

BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing
AIBC, APEGBC, BOABC, POABC

File No: 12-0003

INTERPRETATION

Page 1 of 2

Interpretation Date:	March 17, 2015
Building Code Edition:	BC Building Code 2012 (<i>Revised Dec 19, 2014</i>)
Subject:	Continuity of Air and Vapour Barriers at Pot Light Penetrations
Keywords:	Air Barrier; Vapour Barrier
Building Code Reference(s):	9.25.3.; 9.25.4.3.(2); A-9.25.3.1, 9.36.2.10.(7)

Question:

Subsection 9.25.3 Air Barriers and Subsection 9.25.4 Vapour Barriers, require thermally insulated wall, floor and ceiling assemblies to be constructed with air and vapour barriers so as to provide a barrier to leakage of air and diffusion of water vapour from the interior into wall spaces, floor spaces, attic or roof spaces.

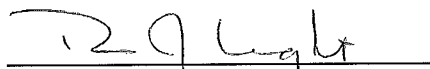
Are pot light assemblies permitted to penetrate the air/vapour barrier located in the floor/ceiling spaces?

Interpretation:

Yes.

In conventional wood frame construction the air barrier and vapour barrier are combined as a single element. The Building Code acknowledges that building services (such as, for electrical, plumbing, mechanical systems) will penetrate the air/vapour barrier. However, the building code requires that penetrations through this membrane for these services (including pot light fixtures) be sealed as air-tight as possible. In order to achieve this, the building code recommends that special care be taken in the design and construction of the wall, floor and ceiling assemblies to maintain the continuity of the air/vapour barrier. The objectives are to limit the quantity of moisture penetrating the assembly to a level that will dry sufficiently fast enough to avoid material deterioration and the growth of mold (refer to A-9.25.3.1.) and to limit energy losses caused by penetrations in the air or vapour barriers.

Similar to other electrical service penetrations there are products available to facilitate sealing the service penetration through the air/vapour barrier. For example, polyethylene boots are available for electrical outlet boxes. The continuity of the air/vapour barrier is achieved by taping the polyethylene boot to the polyethylene sheet used on the wall or ceiling.



R. J. Light, Committee Chair

The views expressed are the consensus of the joint committee with members representing AIBC, APEGBC, BOABC, and POABC, which form the BC Building Code Interpretation Committee. 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 *Authority Having Jurisdiction*. The views of the joint committee should not be construed as legal advice.

BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing
AIBC, APEGBC, BOABC, POABC

File No: 12-0003

INTERPRETATION

Page 2 of 2

Additional caution should be provided to the selection of the appropriate pot light assembly. Pot lights are listed for "insulated ceilings" (IC) and "non-insulated ceilings" (NIC).

IC pot lights typically incorporate the air/vapour barrier into the pot light housing assembly. Some NIC pot lights can use a polyethylene boot to maintain the continuity of the air/vapour barrier for use in insulated ceiling applications.


Care should also be taken to maintain the required clearances between pot lights and adjacent combustible materials. IC pot lights are typically designed for zero clearance to adjacent combustible materials, but NIC pot lights can present a fire hazard if they are in close proximity to adjacent combustible materials. Refer to the pot light manufacturer's installation instructions for guidance.

It should be noted that Article 9.36.2.10. of the December 19, 2014 revisions to the 2012 BCBC has additional requirements for the construction of air barriers.

Sentence 9.36.2.10.(1) requires that materials used for air barriers must comply with CAN/ULC-S741.

Sentence 9.36.2.10.(2) requires that air barriers materials must be compatible with adjoining materials and must be free from holes and cracks.

Provided that the installation of the pot lights meets these requirements by maintaining the continuity of the air barrier, they are permitted to penetrate the air/vapour barrier membrane.



R. J. Light, Committee Chair

The views expressed are the consensus of the joint committee with members representing AIBC, APEGBC, BOABC, and POABC, which form the BC Building Code Interpretation Committee. 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 *Authority Having Jurisdiction*. The views of the joint committee should not be construed as legal advice.