

WHAT DOES OCCUPANT LOAD AFFECT?

INTRODUCTION TO OCCUPANT LOADS SERIES BY MEYERFIRE UNIVERSITY | JANUARY 2023

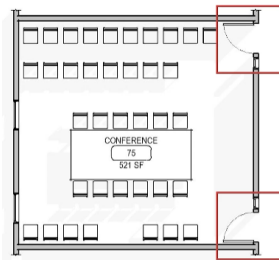
SUMMARY

The Occupant Load for a space or building has many downstream consequences. Some of the major impacts of an Occupant Load are:

- **#1 Number of Exits.** The minimum number of exits per story are determined by the occupant load. Changes to an existing building that result in a higher occupant load could trigger the need for new, additional exits.
- **#2 Number of Exit Access Doors.** Generally, rooms with 50 or more occupants require two exit access doors.
- **#3 Door Swing.** When a space has an occupant load of 50 or more, the doors must swing in the direction of egress.
- **#4 Sprinkler System.** The number of occupants can be used as a threshold for when sprinklers are required. One threshold, as an example, is if there are more than 300 occupants per fire area in an Assembly A-3 occupancy, then a fire sprinkler system would be required by the 2021 IBC.
- **#5 Fire Alarm & Voice Evacuation System.** Like a fire sprinkler requirement, an occupant load can be used as a threshold for when a fire alarm system is required, and also a threshold for when a specific type of fire alarm system is required (an Emergency Voice/Alarm Communication type system). In the IBC, Assembly occupancies with 1,000 occupants or more require these types (EVACS) of fire alarm systems.
- **#6 Number of Required Plumbing Fixtures.** The count of plumbing fixtures is directly tied to the occupant load.
- **#7 Structural & Seismic Design.** Occupant load affects the Seismic Risk Category, which is a major factor that impacts a building's Seismic Design Criteria. For example, an Assembly Occupancy is Risk Category II unless there are 300 or more occupants, when it increases to Risk Category III.
- **#8 Occupancy.** The Occupant Load will affect the Occupancy Categorization for certain spaces. When an area used for gathering is fewer than 50 occupants, it is classified as a Business Occupancy, but with 50 or more occupants it is classified as an Assembly occupancy.



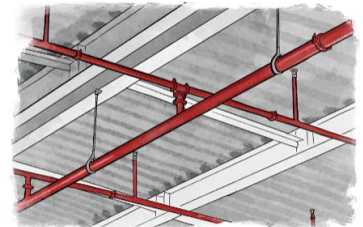
#1 Number of Exits



#2 Number of Exit Access Doors



#3 Direction of Door Swing



#4 Sprinkler System Requirements



#5 Fire Alarm & EVACs Requirements



#6 Number of Plumbing Fixtures



#7 Structural & Seismic Design



#8 Occupancy Type

VIDEO LINK

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