

COMBUSTIBLE PIPING PENETRATION OF FIRE SEPARATIONS

ONTARIO BUILDING CODE

3.1.9.4. Combustible Piping Penetrations

- (1) Except as permitted by sentences (3) to (8), combustible piping shall not be used if any part of the piping 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.
- (2) combustible piping that is part of a system described in sentence (1) shall not be located in a vertical service space.
- (3) Except as provided by sentence (4) to (7), combustible piping is permitted to penetrate a fire separation required to have a fire-resistance rating or is permitted to penetrate a membrane that forms part of an assembly required to have a fire-resistance rating, provided, 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, "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.
- (5) Except as required in sentence (7), combustible piping is permitted to penetrate a vertical or horizontal fire separation, provided the fire compartments on each side of the fire separations are sprinklered and the piping is sealed at the penetration by a fire stop in conformance with Clause 3.1.9.1. (1)(a)

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 below.

