

2024 IECC

NBI has submitted proposals into the ICC process to advance the 2024 IECC. The proposed amendments cover a wide range of measures and improve the code by adding additional efficiency, clarifying requirements, and creating greater flexibility for code users and local jurisdictions. Learn more at newbuildings.org/code_policy/2024-iecc-national-model-energy-code-base-codes.

Code Change Title: Cool Roof Expansion CEPI-50-21

Summary: Increases SRI requirement for Climate Zones 0-3 and establishes requirements for cool roofs in CZs 4 and 5.

Revise text as follows:

C402.3 Roof solar reflectance and thermal emittance. Low-sloped roofs directly above cooled conditioned spaces in Climate Zones 0 through 3 shall comply with one or more of the options in Table C402.3.

Revise table as follows:

Table C402.3 MINIMUM ROOF REFLECTANCE AND EMITTANCE OPTIONS^a

| Climate Zone | 0-3 | 4-5 | 6-8 |
|--|--|-----------|-----|
| Three-year-aged solar reflectance ^b /3-year aged thermal emittance ^c | Three year aged solar reflectance index ^b of 55 and 3 year aged thermal emittance ^e of 0.63/0.75 | 0.55/0.75 | NR |
| Three-year-aged solar reflectance index ^d | Three year aged solar reflectance index ^d of 64 75 | 64 | NR |

Installing a cool roof is a relatively inexpensive energy conservation measure to passively reduce cooling load in buildings. Cool roofs strongly reflect sunlight and efficiently radiate heat away from the roof surface. Cool roofs also decrease the amount of heat transferred from the roof to the air, thus mitigating the urban heat island effect. Extreme heat is the number one weather-related killer in the U.S. In cities, this is a particular concern due to the urban heat island, where temperatures can be 9 to 16 degrees (Fahrenheit) higher than surrounding rural areas. Studies have shown that a 10-percentage point increase in urban surface reflectivity would reduce the number of deaths during heat events by an average of 6%. With 80% of the world's population projected to live in an urban area within the next 50 years, and in a warming climate with more extreme heat events, it is likely that even more lives could be saved if cool roofs were more widely installed.