



Permitted Openings In Wall

Fire Separations

The Building Standards Department issues Builder Tips as part of our customer service program. They are designed to provide an improved understanding of the Building Code and to reduce the costs associated with correcting infractions. Please contact your area building inspector for further information or call the Building Standards Department at 905.475.4848 extension 2189

9.10.5.1. Permitted Openings in Wall Membranes

(1) Except as permitted in Sentences (2) and (3), a membrane forming part of an assembly required to have a fire-resistance rating shall not be pierced by openings into the assembly unless the assembly has been tested and rated for such openings.

(2) A wall or ceiling membrane forming part of an assembly required to have a fire-resistance rating is permitted to be pierced by openings for electrical and similar service outlet boxes provided such outlet boxes and the penetrations conform to Article 9.10.9.8.

(2.1) Where boxes referred to in Sentence (2) are located on both sides of walls required to provide a fire-resistance rating, they shall be offset where necessary to maintain the integrity of the fire separation.

(3) A membrane ceiling forming part of an assembly assigned a fire-resistance rating on the basis of Table 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance Tables", is permitted to be pierced by openings leading to ducts within the ceiling space provided the ducts, the amount of openings and their protection conform to Sentence 9.10.13.14.(1) and the requirements in MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

9.10.9. Fire Separations and Smoke-tight Barriers between Rooms and Spaces Within Buildings

9.10.9.1. Application

(1) This Subsection applies to

- (a) fire separations required between rooms and spaces in buildings, and
- (b) smoke-tight barriers required in houses with a secondary suite including their common spaces.



9.10.9.2. Continuous Barrier

- (1) Except as permitted in Article 9.10.9.3., a wall or floor assembly required to be a fire separation shall be constructed as a continuous barrier against the spread of fire and retard the passage of smoke.
- (2) Except as permitted in Article 9.10.9.3. a wall or floor assembly required to be a smoke-tight barrier shall be constructed as a continuous barrier against the spread of smoke. (See Note A-9.10.9.2.(2) and (3)).

9.10.9.6. General Requirements for Penetrations of Fire Separations

(1) Except as required by Sentence (2) and Articles 9.10.9.7. and 9.10.9.8. and as permitted by Article 9.10.9.9., penetrations of a required fire separation or a membrane forming part of an assembly required to be a fire separation shall be

- (a) sealed by a firestop that, when subjected to the fire test method in CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” has an F rating not less than the required fire-resistance rating for the fire separation,
- (b) tightly fitted or cast in place, provide the penetrating item is made of steel, ferrous, copper, concrete or masonry, or
- (c) sealed to maintain the integrity of the fire separation.

(See Note A-9.10.9.6.(1))

(2) Penetrations of a firewall shall be sealed at the penetration by a firestop that, when subjected to the fire test method in CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating for the fire separation.

Note: These go hand in hand with penetrations of fire separations.

- 9.10.9.6. General Requirements for Penetrations of Fire Separations
- 9.10.9.7. Piping Penetrations (See Note 3.1.9.)
- 9.10.9.8. Penetrations by Outlet boxes or Service Equipment in Concealed Spaces
- Penetrations by Raceways, Sprinklers and Fire Dampers



Service equipment such as pipes, ducts, electrical conduit and outlet boxes that penetrate a fire separation must be non-combustible, subject to the following exceptions:

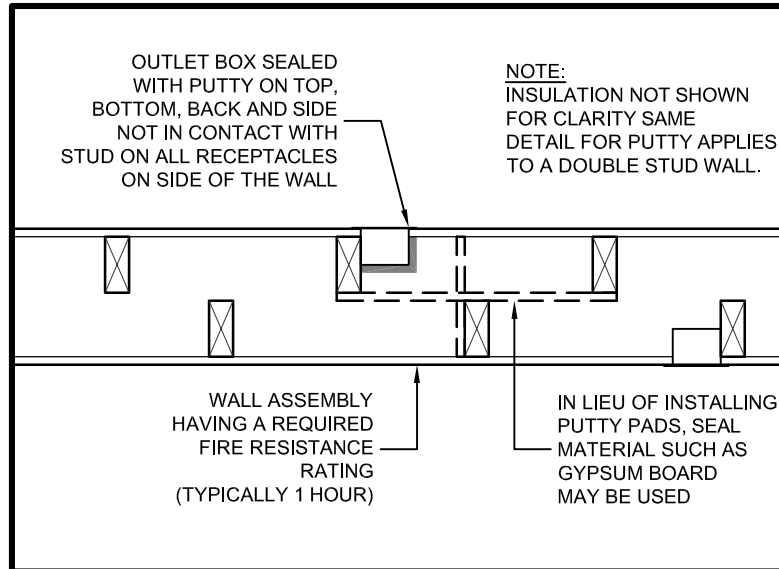
- Combustible service equipment may be installed in fire separations which have been acceptably tested incorporating such equipment.
- Combustible wiring or group of wires not exceeding 25mm in diameter may penetrate a fire separation.
- Wiring in non-combustible conduit may penetrate a fire separation.
- Combustible outlet boxes with a face area not over 160cm² (a 4-gang box) may penetrate a fire separation.
- Combustible water pipes having maximum 30 mm diameters may penetrate a vertical fire separation provided the penetration is firestopped with a firestop system having a 'F' rating equivalent to the rating of the fire separation.

OBJECTIVE

The Building Code permits openings in a wall membrane forming part of a fire rated wall assembly as long as these openings such as electrical outlet boxes are tightly fitted around the membrane providing the fire rating. When the outlet boxes are located in the same stud space they shall be separated by a material such as gypsum board or a tightly fitted membrane such as approved Putty Pads to maintain the integrity of the fire separation of the wall assembly.

Refer to the illustration for details.

- Easily adheres to both metal and plastic outlet boxes and to the wood or metal stud.
- Can be used in residential and commercial applications.
- This product is acoustically rated to maintain the Sound Transmission Rating for the wall assembly according to (ASTM E 90-97) 49.
- Adhesion of this product has been tested to longevity of 30years.
- This product is best used where 2 outlets are in a single stud/cavity wall or 24inch and the outlets are offset from each other.



STAGGERED STUD WALL