



GOVERNMENT OF THE DISTRICT OF COLUMBIA
CONSTRUCTION CODES COORDINATING BOARD
c/o DCRA- 1100 4th Street SW, Washington, DC 20024

CODE CHANGE PROPOSAL FORM

PAGE 1 of 3

CODE: Energy Conservation Code SECTION NO. C402 SUBCOMMITTEE AMENDMENT NO. ECC-B-4 [CE]-1-13

PROPOSING SUBCOMMITTEE: Building TAG CHAIR: Sabbakhan PHONE: (202) 442-4542 E-mail: rabbiah.sabbakhan@dc.gov

DATES OF PROPOSAL: 5/2/12 CCCB PRESENTATION: 6.08.12 CCCB APPROVAL: 6.25.2012

5.2.12 – Referred to the Energy TAG
6.4.12 – Adopted by the Energy TAG and Referred to CCCB

CHECK ONE *Revise section to read as follows:* *Delete section and substitute the following:*
 Add new section to read as follows: *Delete section without substitution.*

TYPE ALL TEXT IN 12-POINT TIMES NEW ROMAN FONT
~~LINE THROUGH TEXT TO BE DELETED~~ (highlight text, under Format, click font and check strikethrough)
UNDERLINE TEXT TO BE ADDED

See attached page.

Use additional sheets of the form, if necessary.
Anticipated impact of code change on cost of construction (CHECK ONE)
 Increase *Decrease* *Negligible* *Unknown*

Per 1,000 SF single-family dwelling to
Per 1,000SF of commercial building to

JUSTIFICATION OF CHANGE:
Please reference one or more of the criteria required
 To address a critical life/safety, health, general welfare need.
 To address a specific District of Columbia policy or statute
 For consistency with federal, or with reference to the Metro DC area (MD, VA) codes
 Address a unique character issue in the District of Columbia
Correction of errors and omissions
X Other (explain)



To modify language in the 2012 IECC to extend the IECC provision to Climate Zone 4 (where DC is located) since the IECC provision only applies to Climate Zones 1-3. By adopting the IECC provision in DC, cool roofs provision in the DC Supplement can be deleted. The IECC provisions is a more complete treatment of the same issue.

Delete Section C402.2.1.1 of the International Energy Conservation Code in its entirety and substitute new Section C402.2.1.1 in the Energy Conservation Code as follows.

C402.2.1.1 Roof solar reflectance and thermal emittance.

Low-sloped roofs, with a slope less than 2 units vertical in 12 horizontal, directly above cooled *conditioned spaces* in Climate Zones 1, 2, ~~and 3~~ 3 and 4 shall comply with one or more of the options in Table C402.2.1.1.

Exceptions: The following roofs and portions of roofs are exempt from the requirements in Table C402.2.1.1:

1. Portions of roofs that include or are covered by:
 - 1.1. Photovoltaic systems or components.
 - 1.2. Solar air or water heating systems or components.
 - 1.3. Roof gardens or landscaped roofs.
 - 1.4. Above-roof decks or walkways.
 - 1.5. Skylights.
 - 1.6. HVAC systems, components, and other opaque objects mounted above the roof.
2. Portions of roofs shaded during the peak sun angle on the summer solstice by permanent features of the building, or by permanent features of adjacent buildings.
3. Portions of roofs that are ballasted with a minimum stone ballast of 17 pounds per square foot (psf) (74 kg/m²) or 23 psf (117 kg/m²) pavers.
4. Roofs where a minimum of 75 percent of the roof area meets a minimum of one of the exceptions above.

TABLE C402.2.1.1 MINIMUM ROOF REFLECTANCE AND EMITTANCE OPTIONS^a

Three-year aged solar reflectance ^b of 0.55 and three-year aged thermal emittance ^c of 0.75
Initial solar reflectance ^b of 0.70 and initial thermal emittance ^c of 0.75
Three-year-aged solar reflectance index ^d of 64
Initial solar reflectance index ^d of 82

a. The use of area-weighted averages to meet these requirements shall be permitted. Materials lacking initial tested values for either solar reflectance or thermal emittance, shall be assigned both an initial



solar reflectance of 0.10 and an initial thermal emittance of 0.90. Materials lacking three-year aged tested values for either solar reflectance or thermal emittance shall be assigned both a three-year aged solar reflectance of 0.10 and a three-year aged thermal emittance of 0.90.

b. Solar reflectance tested in accordance with ASTM C 1549, ASTM E 903 or ASTM E 1918.

c. Thermal emittance tested in accordance with ASTM C 1371 or ASTM E 408.

d. Solar reflectance index (SRI) shall be determined in accordance with ASTM E 1980 using a convection coefficient of $2.1 \text{ Btu/h} \times \text{ft}^2 \times ^\circ\text{F}$ ($12\text{W/m}^2 \times \text{K}$). Calculation of aged SRI shall be based on aged tested values of solar reflectance and thermal emittance. Calculation of initial SRI shall be based on initial tested values of solar reflectance and thermal emittance.



1100 4th Street SW, 5th Floor
Washington, DC 20024
(202) 442-9270 (p) (202) 442-9445 (f)