



DEPARTMENT OF ADMINISTRATIVE SERVICES

PROPOSED CHANGE OF THE CONNECTICUT STATE
BUILDING CODE AND FIRE SAFETY CODE

DATE SUBMITTED: _____

CODE INFORMATION

Proposed change to: ☐ Building Code ☐ Fire Safety Code

Code section(s): _____

PROPONENT INFORMATION

Name: _____ Representing: _____

Telephone: _____ Email: _____

Address: _____
Street Address Town State Zip Code

PROPOSAL INFORMATION

Description of change and reason for change (attach additional information as needed):

Proposed text change, addition or deletion (attach additional information as needed):

Supporting data and documents (attach additional information as needed)

☐ **This Proposal is original material.** (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought or research and, to the best of his/her knowledge, is not copied from another source.)

☐ **This Comment is not original material, its source (if known) is as follows:** (such as material / code development proposal from a prior development cycle or proposal submitted to model code committee etc.)

☐ **I would like to make an in-person presentation of my proposal.**

Release

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Proponent's Signature

Printed Name

PLEASE EMAIL (PREFERRED) TO DAS.CodesStandards@CT.GOV OR MAIL OR FAX (SEE BELOW)

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12/29/16

ATTACHMENT

2024 IECC Option for ACI-TMS 122.2

CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY

SECTION R402 BUILDING ENVELOPE REQUIREMENTS

Section R402.1 **Add Exception** as follows:

R402.1 General. The *building thermal envelope* shall comply with the requirements of one of the following:

1. Sections R402.1.1 through R402.1.4 and Section R402.1.6.
2. Sections R402.1.1, R402.1.5 and R402.1.6.

Exceptions:

1. The following low-energy *buildings*, or portions thereof, separated from the remainder of the building by *building thermal envelope* assemblies complying with this section shall be exempt from the *building thermal envelope* provisions of **Section R402**.
 - 1.1. Those with a peak design rate of energy usage less than $3.4 \text{ Btu/h} \times \text{ft}^2$ (10.7 W/m^2) or 1.0 watt/ft^2 of floor area for space-conditioning purposes.
 - 1.2. Those that do not contain *conditioned space*.
2. Log homes designed in accordance with **ICC 400**.
3. Concrete or masonry components of the building envelope designed in accordance with ACI/TMS 122.2.

Add new referenced standard to Chapter 6 [CE] of IECC as follows:

ACI/TMS American Concrete Institute 38800 Country Club Drive Farmington Hills, MI 48331 The Masonry Society 105 South Sunset Street, Suite Q Longmont, CO 80501		
Standard reference number	Title	Referenced in code section number
<u>ACI-TMS Code 122.2-24</u>	<u><i>Thermal Properties of Concrete and Masonry for Use in Determining Energy Code Compliance for Low-Rise Residential Buildings – Code Requirements and Commentary Except for Low-Rise Residential Buildings.</i></u>	<u>R402.1</u>

Reason: This proposal brings the ACI-TMS 122.2 code requirements for determining compliance with the envelope thermal resistance requirements of the residential buildings as required by the IECC. It includes provisions for determining compliance of assemblies in new buildings, additions to buildings, and alternation to assemblies including: 1) above and below grade walls constructed using concrete or masonry and 2) concrete floors above unconditioned space and slab-on-ground floors.

ACI-TMS CODE 122.2-24 was written by a joint committee of the American Concrete Institute (ACI) and The Masonry Society (TMS) using ACI's consensus process including a public comment period and numerous committee ballots at each stage of the process. ACI is an American National Standards Institute accredited standards development organization. ACI and TMS are not trade associations, but professional societies. The professionals serving on ACI/TMS committees identified the need to have consistent methods for determining the thermal properties of concrete and masonry construction. The new standard reflects the professional leadership in advancing technology related to the thermal performance of concrete and masonry buildings by requiring compliance using the appropriate methods as recommended in the ASHRAE Handbook of Fundamentals (series, parallel path, thermal iso-planes and modified thermal iso-planes). Further, the standard provides pre-calculated thermal properties for a multitude of concrete and masonry assemblies for use in compliance with energy codes and standards and to have accurate inputs when computer models are used, such as ResCheck and Energy Plus.

Benefits – This standard provides constructable options that are easy to understand and implement. The 2024 IECC currently does not specifically address the determination of thermal properties for energy code compliance for residential buildings having concrete or masonry walls or masonry veneer.

Additional benefits are:

- Assist the State of Connecticut and its local jurisdictions in reaching goals for improved residential building energy efficiency.
- Provide designers with a methodology for addressing the requirements of energy codes and standards for residential buildings having concrete and masonry veneer.
- Provides building code officials with a means to evaluate designs.

Financial Impact – Use of the code will not incur additional expenses for residential construction but helps to ensure the consistent and most appropriate methods are used for determining compliance where building assemblies are constructed using concrete or masonry. More energy efficient residential buildings will ultimately reduce energy costs, decrease greenhouse gas emission and reliance on fossil fuels, and manage energy demand.