

**MINNEAPOLIS FIRE DEPARTMENT  
FIRE PREVENTION BUREAU POLICY # 10 – 5  
OCCUPANT LOAD CALCULATIONS &  
EXITING REQUIREMENTS BASED ON OCCUPANT LOAD**

Original Issue 6-1985

Last Revision 3 - 6 - 08

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**ISSUE:**

Rooms, portions of buildings and buildings are required to have exiting systems that are sized based on the number of occupants that may use that building or area.

**CODE REQUIREMENTS:**

*The requirements for exits are found in the Minnesota State Building Code (MSBC) and the Minnesota State Fire Code (MSFC).*

**PROBLEM:**

Occupant load requirements are not condensed in the codes and some occupant load issues need clarification.

**ACCEPTABLE MEANS of COMPLIANCE:**

**A. ALL BUILDINGS:**

1. The occupant load (OL) of each room is to be determined based on the floor area (in square feet) and divided by the appropriate factor found in the “Maximum Floor Area Allowance Per Occupant” table (occupant load table) in the MSFC. Permanent fixtures may be deducted from the floor area when allowed by the occupant load table.
2. The number of exits is determined by the occupant load: 1 – 49 OL requires one (1) exit; 50 – 500 OL requires two (2) exits; 501 – 1,000 OL requires three (3) exits; OL of more than 1,000 requires four (4) exits.
3. When two or more exits are required they shall be located remote from each other by at least one half the diagonal distance apart (exception: they may be one third the diagonal distance when the building is protected by a sprinkler system).
4. The minimum width of exits is based on the occupant load divided by the appropriate factor found in the “Egress Width Per Occupant Served” table in the MSFC.
5. Exit doors serving an occupant load of 50 or more shall swing in the direction of exit travel.
6. Exit signs are required when two (2) or more exits exist or where the exit is not obvious. Exit signs are to be lit internally or externally and are to have backup power or be approved self luminous when the occupancy requires 2 or more exits.
7. Exitways and exit stairways are to have emergency lighting when the occupancy requires 2 or more exits.

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**ACCEPTABLE MEANS of COMPLIANCE: (CONT.)**

**B. ASSEMBLY OCCUPANCIES WITH AN OCCUPANT LOAD OF 50 OR MORE**

**Additional Requirements:**

1. **Occupant Load Determination:** The occupant load is determined as outlined in A-1 above and based on the following OL factors:
  - a. Assembly areas without seating (dance floors) = 5 sq. ft \ person.
  - b. Assembly areas with fixed seating = seat count number.
  - c. Assembly areas with chairs = 7 sq. ft.\ person.
  - d. Assembly areas with tables and chairs = 15 sq. ft.\ person.
  - e. Game areas in assembly occupancies = 11 sq. ft. \ person.

The area occupied by permanent fixtures may be deducted from the floor area when figuring occupant load and kitchens, toilets, stages, bar work area, etc. may have those areas calculated at appropriate lower loads.

2. **Posting of Occupant Load Signs:** Each room, area or building that is an assembly occupancy is to have the official, city produced occupant load sign permanently mounted in a conspicuous location near the entrance to that room, area or building. The sign shall be displayed so that it can be easily read without the use of additional lighting or special effort.
3. The number of occupants in any room, area or building is not to exceed the number posted on the occupant load sign.
4. Exit doors serving assembly occupancies are required to open in the direction of travel and are to have panic hardware.
5. A fire alarm system is required in assembly occupancies with an occupant load of 300 or more. (Exception: Buildings protected by an automatic sprinkler system).
6. A fire alarm / voice communication system with an automatically activated pre-recorded message is required in assembly occupancies with occupant loads of 1,000 or more persons.

**C. OCCUPANT LOADS FOR TEMPORARY ASSEMBLY OCCUPANCIES**

The occupant load of a building or space which is to be used temporarily for assembly purposes may be increased with the approval of the MFD provided that the number and width of the exits are adequate for the proposed occupant load and the number of persons does not exceed 5 square feet per person for rooms or areas that are less than 10,000 square feet in area and 7 square feet per person for areas that are 10,000 square feet or greater in area.