

BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing
AIBC, EGBC, BOABC

File No: 18-0247

INTERPRETATION

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Interpretation Date:	June 27, 2023
Building Code Edition:	BC Building Code 2018
Subject:	Continuity of Vertical Fire Separations in Row Housing
Keywords:	Horizontal service space; Vertical fire separation
Building Code Reference(s):	3.1.8.3.(1), 3.6.4.2.(2)
Question:	<ol style="list-style-type: none">1. In a Part 3 multi-storey row housing with open stairs between floor levels within units, can the vertical fire separations terminate at the underside of a floor assembly that has the same fire-resistance rating as the vertical fire separation?2. Where a membrane ceiling forms part of a horizontal fire separation in a townhouse, can a vertical fire separation terminate at the membrane ceiling?
Interpretation:	<p>1. No.</p> <p>Wood-frame floor assemblies in residential buildings are typically horizontal service spaces because they contain services such as wiring, piping and ducts. Sentence 3.1.8.3.(1) requires a horizontal service space above a vertical fire separation to be divided at the vertical separation by an equivalent fire separation.</p> <p>There is an exception as permitted by Sentence 3.6.4.2.(2). This Sentence allows the vertical fire separation to terminate at the underside of the horizontal service space if the construction between the horizontal space and the area below has the same fire-resistance rating as the vertical fire separation, except that the horizontal separation can have a 30 min fire-resistance rating if the fire-resistance rating of the vertical separation is no more than 45 min.</p> <hr/> <p>Patrick Shek, P.Eng., CP, FEC, Committee Chair</p>
<p>The views expressed are the consensus of the joint committee with members representing AIBC, EGBC and BOABC, which form the BC Building Code Interpretation Committee. The Building and Safety Standards Branch, Province of BC and the City of Vancouver participate in the committee's proceedings with respect to interpretations of the BC Building Code. The purpose of the committee is to encourage uniform province wide interpretation of the BC Building Code. These views should not be considered as the official interpretation of legislated requirements based on the BC Building Code, as final responsibility for an interpretation rests with the local <i>Authority Having Jurisdiction</i>. The views of the joint committee should not be construed as legal advice.</p>	

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In row housing, the only vertical fire separations on most floor levels are the demising walls between suites. If a demising wall terminates on the underside of a floor assembly, the horizontal service space in the floor assembly could potentially extend from one suite into another. However, floor assemblies in multi-storey residential suites require a fire-resistance rating but in most cases they are not required to be fire separations and do not function as fire separations because they are not continuous, due to the open stairs and possibly other openings between floor levels. Because the horizontal assemblies are not fire separations, the vertical fire separations are not permitted to terminate at them.

Note that acceptable fire blocking can provide the continuity of the required vertical fire separations. Refer to Interpretation 18-0055.

2. Yes, if the membrane ceiling is a fire separation with the required fire-resistance rating.

Sentence 3.6.4.2.(2) as referenced in the response to Question 1 allows the vertical fire separation to terminate on the underside of a horizontal fire separation. This could be a membrane ceiling or a horizontal shaft with the required fire-resistance rating. The horizontal assembly must be a fire separation, not just an assembly with a fire-resistance rating.



Patrick Shek, P.Eng., CP, FEC, Committee Chair

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