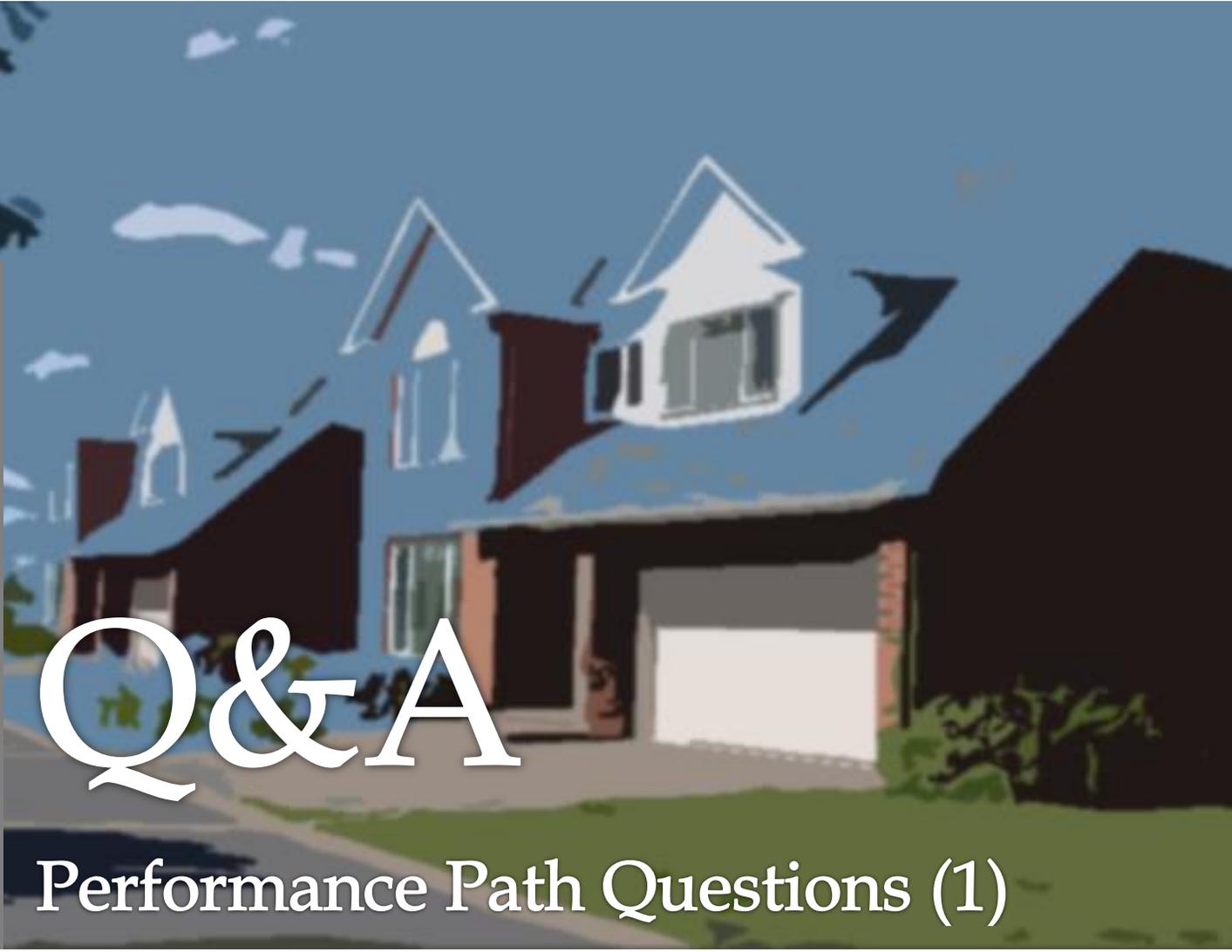


Energy Codes

ABC 2014 Section 9.36.



Q&A

Performance Path Questions (1)



ABC 2014 Division B Subsection 9.36.5.

Q1

Do I need to be an Energy Advisor (EA) to perform modelling under the performance path of Subsection 9.36.5. ?

No, although it is strongly recommended that you hire an EA if you don't have a construction background related to building envelope, mechanical and plumbing systems.

Q2

When inputting window/door area for modelling, should I use the actual window/door area or the rough-in opening area?

The area of the rough-in opening shall be used to account for less RSI-value around an actual window/door area.

Q3

How do I model an exterior door containing a glass insert?

"Guidelines for Using Hot 2000" provide a method for modelling doors containing glass inserts that excludes framing around openings. One may also input the overall RSI-value provided by the manufacturer (the disadvantage of this method is that it ignores the solar heat gain coefficient). Modelling the manufacturer's overall RSI-value may change the glazing percentage in the report.

Q4

In the modelling report, the wall between the house and the attached garage is reported as RSI 2.83, while the drawings and actual construction list it as RSI 2.67. Is there an error in the report?

No, there are no errors. HOT2000 (Modelling Software) accounts for the buffering effect and allows a reduction of RSI 0.16 for an enclosed unconditioned space; also see EnerGuide rating System NBC 9.36 Performance Path Guide.

Q5

I am inspecting the basement walls of a new house for energy efficiency compliance. Both the drawings and modelling report show 2x6 Studs with RSI 3.52 (R-20) batt insulation; however, the actual construction is 2x8 Studs with RSI 3.52 (R-20) insulation. Is this acceptable?

Although the construction needs to match the drawings and the modelling report, the insulation value of 2x8 Studs is better than that of 2x6 studs, and is therefore acceptable. Revised drawings are required to reflect the actual construction.

Q6

I am inspecting the framing of a new house for energy efficiency compliance. Both the drawings and modelling report show 3/8" OSB; however, the actual construction shows 5/8". Is this acceptable?

Although the construction needs to match the drawings and modelling report, the insulation value of 5/8" OSB is better than that of 3/8" OSB, and is therefore acceptable. Revised drawings are required to reflect the actual construction.

Q7

Are there other options for calculating the RSI-values that are to be used in the model?

"Tables for Calculating Effective Thermal Resistance of Opaque Assemblies - Energy Star for New Homes" is an acceptable document that can be used to input the RSI-values in the model, see Appendix A-9.36.2.

Q8

The prescriptive path (Article 9.36.2.5.) requires continuous insulation for building envelope assemblies. Is continuous insulation required for assemblies when choosing the Performance Path?

Yes, the reason for requiring continuous insulation across entire assemblies is to ensure that the required assemblies perform consistently. These requirements reflect assumptions made when considering the performance path, also see sentence 9.36.5.10.(2) that allows for some exemptions in relation to thermal characteristics calculations.

Q9

What efficiency rating (AFUE) is required to be used for the HVAC equipment in the reference house if the equipment for the proposed house is not addressed in Table 9.36.3.10.?

Where the HVAC equipment for the proposed house is not addressed in Table 9.36.3.10., the performance of the equipment in the reference house shall be modeled as a gas warm-air furnace with a minimum performance rating of 92% annual fuel utilization efficiency (AFUE).

Q10

How do I calculate the effective thermal resistance of tall walls?

Tall walls are designed by a registered professional; therefore the framing percentage is known. If the actual areas of framing and cavities are known, those percentages should be used rather than the ones in Table A-9.36.2.4.(1)A.

Q11

When calculating the RSI values for spray foam insulation, which RSI value should I use: the Initial Thermal Resistance (ITR) or the Long Term thermal Resistance (LTTR)?

Use the LTTR. See Note (6) of Table A-9.36.2.4.(1)D, in Appendix A.

CONTACT YOUR LOCAL AUTHORITY HAVING JURISDICTION:

Always contact the local authority having jurisdiction prior to any construction activity to ensure your project complies with codes and regulations under the Safety Codes Act and local bylaws.

Local authority and Permit Information may be accessed at:

<http://www.municipalaffairs.alberta.ca/permits>

ALBERTA MUNICIPAL AFFAIRS CONTACT INFORMATION:

Public Safety Division

Phone: 1-866-421-6929 (local callers must dial the 1-866)

780-644-1010 (outside of Canada)

Fax: 780-427-8686

E-mail: safety.services@gov.ab.ca

