



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 122.3

CHAPTER 4 [CE] COMMERCIAL ENERGY EFFICIENCY

SECTION C402 BUILDING ENVELOPE REQUIREMENTS

Section C402.1 **Add additional item to Section 402.1** as follows and renumber as appropriate:

C402.1 General. *Building thermal envelope* assemblies for buildings that are intended to comply with the code on a prescriptive basis in accordance with the compliance path described in Item 1 of Section C401.2.1 shall comply with the following:

1. The opaque portions of the *building thermal envelope* shall comply with the specific insulation requirements of Section C402.2 and the thermal requirements of Section C402.1.2, C402.1.3 or C 402.1.4. Where the total area of through penetrations of mechanical equipment is greater than 1 percent of the opaque *above-grade wall* area, the *building thermal envelope* shall comply with Section C402.1.2.1.8.
2. Wall solar reflectance and thermal *emittance* shall comply with section C402.3.
3. Roof solar reflectance and thermal *emittance* shall comply with Section C402.4.
4. *Fenestration* in the *building thermal envelope* shall comply with Section C402.5. Where *buildings* have a vertical *fenestration* area or skylight area greater than that allowed in Section C402.5, the *building* and *building thermal envelope* shall comply with Item 2 of Section C401.2.1, C401.2.2 or C402.1.4.
5. *Air leakage* of *building thermal envelope* shall comply with Section C402.6.
6. *Thermal bridges* in *above-grade walls* shall comply with Section C402.7.
7. *Walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers* shall comply with Section C403.12.

Y. Concrete and masonry assemblies used as elements of the building envelope shall be permitted to comply with ACI/TMS 122.3.

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 122.3-24</u>	<u><i>Thermal Properties of Concrete and Masonry for Use in Determining Energy Code Compliance Except for Low-Rise Residential Buildings.</i></u>	C402.1

Reason: This code change proposal brings ACI-TMS CODE 122.3 into the IECC. ACI-TMS CODE 122.3-24 provides the necessary information to appropriately determine the thermal performance of a multitude of concrete and masonry systems. Additionally, it expands upon ASHRAE 90.1 and provides data and methods to determine the properties of concrete and masonry for use in computer modelling, including but not limited to DOE 2, EnergyPlus and ComCheck.

ACI-TMS CODE 122.3-24 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. This new standard reflects the professional leadership in advancing technology related to the thermal performance of concrete and masonry buildings by mitigating heat transfer through balconies, shelf angles, parapets, and other thermal anomalies penetrating insulation layers in the building envelope. They provide for the detailed information necessary for determining the thermal performance of a multitude of concrete and masonry systems.

Benefits – This standard provides constructable options that are easy to understand and implement. The 2024 IECC currently do 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 commercial building energy efficiency.
- Provide designers with a methodology for addressing the requirements of energy codes and standards for commercial 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 in commercial building design and 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 commercial buildings will ultimately reduce energy costs, decrease greenhouse gas emission and reliance on fossil fuels, and manage energy demand.