

Information Bulletin

Alternate Solution for Cantilevered Floor Systems Sitting in an Exposing Building Face Requiring a 45-minute Fire-Resistance Rating

All buildings have an exposing building face that must be protected to reduce the potential for a fire to spread from subject building to an adjacent property. This is especially applicable for buildings that are closer to their property lines. The Manitoba Building Code addresses these protective requirements in Spatial Separation. In addition to the prescriptive requirements in the Building Code, The City of Winnipeg recognizes that certain junctions in the exposing building face have not been adequately addressed in the building code. This bulletin is intended to provide several options to address those junctions.

Manitoba Building Code – definition:

Exposing building face means that part of the exterior wall of a *building* that faces one direction and is located between ground level and the ceiling of its top *storey* or, where a *building* is divided into *fire compartments*, the exterior wall of a *fire compartment* faces one direction.

Code Requirements

The construction of an exposing building face (exterior wall) facing a neighbouring property is subject to spatial separation requirements. With respect to exterior walls with a limiting distance less than 1.2 m (4 ft.), the following is required:

- No unprotected openings (glazed openings) allowed, as per MBC Article 9.10.15.4., and
- Exposing building faces (exterior wall) shall have a fire-resistance rating of not less than 45 minutes, as per MBC Article 9.10.15.5.

The intent of MBC Article 9.10.15.5. is as follows:

Intent 1:

To limit the probability that an exposing building face will have insufficient fire resistance, which could lead to the spread of fire from the subject building to an adjacent building during the time required for emergency responders to perform their duties, and which could lead to damage to the adjacent building.

Intent 2:

To limit the probability that an exposing building face will be ignited and contribute to, or be involved in, a fire which could lead to the spread of fire from the subject building to an adjacent building and which could lead to damage to the adjacent building.

Accepted Options for Alternative Solutions

The City of Winnipeg recognizes that challenges exist when proposed assemblies do not meet the prescriptive requirements of the Code. Specifically, at the junction where floor joists are supported on the exterior wall and at cantilevered areas.

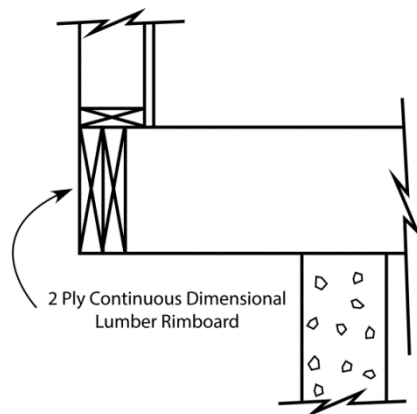
Considering:

1. Cantilever projections into side yards are typically 6 ft. in width by 8 ft. in height, representing a proportionally small area of the building face as a projection into a 4 ft. side yard; and
2. The header joist is not part of the wall assembly but rather, part of an extended floor assembly; and
3. In combination, the intent of life safety provisions is to warn occupants of a fire emergency so that they may exit the building as the primary purpose along with mitigating the spread of fire to adjacent buildings.

The following details are deemed as acceptable options for use and, in the opinion of the City of Winnipeg, are equivalent solutions to the rating requirements of MBC 9.10.3.3.(2).

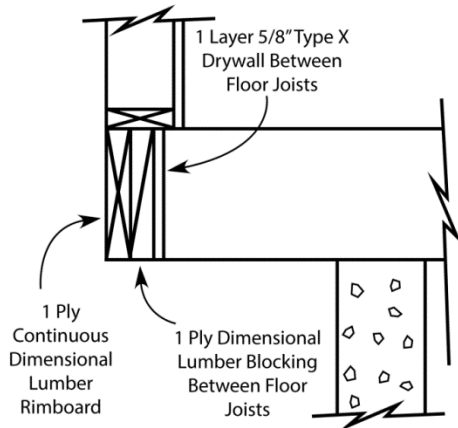
Option 1

2-ply continuous dimensional lumber rimboard.



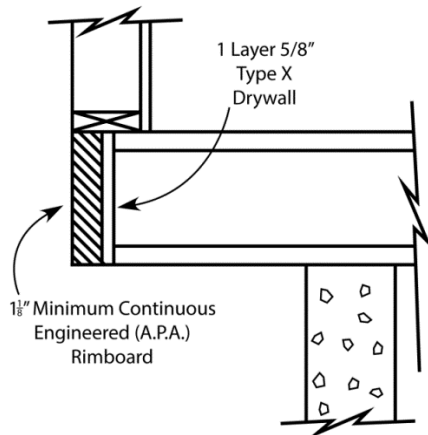
Option 2

1-ply continuous rim board of dimensional lumber, 1-ply dimensional lumber blocking between floor joists, 1 layer of 5/8" Type X* between floor joists on the inside face of the blocking.



Option 3

1-ply 1-1/8" thick minimum continuous engineered (APA**) rim board, 1 layer of 5/8" Type X drywall applied continuous*** or discontinuous**** to the interior face of the rim board.



All other variations and/or proposed assemblies that do not meet the above examples, or do not meet the prescriptive requirements of the Code, must be submitted as an alternative solution and will be reviewed on a case-by-case basis by the Plan Examination and Inspections branches. Please note there is a fee for alternative solution submissions. See the Fee Schedule for more information.

*Type C drywall may be substituted for Type X

**American Plywood Association or any other engineered rim board product tested in accordance with CAN/ULC-S101.

***For continuous protection, the fire-rated drywall shall be continuous along the length of the engineered rim board.

****For discontinuous protection, fire-rated drywall shall be installed on the engineered rim board and between the floor joists with gaps no greater than 1/16".