

BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing
AIBC, EGBC, BOABC

File No: 12-0106

INTERPRETATION

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| Interpretation Date: | November 21, 2017 |
| Building Code Edition: | BC Building Code 2012 |
| Subject: | Foamed Plastic Insulation in Exterior Walls |
| Keywords: | foamed plastic insulation, protection, exposing building face |
| Building Code Reference(s): | 3.2.3.8., 3.1.4.2., 3.1.5.5., 3.1.5.12. |

Question:

1. If the maximum permitted area of unprotected openings in Table 3.2.3.7. is not more than 10%, is foamed plastic insulation permitted in such exposing building face?
2. If the maximum permitted area of unprotected openings in Table 3.2.3.7. is more than 10%, but less than 100%, is foamed plastic insulation permitted in such exposing building face?
3. If the maximum permitted area of unprotected openings in Table 3.2.3.7. is 100%, is foamed plastic insulation permitted in such exposing building face?

Interpretation:

1. No

Table 3.2.3.7. requires that the entire exterior wall assembly be constructed with non-combustible construction. There are no exceptions in Articles 3.2.3.7. or 3.2.3.8. that would permit the use of foamed plastic insulation when the maximum permitted area of unprotected openings is not more than 10%. This applies to buildings that are permitted to be combustible construction as well as to buildings that are required to be non-combustible construction.

2. Yes – with conditions

For Buildings not more than 3 storeys in building height

Sentence 3.2.3.8.(1) permits the use of foamed plastic insulation in an exposing building face where the maximum permitted area of unprotected openings is more than 10% in buildings that are not more than 3 storeys in building height. There are no additional requirements to protect the exterior building face.

For buildings that are permitted to be combustible construction, the requirements of Article 3.1.4.2. would apply to protect the interior adjacent spaces from the foamed plastic insulation.



R. J. Light, Committee Chair

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 *Authority Having Jurisdiction*. The views of the joint committee should not be construed as legal advice.

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For buildings that are required to be non-combustible construction, the following conditions apply:

- the requirements of Article 3.1.5.12. would apply to protect the interior adjacent spaces from the foamed plastic insulation, and
- if the foamed plastic insulation is part of the cladding in an “exterior non-loadbearing wall assembly that includes a combustible cladding system”, the requirements of Article 3.1.5.5. would apply to protect the exterior surface of the exposing building face from propagating a fire up the exterior surface of the exterior wall. This includes testing the entire exterior wall assembly to CAN/ULC S134. Note that the building must be sprinklered throughout.

For Buildings more than 3 storeys in building height

Sentence 3.2.3.8.(1) permits the use of foamed plastic insulation in an exposing building face where the maximum permitted area of unprotected openings is more than 10% with the following conditions:

- the foamed plastic must be protected on the exterior surface with any one of the following:
 - concrete or masonry not less than 25 mm thick, or
 - non-combustible material that is tested to remain in place for 15 minutes when tested to CAN/ULC-S101. The testing criteria must also include the requirements of Sentence 3.2.3.8.(2), or
 - a combustible cladding system of an exterior non-loadbearing wall assembly that complies with Article 3.1.5.5., which includes testing of the entire exterior wall assembly to CAN/ULC-S134. Note that the building must be sprinklered throughout.

For buildings that are permitted to be combustible construction, the requirements of Article 3.1.4.2. would also apply to protect the interior adjacent spaces from the foamed plastic insulation.

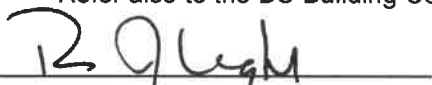
For buildings that are required to be non-combustible construction, the following conditions would also apply:

- the requirements of Article 3.1.5.12. would apply to protect the interior adjacent spaces from the foamed plastic insulation, and
- if the foamed plastic insulation is part of the cladding in an “exterior non-loadbearing wall assembly that includes a combustible cladding system”, the requirements of Article 3.1.5.5. would apply to protect the exterior surface of the exposing building face from propagating a fire up the exterior surface of the exterior wall. This includes testing the entire exterior wall assembly to CAN/ULC S134. Note that the building must be sprinklered throughout.

3. Yes – with conditions

Since Sentence 3.2.3.8.(1) applies to all exposing building faces where the maximum permitted area of unprotected openings is **more than 10%** (including 100% maximum unprotected openings), the conditions described in Item 2 above apply. Note that Table 3.2.3.7. only addresses exposing building faces that are permitted **less than 100%** unprotected openings.

Refer also to the BC Building Code Appeal Board decision BCAB #1683.



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