

**INTERPRETATION IC 90.1-2019-13 OF
ANSI/ASHRAE/IES STANDARD 90.1-2019
Energy Standard for Buildings Except Low-Rise Residential Buildings**

Date Approved: 10/7/2023

Request from: Aaron McEwin, Jordan & Skala Engineers, Inc., 6201 West Plano Pkwy, Suite 250, Plano, TX 75093.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IES Standard 90.1-2019, Section 5.4.1, regarding insulation and Section 11.2(a) and Appendix G, G1.2.1(a).

Background: We have a project located in climate zone 3A. Beginning in ASHRAE 90.1-2013 in climate zone 3 a requirement for R-10ci insulation is listed for slab-on grade unheated. In both energy modeling methods under the applicable relating to sections it states “The proposed building design shall comply with all the following:

a. Section 5.2.1...”

Section 5.2.1 states “The building envelope shall comply with Section 5.1, Section 5.4...and other sections of Section 5.

Section 5.4.1 under mandatory provisions states “Where insulation is required in Section 5.5 or Section 5.6, it shall comply with requirements found in Section 5.8.1.

Interpretation No. 1: Using an energy model compliance path (Section 11 or Appendix G), if the energy model is showing the Proposed Design building is compliant without a section of the building envelope having insulation, a building is deemed to meet Section 5.4.1.

Question No. 1: Is this interpretation correct?

Answer No. 1: No

Comments No. 1: The use of either of the compliance paths in Section 11 or Appendix G requires compliance with Section 5.2.1 which in turn still requires compliance with the mandatory provisions including Section 5.4.1. However, nothing in Section 5.4.1 sets a minimum requirement for amount of insulation for each individual part of the building envelope, just that insulation that is included must meet the product information and installation requirements of Section 5.8.1 (e.g. labeling, installation, insulation protection, documentation). This would not apply to sections of the building envelope not having insulation.

Interpretation No. 2: Based on an allowance to meet Section 5.6 using Building Envelope Trade-off Compliance Path, a building can completely omit slab insulation if a project is showing an improved efficiency above the standard reference building.

Question No. 2: Is this interpretation correct?

Answer No. 2: Yes

Comments No. 2: The proposed design may include different levels of insulation (higher, lower, or none) as long as the *proposed envelope performance factor* is less than or equal to the *base envelope performance factor* calculated in accordance with Section 5.6 and Appendix C.

Interpretation No. 3: A project design can use less insulation than prescribed in Section 5.5 by meeting Section 5.6 Envelope Trade-off Compliance Path.

Question No. 3: Is this interpretation correct?

Answer No. 3: Yes

Comments No. 3: As specified in Section 5.2.2, the *building envelope* shall comply with either Section 5.5 or Section 5.6, but is not required to comply with both. The prescriptive insulation requirements in Section 5.5 are used in calculation of the *base envelope performance factor* in Section 5.6, but the proposed design may include different levels of insulation (higher or lower) as long as the *proposed envelope performance factor* is less than or equal to the *base envelope performance factor*.