



Fire Stopping Of Combustible Piping Penetrations

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

3.1.9.4. Combustible Piping Penetrations

(1) Combustible sprinkler piping is permitted to penetrate a fire separation provided the fire compartments on each side of the fire separation are sprinklered.

(2) Combustible water distribution piping is permitted to penetrate a fire separation that is required to have a fire-resistance rating, provided the piping is protected at the penetration with a firestop in conformance with Clause (4)(a) or (b).

(3) Except as permitted by sentences (4), (5), (7) and (8), combustible piping shall not be used in a drain, waste and vent piping system if any part of that system penetrates

(a) a fire separation required to have a fire resistance rating, or

(b) a membrane that's forms part of an assembly required to have a fire resistance rating.

(4) Combustible drain, waste and vent piping is permitted to penetrate fire separation required to have a fire-resistance rating or membrane that forms part of an assembly required to have a fire-resistance rating, provided

(a) except as provided in Clause (b), the piping is sealed at the penetration by a fire stop that has an F rating not less than the fire-resistance rating required for the fire separation when subjected to the fire test method in CAN/ULCS115, "Standard Method of Fire Tests of Firestop Systems",

(b) in buildings more than 3 storeys in building height, the piping is sealed at the penetration by a firestop that has an F rating not less than the fire-resistance rating required for the fire separation when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestopping Systems," with a pressure differential of 50 Pa (0.007 psi) between the exposed and unexposed sides, with the higher pressure on the exposed side, and



- (c) the piping is not located in a vertical service space.
- (5) Combustible drain, waste and vent piping is permitted on one side of a vertical fire separation provided it is not located in a vertical service space.
- (6) Combustible piping for central vacuum systems is permitted to penetrate a fire separation, provided the installation conforms to the requirements that apply to combustible drain, waste and vent piping specified in Sentence (4).
- (7) Except as provided in Sentence (8), penetrations of a fire separation that incorporate transitions between combustible and noncombustible drain, waste and vent piping shall be sealed by a firestop that has an F rating not less than the fire-resistance rating required for the fire separation when subjected to the fire test method in CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems”, with a pressure differential of 50 Pa (0.007 psi) between the exposed and unexposed sides, with the higher pressure on the exposed side.
- (8) Transitions between vertical noncombustible drain, waste and vent piping and combustible branches for drain, waste and vent piping are permitted on either side of a fire separation, provided they are not located in a vertical service space. (See Note A-3.1.9.4.(8)).
- (9) Combustible piping not more than 24 mm in diameter containing chlorine gas is permitted to penetrate a fire separation between a chlorine gas service room built in conjunction with a public pool or public spa and the remainder of the building, provided the piping is sealed at the penetration by a firestop in conformance with Clause 3.1.9.1.(1)(a).

OBJECTIVES

When combustible piping penetrates a fire separation the melting of the pipe caused by a fire may allow fire and smoke to enter another fire compartment. For this reason, the code requires all service penetrations to be fire stopped. This minimizes the amount of smoke entering another fire compartment. See diagram (C).

A reinforced concrete floor acting as a horizontal fire separation is permitted to be penetrated by a combustible piping and is fire stopped with a fire stop material with an F rating not less than the fire-resistance rating required for the fire separation when subjected to the fire test method of CAN/ULC-S115, “Standard Method of Fire Tests of Fire Stop Systems.



Vertical or horizontal firewall separations similar to parking garages require FT rating not less than the fire-resistance rating for the fire separation. Penetrations of a fire separation that incorporate transitions between combustible and noncombustible drain, waste and vent piping shall be sealed by a firestop that has an F rating not less than the fire-resistance rating required for the fire separation.

Professional consultant will be required to submit a Fire Stop information form listing all fire stop systems for approval prior to commencement of project. Consult your building inspector for a copy of the Fire Stop information form.

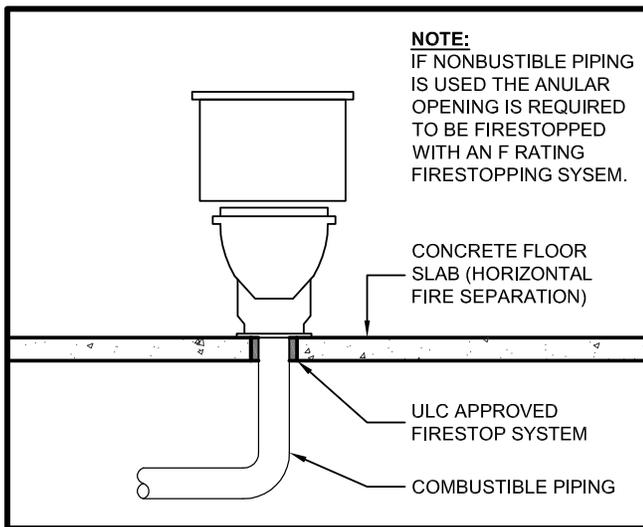


DIAGRAM A

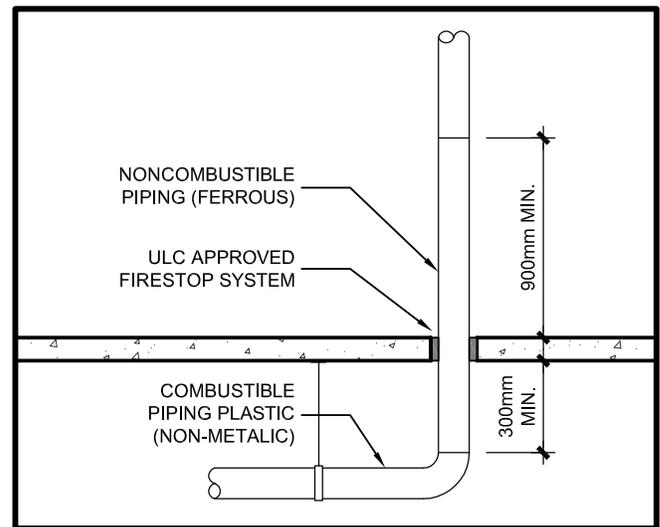


DIAGRAM B

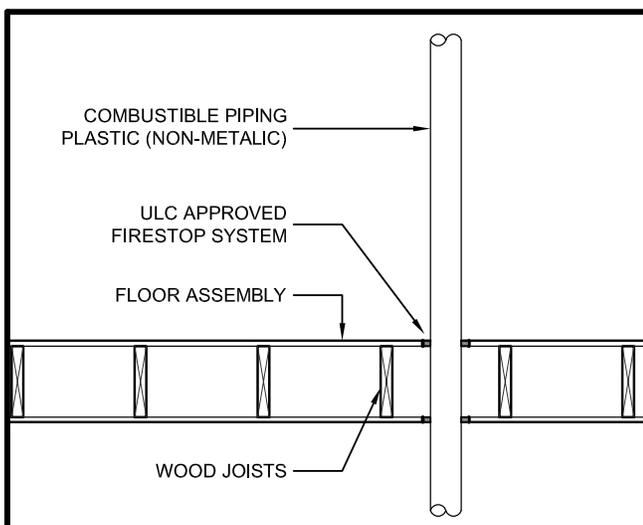


DIAGRAM C