



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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Affirmative Action/Equal Opportunity Employer*

12/29/16



October 3, 2024

Department of Administrative Services
Office of the State Building Inspector
450 Columbus Boulevard, Suite 1303
Hartford, CT 06103

Subject: Support for Proposed Changes to 2024 IECC Section C402.1 & Chapter 6; 2022 ASHRAE 90.1 Section 5 & 5.4

Dear Codes Amendment Subcommittee:

We write in support of two proposals submitted by the American Concrete Institute (ACI) to reference ACI-TMS Codes 122.1 and 122.3.

The National Ready Mixed Concrete Association (NRMCA) represents ten active member companies headquartered in Connecticut. These firms engage in ready mixed concrete production and construction, including producers, software developers, and concrete contractors. Our members are industry leaders, delivering superior ready-mixed concrete and exceptional support services. They drive innovation and maintain the highest standards in production and application, ensuring project success.

Beyond the construction sector, our members significantly contribute to Connecticut's economy. They create jobs and stimulate growth in related industries, both directly and indirectly.

ACI-TMS Code 122.1 provides thermal bridging mitigation requirements specific to buildings with concrete and masonry envelopes. It addresses heat transfer requirements through slab edges, shelf angles, and parapets. ACI-TMS Code 122.3 offers methods to accurately determine the thermal performance of concrete/masonry systems and their properties for computer modeling.

These standards present constructable options that are easily understood and implemented by design professionals. They will aid code officials in evaluating designs and assist Connecticut in achieving its goals for improved commercial and residential building energy efficiency.

NRMCA has reviewed ACI's code change proposals and respectfully requests their approval.

We appreciate your consideration of this recommendation.

Sincerely,

A handwritten signature in black ink that reads "Darryl Dixon".

Darryl Dixon, Assoc. AIA
Director, Energy Codes and Standards

ATTACHMENT

2024 IECC Option for ACI-TMS 122.1

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.

X. Thermal bridges in or formed by concrete or masonry construction shall be permitted to comply with ACI/TMS 122.1.

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 122.1-21</u>	<u><i>Thermal Bridge Mitigation for Buildings Having Concrete and Masonry Walls and Masonry Veneer – Code Requirements and Commentary</i></u>	<u>C402.1</u>

Reason: This proposal to the IECC brings ACI-TMS CODE 122.1 on thermal bridge mitigation requirements for determining code compliance using a multitude of systems, materials, and configurations, into the IECC as an alternate path. It includes requirements at slab edges, for parapets, and for shelf angles.

ACI-TMS CODE 122.1-21 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 minimum requirements to mitigate thermal bridges that are unique to thermal mass construction and are easy to understand. 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. It provides 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. It is aligned with the 2024 IECC and includes modifications that better account for the benefits of thermal mass construction regarding the effects of thermal bridges.

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 thermal bridge mitigation for 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 provides an alternative method of compliance for addressing thermal bridge mitigation for buildings having concrete and masonry veneer. More energy efficient commercial buildings will ultimately reduce energy costs, decrease greenhouse gas emission and reliance on fossil fuels, and manage energy demand.