



# REGIONAL DISTRICT of Fraser-Fort George

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## MEMO

TO: CHBA of Northern BC – Advocacy & Government Relations Committee

DATE: March 7, 2019

SUBJECT: **Thermal Barrier on Exposed Foam Plastics**

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### ISSUE:

It has been recently brought to the Regional District inspectors' attention that there is a section in the 2018 BCBC and spray foam documentation that ALL exposed foam plastics are required to be thermally protected including the rim joists in an unfinished basement.

It has been a requirement to cover all exposed ICF in an unfinished basement for the protection from mechanical damage however it must also be protected against thermal sources. The current practice of covering the ICF with gypsum can continue but it will also require the joint to be taped as per 9.29.5 of the BCBC.

Considering this is a fire/life safety concern, we will be noting the requirements of thermal protection on any plans we receive where it is drawn that an unfinished basement with the use of foam plastics is being used and it is the responsibility of the homeowner/agent if it is not noted.

### 2018 BCBC references:

#### **9.10.17.10. Protection of Foamed Plastics**

(See Note A-3.1.4.2.)

1) Except as provided in Sentences (2) and (3), foamed plastics that form part of a wall or ceiling assembly shall be protected from adjacent space in the *building*, other than adjacent concealed spaces within *attic or roof spaces, crawl spaces, wall assemblies and ceiling assemblies*

- a) by one of the interior finishes described in Subsections 9.29.4. to 9.29.9.,
- b) provided the *building* does not contain a Group C *major occupancy*, by sheet metal that
  - i) is mechanically fastened to the supporting assembly independent of the insulation,
  - ii) is not less than 0.38 mm thick, and
  - iii) has a melting point not less than 650°C, or
- c) by any thermal barrier that meets the requirements of Sentence 3.1.5.15.(2).

(See Note A-3.1.4.2.(1)(c).)

- Interior finishes as described in 9.10.17.10(1)(a). Read them in full to get complete details.
  - 9.29.4. Plastering**
  - 9.29.5. Gypsum Board Finish (Taped Joints)**
  - 9.29.6. Plywood Finish**
  - 9.29.7. Hardboard Finish**
  - 9.29.8. Insulating Fibreboard Finish**
  - 9.29.9. Particleboard, OSB or Waferboard Finish**
- Group C major occupancy described in 9.10.17.10(1)(b) is residential so this does not apply to unfinished basements in a house.

### 3.1.5.15. Foamed Plastic Insulation

(See Notes A-3.1.4.2. and A-3.1.4.2.(1).)

- 1) Foamed plastic insulation is permitted to be installed above roof decks, outside of *foundation* walls below ground level, and beneath concrete slabs-on-ground of a *building* required to be of *noncombustible construction*.
- 2) Except as provided in Sentences (3) and (4), foamed plastic insulation with a *flame-spread rating* not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier consisting of
  - a) not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
  - b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
  - c) masonry,
  - d) concrete, or

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Division B

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Division B: Acceptable Solutions

Part 3 – Fire Protection, Occupant Safety and Accessibility

- e) any thermal barrier that meets the requirements of classification B when tested in conformance with CAN/ULC-S124, “Test for the Evaluation of Protective Coverings for Foamed Plastic.”

CUFCA has a commentary published on the following link which addresses intumescent paints that have passed the required CAN/ULC S124 as specified in 3.1.5.15(2)(e). <https://www.cufca.ca/commentary2.php>

Appendix Note:

**A-3.1.4.2. Protection of Penetrations.** Where foamed plastics are required to be protected from adjacent spaces within a building, the protection should be continuous so as to cover the foamed plastics so they are not exposed to the interior of the building. However, minor penetrations of the protective covering by small electrical and mechanical components, such as electrical outlets and fixtures, sprinkler piping, and mechanical vents, are acceptable because the penetrant and associated fittings and seals will prevent the small amount of foamed plastic surrounding the penetration from being exposed to the interior of the building.

Foamed plastics that are penetrated by larger components or assemblies, such as windows, are unlikely to be exposed to the interior of the building as they are protected by associated framing and finishes and/or the installation of a closure.

Small amounts of foamed plastics, such as air sealants used between major components of exterior wall construction, are not required to be protected (see Sentence 3.1.5.2.(1)).

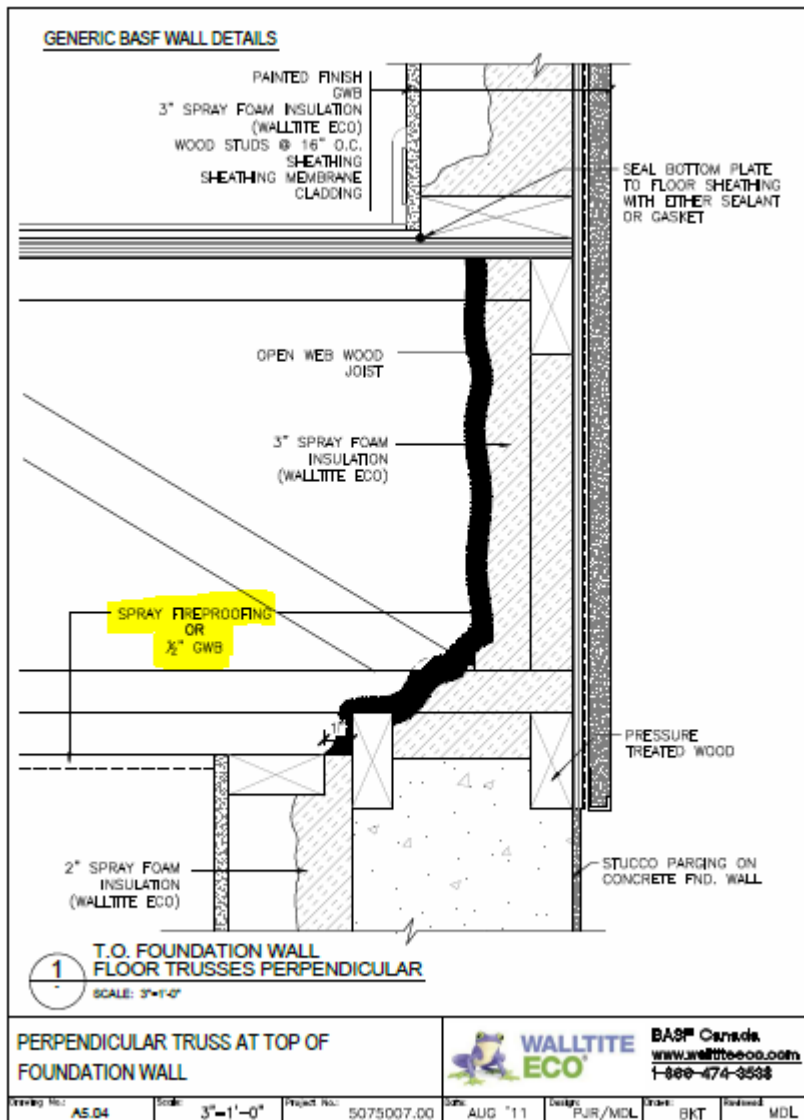
Penetrations of a fire separation or of a membrane forming part of an assembly required to have a fire-resistance rating are nevertheless required to be provided with a fire stop in accordance with Subsection 3.1.9.

#### **Foam Plastic Specifications:**

Genyk specifications for Thermal Green says in their document that “Like all spray foam products, “THERMAL GREEN” is combustible. An approved thermal barrier must be installed in accordance with applicable building codes”.

Polar Foam says in their document that “It is recommended that the foam be covered with an approved thermal barrier in accordance to the local and national building codes when used in buildings and a protective coating when used outside.”

BASF Walltite states in their documentation that “Foamed plastics used in walls and ceilings must be protected in conformance with the requirements of Article 9.10.17.10” and provides the following diagram:



Owens Corning – Foamular (rigid insulation) states in their documentation “Interior protection: When used in buildings for human occupancy, FOAMULAR® insulation must be protected by a minimum 1/2" (12.7mm) thick gypsum board, or approved equal, covering surfaces exposed after installation.”