

INTRODUCTION:

This bulletin has been developed to provide a general overview of the requirements of the Manitoba Fire Code 2011 (MFC) to determine occupant loads within existing buildings. The MFC is not a design calculation, but a means to determine the maximum number of people that can safely be accommodated in the floor area.

The MFC uses two calculations to determine occupant load in existing buildings. Net floor space to allow people to move to an exit, and exit capacity. The lowest calculated number is the maximum permissible occupant load.

Note: A floor area with only one exit door is limited to an occupant load of 60 Persons per Manitoba Building Code 3.4.2.1 (2) and in compliance with MFC 2.7.1 means of egress.

SOURCE OF INFORMATION:

Office of the Fire Commissioner
Building and Fire Safety Section
OFC 21-001

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508-401 York Avenue Winnipeg Manitoba R3C 0P8 T: (204) 945-3322

F: (204) 948-2089

Toll Free : 1-800-282-8069 (in Manitoba only) Website: www.firecomm.gov.mb.ca



HOW TO CALCULATE THE MAXIMUM OCCUPANT LOAD (CAPACITY) OF YOUR BUSINESS

Applicable MFC Requirements:

2.7.1.3. Occupant Load

- 1) The maximum permissible *occupant load* for any room shall be calculated on the basis of the lesser of:
 - a) 0.4 m² of net floor space per occupant, or
 - b) the *occupant load* for which *means of egress* are provided.
- 2) The number of occupants permitted to enter a room shall not exceed the maximum *occupant load* calculated in conformance with Sentence (1).

Net floor space referred to in Clause (a) is the floor space in a room excluding areas occupied by structural features and fixtures, such as tables, furnishings or equipment and other objects that may be in the floor area. In certain assembly occupancies, where the number and type of furnishings may change according to the nature of the function taking place, it may be appropriate to calculate maximum occupant loads for each of the different functions anticipated.

Calculations:

Total Gross Area of the room: _____ m²

Less:

Aisles, circulation in front of washrooms/bars (1.1 meter aisle width) _____ m² Areas

behind the serving counters, fixtures, displays _____ m²

Structural elements/ or other _____ m²

Music booths, stages, dance floors, storage _____ m²

Tables, etc. _____ m²

“Net Floor Area” ___square meters (m²) *divided by* 0.4 (m²) = _____ Max. Occupancy Load

You then must determine available exit capacity:

This is the total width of cumulative exits available to the occupants that is measured in millimeters.

Total exit width ___(mm) *divided by* _____(the required factor below) = _____ max occupant load

Factors to be used:

- | | | |
|--|---|----------------|
| A. Exits at grade level or with ramps and slope is less than 1:8 | ÷ | 6.1 mm/ person |
| B. Exits served by stairs at any point along egress | ÷ | 8.0 mm/ person |
| C. Exits served by stairs <900 mm in width | ÷ | 9.2 mm/ person |

Example:

Gross Floor Area = 36m x 22m = 792m²

Net Floor Area = 792m² - 320m² = 472m²

472m² ÷ 0.4m² = 1,180

Max Occupant Load = **1,180 people**

Front Entrance Doors (grade level) = 1,625mm Rear Exit Doors (grade level) = 850mm

1625mm + 850mm = 2,475mm

2475mm ÷ 6.1mm = 405.7

Max Occupant Load = **405 people**

Maximum occupant load is based on the lesser of the two calculations and thus for this example Occupant Load is 405 persons.

Depending on the Public Health Order restrictions in place (ie: 25%) the Maximum Occupancy of your business would be 25% the Maximum Occupant Load or 101 persons.

The information provided in this bulletin are basic requirements. Buildings that are more complex may require the assistance of a professional skilled in the interpretation of the building and fire codes.

For further assistance, please contact your local municipal building or fire inspector.

**Find more COVID-19 support and other programs and services
for your business at jointhechamber.ca**