


BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing
AIBC, EGBC, BOABC

File No: 18-0130

INTERPRETATION

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Interpretation Date:	July 20, 2021
Building Code Edition:	BC Building Code 2018, Book II: Plumbing Systems (BCPC)
Subject:	Expansion Joint Requirements for Dry Vents
Keywords:	Expansion Joints, Building Shrinkage, Structural Settlement, Expansion / Contraction of DWV Piping
Building Code Reference(s):	2.3.3.9.(1), Note A-2.3.3.9.(1), Figure A-2.3.3.9.
Question:	<p>Are expansion joints required on dry vent piping systems or can the requirements of Sentence 2.3.3.9.(1) be satisfied by other means?</p>
Interpretation:	<p>Sentence 2.3.3.9.(1) states that "The design and installation of every piping system shall include means to accommodate expansion and contraction caused by temperature changes, movement of the soil, building shrinkage or structural settlement."</p> <p>This above Sentence is very broad and the requirements would vary depending on a number of factors such as; piping materials chosen, design of the piping system and the specific installation of the system. However, these requirements clearly apply to all piping in a drain, waste and vent (DWV) system.</p> <p>As stated in Note A-2.3.3.9.(1), expansion joints are one way to comply with the requirements of the above noted Sentence. Another consideration is the piping material chosen. As an example, Figure A-2.3.3.9. shows that cast iron pipe has a much lower linear expansion rate in comparison to ABS pipe.</p> <p>Building shrinkage and settlement is another important consideration to alleviate undue stress on the DWV system (including vents). For example, if a dry vent is installed in such a manner that the roof sheathing rests on the pipe in the attic, or a hole is drilled through a floor joist without sufficient space to allow for structural settlement, expansion joints may provide the best means to comply with the requirements of Sentence 2.3.3.9.(1).</p> <p>See attached POABC Interpretation #3072 for further guidance in regard to the installation of expansion joints.</p> <p></p> <hr/> <p>Patrick Shek, P.Eng., CP, FEC, Committee Chair</p>

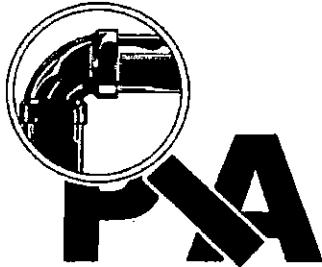
The views expressed are the consensus of the joint committee with members representing AIBC, EGBC and BOABC, which form the BC Building Code Interpretation Committee. The Building and Safety Standards Branch, Province of BC and the City of Vancouver participate in the committee's proceedings with respect 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 *Authority Having Jurisdiction*. The views of the joint committee should not be construed as legal advice.



POABC INTERPRETATION

PLUMBING OFFICIALS' ASSOCIATION OF B.C.

Manual Reference Section: 3	1998 Code Reference:			
Date: December 2, 2004	Sentence 7.3.3.10.			
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Questions: Although the 1998 BC Building Code – Part 7 Plumbing Services contains requirements for consideration of expansion and contraction of piping systems in buildings, there are no example drawings how this may be provided for in DWV systems. Can POABC provide suggested methods of how expansion joints and anchors may be installed?				
Interpretation: Sentence 7.3.3.10.(1) states “The design and installation of every piping system shall, where necessary, include means to accommodate expansion and contraction of the piping system caused by temperature change or the movement of the soil, and building shrinkage.” Although the appendix is referenced, no illustrative examples are provided. The appendix of the 1992 edition of the BC Building Code – Part 7 Plumbing Services did contain some illustrative examples of expansion joint installations in DWV systems. It is recommended that those previous illustrative examples combined with manufacturer's installation instructions (if available) be used as a general guide to expansion joint installations. (See Drawing - Page 2)				
Approved:	VIPCC	November 4, 2004 J.S.	LMPCC	December 2, 2004 G.J.

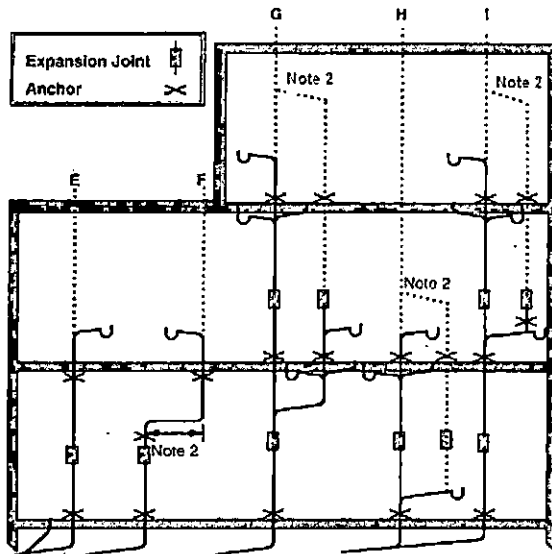
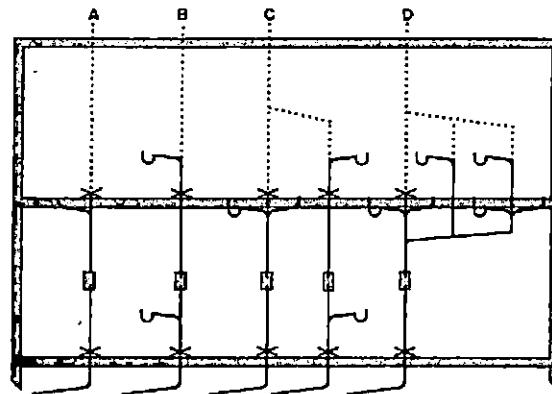


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TYPICAL INSTALLATIONS SHOWING WHERE EXPANSION JOINTS AND ANCHORS ARE REQUIRED WITH PLASTIC DWV PIPING.

1. Expansion joints to be installed in accordance with manufacturer's guidelines.
2. Where a horizontal offset of more than 1.2 m for 2" pipe or less and of more than 2.6 m for sizes more than 2" is built into the waste or vent piping and providing the minimum grade is increased, the expansion joint and the anchor below the offset may be dispensed with.
3. Provision must be made for adequate clearances to framing components to prevent damage to the piping system as a result of stress.

Approved: VIPCC

November 4, 2004 J.S.

LMPCC

December 2, 2004 G.J.