



Combustible Piping Penetration Of 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

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.

(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.

OBJECTIVE

The basic requirement for ensuring that service penetrations do not adversely affect the integrity of a fire separation is that the penetrating item be tightly fitted (e.g., a pipe cast in-place) or sealed with a fire stop system that prevents the passage of flame for the same time period expected of a closure in a fire separation. A specific ULC standard, CAN4-S115-M, is referenced for the performance evaluation of fire stop systems for service penetrations through fire separations.

When non-combustible piping is used, it can be located in a shaft and if it leaves the shaft with a combustible pipe, it shall be firestopped with an F rating firestop system. Refer to the illustration.

