



STATE OF NORTH CAROLINA
OFFICE OF ADMINISTRATIVE HEARINGS

Mailing address:
6714 Mail Service Center
Raleigh, NC 27699-6714

Street address:
1711 New Hope Church Rd
Raleigh, NC 27609-6285

September 22, 2014

Barry Gupton, Rulemaking Coordinator
NC Building Code Council

Sent via electronic mail to: barry.gupton@ncdoi.gov

Re: NC Building Code Council Proposed Temporary Rules
Energy Conservation and Residential Codes, Chapters 2, 4 and 11.

Dear Mr. Gupton:

At the September 18, 2014 meeting of the Rules Review Commission (RRC), the RRC reviewed the temporary rules filed by the North Carolina Building Code Council on September 11, 2014. The RRC declined to approve the above-captioned temporary rules based upon failure to comply with the Administrative Procedure Act (APA) in accordance with G.S. 150B-21.1(a) and 150B-21.9. The RRC notified the Council of its action via a letter dated September 18, 2014.

Pursuant to G.S. 150B-21.1(b2), the Council responded on September 19, 2014 to the letter notifying the Council of the RRC's action. The Council notified the RRC that it would not provide additional findings or submit a new statement for the rules. The RRC is therefore returning the rules to your agency.

In addition, RRC staff informed the Codifier that the rules are being returned so that these rules, which were adopted as emergency rules, may be designated as expired.

If you have any questions regarding, please do not hesitate to contact me.

Sincerely,

Amanda J. Reeder
Commission Counsel

Enclosure

Administration
919/431-3000
fax: 919/431-3100

Rules Division
919/431-3000
fax: 919/431-3104

Judges and
Assistants
919/431-3000
fax: 919/431-3100

Clerk's Office
919/431-3000
fax: 919/431-3100

Rules Review
Commission
919/431-3000
fax: 919/431-3104

Civil Rights
Division
919/431-3036
fax: 919/431-3103



TEMPORARY RULE-MAKING

FINDINGS OF NEED

[Authority G.S. 150B-21.1]

ORIGINAL

9/17/14

OAH USE ONLY

VOLUME:

ISSUE:

1. Rule-Making Agency: NC Building Code Council

2. Rule citation & name: 2012 NC Energy Conservation and Residential Codes Chapters 2, 4 and 11, Low Emissivity Fenestration Product

3. Action: Adoption Amendment Repeal

4. Was this an Emergency Rule: Yes No Effective date: July 2, 2014

5. Provide dates for the following actions as applicable:

- a. Proposed Temporary Rule submitted to OAH: June 24, 2014
- b. Proposed Temporary Rule published on the OAH website: July 1, 2014
- c. Public Hearing date: September 9, 2014
- d. Comment Period: July 1 through August 8, 2014
- e. Notice pursuant to G.S. 150B-21.1(a3)(2): Notified persons on the mailing list on July 2, 2014.
- f. Adoption by agency on: September 9, 2014
- g. Proposed effective date of temporary rule [if other than effective date established by G.S. 150B- 21.1(b) and G.S. 150B-21.3]: October 1, 2014
- h. Rule approved by RRC as a permanent rule: *N/A; objection 9/18/14*

6. Reason for Temporary Action. Attach a copy of any cited law, regulation, or document necessary for the review.

- A serious and unforeseen threat to the public health, safety or welfare.
- The effective date of a recent act of the General Assembly or of the U.S. Congress.
Cite:
Effective date:
- A recent change in federal or state budgetary policy.
Effective date of change:
- A recent federal regulation.
Cite:
Effective date:
- A recent court order.
Cite order:
- State Medical Facilities Plan.
- Other:

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2014 SEP 17 PM 12: 28

FILED

Explain:

We now have information that reflective energy from some Low-E windows can cause damage to property and may have the potential to create a fire hazard.

The Council has simultaneously initiated an Emergency Rule change similar to the Temporary Rule and will move quickly to develop a Permanent Rule to address the issue.

7. Why is adherence to notice and hearing requirements contrary to the public interest and the immediate adoption of the rule is required?

Citizens of North Carolina, as well as other states, have been plagued by documented cases of intense reflective energy from Low-E windows causing damage to vinyl siding on homes and plastic parts of automobiles. The Building Code Council is now aware of four documented cases of fires being caused by similar reflective energy involving Four Seasons and Cardinal IG Co. In these four cases, the Consumer Products Safety Commission, in cooperation with the manufacturer, issued a voluntary recall. Given the prevalence of this problem and concern that intense reflective energy may have the potential to create a fire hazard, the North Carolina Building Code Council seeks to remove the mandatory requirement for Low-E glass from the North Carolina Residential Code until a solution can be found to eliminate this potential hazard.

8. Rule establishes or increases a fee? (See G.S. 12-3.1)

Yes

Agency submitted request for consultation on:
Consultation not required. Cite authority:

No

9. Rule-making Coordinator: Barry Gupton

Phone: 919-661-5880

E-Mail: barry.gupton@ncdoi.gov

Agency contact, if any: Barry Gupton

Phone: 919-661-5880

E-Mail: barry.gupton@ncdoi.gov

10. Signature of Agency Head*:



* If this function has been delegated (reassigned) pursuant to G.S. 143B-10(a), submit a copy of the delegation with this form.

Typed Name: Dan Tinggen, Chair

Title: NC Building Code Council

RULES REVIEW COMMISSION USE ONLY

Action taken:

Objection 9/18/14
Agency responded 9/19/14 -
will not proceed with
rules.

Date returned to agency:

9/22/14j

Emergency rules expired 9/22/14.

Submitted for RRC Review:

ORIGINAL

9/17/14

Adopted language for low emissivity glazing Temporary Rule – One and Two Family Dwellings and Townhouses

Add to the 2012 NCECC, in Chapter 2 the following definition:

Low Emissivity Fenestration Product. A fenestration product containing glass that has a transparent coating that acts as a thermal mirror and is used to:

1. increase a window's insulating value;
2. block or increase heat flow; and
3. reduce fading.

For the 2012 NCECC, Chapter 4, modify Table 402.1.1 as follows:

**TABLE 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT.**

CLIMATE ZONE	FENESTRATION U-FACTOR b,l	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC b,e,m	CEILING R-VALUE ^k	WOOD FRAME WALL R-VALUE ^e	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
3	0.35	0.65	0.30	30	13	5/10	19	10/13 ^f	0	5/13
4	0.35	0.60	0.30	38 or 30 cont. ^j	15, 13+2.5 ^h	5/10	19	10/13	10	10/13
5	0.35	0.60	NR	38 or 30 cont. ^j	19, 13+5, or 15+3 ^{sh}	13/17	30 ^g	10/13	10	10/13

l. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

m. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum solar heat gain coefficient of 0.80. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

For the 2012 NCECC, Chapter 4, modify Table 402.1.3 as follows:

**TABLE 402.1.3
EQUIVALENT U-FACTORS^a**

CLIMATE ZONE	FENESTRATION U-FACTOR ^e	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR ^d	CRAWL SPACE WALL U-FACTOR ^c
3	0.35	0.65	0.035	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.030	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.030	0.061	0.082	0.033	0.059	0.065

e. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55. When applying this note, the use shall be documented to allow identification for compliance. When applying this note and using REScheck, to allow continued use of the software, the applicable fenestration product shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products actual U-value and SHGC shall be noted in the comments section of the software for documentation of application of this note to the applicable products. Compliance for these subject products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.

For the 2012 NCECC, Chapter 4, add an exception to:

402.3.5 Thermally isolated conditioned sunroom U-factor and SHGC. The maximum fenestration U-factor shall be 0.40 and the maximum skylight U-factor shall be 0.75. Sunrooms with cooling systems shall have a maximum fenestration SHGC of 0.40 for all glazing.

New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements. Sunroom additions shall maintain thermal isolation; and shall be served by a separate heating or cooling system, or be thermostatically controlled as a separate zone of the existing system.

Exception: For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55 and, when cooling is provided, a maximum SHGC of 0.80. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

402.5 Maximum fenestration *U*-factor and SHGC (Mandatory Requirements). The area-weighted average maximum fenestration *U*-factor permitted using trade-offs from Section 402.1.4 shall be 0.40. Maximum skylight *U*-factors shall be 0.65 in zones 4 and 5 and 0.60 in zone 3. The area-weighted average maximum fenestration SHGC permitted using trade-offs from Section 405 in Zones 3 and 4 shall be 0.40.

Exception: For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum *U*-value of 0.55 and a maximum SHGC of 0.80. When applying this note, the use shall be documented to allow identification for compliance.

Add to the 2012 NC Residential Code, in Chapter 2 the following definition:

Low Emissivity Fenestration Product. A fenestration product containing glass that has a transparent coating that acts as a thermal mirror and is used to:

1. increase a window's insulating value;
2. block or increase heat flow; and
3. reduce fading.

For the 2012 NC Residential Code, Chapter 11, modify Table N1102.1as follows:

**TABLE N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT.**

CLIMATE ZONE	FENESTRATION U-FACTOR b,l	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC b,e,m	CEILING R-VALUE ^k	WOOD FRAME WALL R-VALUE ^e	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
3	0.35	0.65	0.30	30	13	5/10	19	10/13 ^r	0	5/13
4	0.35	0.60	0.30	38 or 30 cont. ^j	15, 13+2.5 ^h	5/10	19	10/13	10	10/13
5	0.35	0.60	NR	38 or 30 cont. ^j	19, 13+5, or 15+3 th	13/17	30 ^g	10/13	10	10/13

l. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

m. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum solar heat gain coefficient of 0.80. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

For the 2012 NC Residential Code, Chapter 11, modify Table N1102.1.2 as follows:

**TABLE N1102.1.2
EQUIVALENT U-FACTORS_a**

CLIMATE ZONE	FENESTRATION U-FACTOR _e	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR _b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR _d	CRAWL SPACE WALL U-FACTOR _c
3	0.35	0.65	0.035	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.030	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.030	0.061	0.082	0.033	0.059	0.065

e. For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55. When applying this note, the use shall be documented to allow identification for compliance. When applying this note and using REScheck, to allow continued use of the software, the applicable fenestration product shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products actual U-value and SHGC shall be noted in the comments section of the software for documentation of application of this note to the applicable products. Compliance for these subject products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.

For the 2012 NC Residential Code, add an exception to:

N1102.3.5 Thermally isolated conditioned sunroom U-factor and SHGC. The maximum fenestration U-factor shall be 0.40 and the maximum skylight U-factor shall be 0.75. Sunrooms with cooling systems shall have a maximum fenestration SHGC of 0.40 for all glazing.

New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements. Sunroom additions shall maintain thermal isolation; and shall be served by a separate heating or cooling system, or be thermostatically controlled as a separate zone of the existing system.

Exception: For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum U-value of 0.55 and, when cooling is provided, a maximum SHGC of 0.80. When applying this note, the use shall be documented to allow identification for compliance with this requirement.

N1102.5 Maximum fenestration *U*-factor and SHGC. The area-weighted average maximum fenestration *U*-factor permitted using trade-offs from Section 1102.1.3 shall be 0.40. Maximum skylight *U*-factors shall be 0.65 in zones 4 and 5 and 0.60 in zone 3.

Exception: For one- and two-family dwellings and townhouses, non-low emissivity glazed fenestration products may be substituted for low emissivity glazed fenestration products without energy penalty where judged by the permit holder to be a safety concern due to reflection of concentrated sunlight. The substitute fenestration products shall have a maximum *U*-value of 0.55 and a maximum SHGC of 0.80. When applying this note, the use shall be documented to allow identification for compliance.