guidance is based on a notional flow rate of 1.33 persons/m/s allowing 200 occupants per meter opening to pass in 2.5 minutes, equating to 5mm / person.

ADB does not allow for interpolation of these values for door widths less than 1050mm on the basis that anything less than 1050mm in width would still only allow for a single file of people (i.e. does not matter if the door is 850mm or 950mm).



BS 9999

BS 9999 guidance is based on a similar concept to ADB, however, offers more flexibility as it takes into account the type of building and occupancy characteristics through the use of risk profiles.

An office is generally an A2 risk profile (awake and familiar occupants and medium fire growth rate) with an corresponding minimum exit width per person of 3.6mm / person.

Furthermore, if sprinkler protection is provided the risk profile can be amended to A1 to account for the positive impact of sprinklers on the fire growth rate. If automatic fire detection is provided, an additional 15% reduction can be applied to the minimum exit width per person (assuming simultaneous evacuation) to account for a shorter expected pre-movement time, and in effect allow for a longer flow time.

This would result in a final minimum exit width of 2.805mm / person, compared to the 5mm / person of ADB.

Note: Similar to ADB, for door widths less than 1050mm, BS 9999 reduces the amount of people that can be served by the exit by using a nominal width of 500mm for the calculations rather than the actual door width

Example

Context: Multistorey office building provided with sprinklers and automatic fire detection. The building is provided with two storey exits, each measuring 1200mm effective clear width. One of these storey exits is discounted to account for a fire blocking its access, as per guidance.

Approved Document B: $1200 / 5 = 240$ occupants maximum

BS 9999: $1200 / 2.805 = 427$ occupants maximum