

GG169-14

408.3.1.1, Chapter 12

Proponent: Bob Zabcik, NCI Group, Inc., representing Cool Metal Roofing Coalition (CMRC)
(bobz@ncilp.com)

Revise as follows:

408.3.1.1 Roof products testing. Roof products shall be tested for a minimum three-year aged solar reflectance in accordance with ASTM E 1918, ASTM C 1549 or the CRRC-1 Standard and thermal emittance in accordance with ASTM C 1371, ASTM E 408 or the CRRC-1 Standard, and shall comply with the minimum values in Table 408.3.1. Testing shall be conducted on samples aged for not less than three years in accordance with ASTM G-7 or CRRC-1 on test farms that are accredited by a nationally recognized accreditation program in at least three different climates: Hot/Humid, Cold/Temperate and Hot/Dry, as described in CRRC-1.

Add new standard(s) as follows:

ASTM

ASTM G7/G7M-13, Standard Practice for Atmospheric Environmental Exposure Testing of Nonmetallic Materials.

Reason: The ASTM test methods currently specified in 408.3.1.1 are not equivalent methods of compliance compared to the CRRC-1 Standard and as such do not represent the current standard of care in the roofing industry. ASTM E 1918 and ASTM C 1549 are the same test methods that the CRRC-1 Standard utilizes for solar reflectance. In addition, ASTM C 1371 and ASTM E 408 are the same test methods CRRC-1 used for thermal emittance. However, CRRC-1 also includes extensive detailed language on the aging process itself, which if a user elects to test to the ASTM standards directly, will be circumvented. Specifically, The ASTM methods by themselves do not have any particular exposure/mounting specifications or aging process requirements, nor do they specify specimen aging in multiple climates as the CRRC-1 Standard does. If the intent of naming the methods directly is to provide an alternate compliance path by listing the test methods directly, then ASTM G 7 must also be referenced because it is the standard CRRC-1 builds upon to specify the exposure configuration.

Without the changes identified in this proposal, the only requirements for aging are the words "three-year aged", which alone do not provide a sufficient level of detail to ensure the solar reflectance and thermal emittance values to be consistent throughout all products. As is, compliance via the ASTM methods alone lacks any information on the following:

- Mounting configuration
- Exposure conditions
- Identification of climates for purposes of consistent aging
- Required number of test farms to be used
- Required number of samples to be aged and tested

The proposed changes address all of these points and provide the minimal level of detail that will make compliance via the ASTM test methods consistent with the CRRC-1 Standard, providing a consistent set of requirements while still allowing multiple methods of compliance.

Cost Impact: Will not increase the cost of construction.

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