

## 45 MINUTE FIRE RESISTANCE RATING FOR WALL WITH RIGID INSULATION

### ONTARIO BUILDING CODE

#### 9.10.3.3. Fire Exposure

(2) Exterior walls shall be rated for exposure to fire from inside the building, except that such walls need not comply with temperature rise limits required by the standard tests referred to in Article 9.10.3.1. if such walls have a limiting distance of not less than 1.2 m, and due allowance is made for the effects of heat radiation in accordance with the requirements in part 3.

#### 9.10.15.5. Construction of Exposing Building Face of Houses

(1) Except as provided in sentences (2) to (4) and (6), each exposing building face and any exterior wall located above an exposing building face that encloses an attic or roof space shall be constructed in conformance with Subsection 9.10.8.,

- (a) for the exposing building face as a whole, or
- (b) for any number of separate portions of the exposing building face.

(2) Sentence (1) does not apply where,

- (a) the limiting distance is not less than 1.2 m,
- (b) the limiting distance is less than 1.2 m but not less than 0.6 m, provided that the exposing building face has a fire resistance rating of not less than 45 min, or
- (c) the limiting distance is less than 0.6 m, provided that the exposing building face has a fire resistance rating of not less than 45 min and is clad with non combustible material.

### Supplementary Standard SB-2

#### 2.3.5. Consideration for Various Types of Assemblies

(2) When an exterior wall assembly is required to be rated from the interior side only, such wall assemblies shall have an outer membrane consisting of sheathing and exterior cladding with spaces between the studs filled with insulation

conforming to CAN/ULC-S702, "Mineral Fibre Thermal Insulation for Buildings", and having a mass of not less than 1.22 kg/m<sup>2</sup> of wall surface.

#### OBJECTIVE

Rigid insulation is permitted on the outboard side of the exterior wallboard sheathing for wall assemblies' chosen from SB-2 of the Supplementary Standards (SB-2).

Subsection 2.3.5. of SB-2 requires such exterior wall assemblies to have an outer membrane consisting of rigid sheathing and exterior cladding.

Considerations must be given to wall assemblies where insulated sheathing has low air leakage characteristics and rigid insulation or sheathing material also has characteristics of a vapour barrier, then its location must be chosen carefully to avoid condensation and moisture accumulation due to vapour entrapment.

The wall assembly below was chosen according to SB-2 Zone 1 and has a ratio of outboard to inboard thermal resistance required by Table 9.25.5.2. of the OBC of greater than 0.20 and is therefore acceptable.

