

May 14, 2006

Elaine Hebert
California Energy Commission
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Sacramento, CA 95814-5504

Dear Elaine:

The California Energy Commission had requested that if possible, could information on how the East Coast was handling roof insulation during a roof replacement be supplied. The question to be answered was, "Does the state or local code require the R-value of the insulation to be brought up to code during a reroofing program." The Attachment 1 will outline the results state by state. You will note the results do vary from state to state and even within some states as local and city codes maybe more stringent than the state requirements. These requirements go beyond what the new 2004 ASHRAE standard 90.1 requires for insulation. Attachment 2 has a brief outline on the 90.1 related to roof insulation. Just a side note, I learned at the recent Roof Consultants Institute meeting while attending a CIB – RILEM session that United Kingdom as of January 1, 2006 is also requiring the insulation in a reroof to be brought up to code level R-value.

I hope this information is useful for the CEC as it begins to formulate the 2008 Title 24 standard. If you need anything else on this subject, please let me know.

Best regards,



Richard J. Gillenwater

Eastern States & Reroofing – Insulation Requirements

Carolinas:

South Carolina and western North Carolina state that then the roofing / waterproofing membrane is being removed, you must upgrade the existing substrate to current building codes for that location, including, but not limited to, R-Value. If you do NOT remove the waterproofing membrane, then you can leave as built with the new waterproofing added with or without retrofitting the insulation.

Connecticut: Certain roofs are required to bring the insulation up to code. When reroofing is 25% or more of bldg area or tearing off the roof which is over conditioned space, the roof is to be brought up to required R-value, R = 19.00.

Maryland: If the job is strictly a re-roof, the R value of insulation doesn't need to be brought up to code

New York: It varies across the state.

It is controlled by local officials with some requiring the insulation to be brought up to code while others do not.

When an Architect is involved with a tear off, a minimum R-value of 20 is required. Recovery projects do not need minimums.

The lower NY State, the Five Boros of NY and Long Island:
On all reroof projects, Architects and Consultants always adhere to the required code minimum R value of 20.

Pennsylvania: Follows ASHRAE 90.1.

Rhode Island: No requirement in reroofing.

Tennessee: There are 16 exempt building code jurisdictions in Tennessee. The rest are under the State Fire Marshall. All are to follow 2004 ICC which would require an R=15 insulation.

Virginia

There are no local codes in the area of Virginia Beach, Norfolk, Chesapeake, Portsmouth, Suffolk, Newport News and Hampton for R Value of insulation.

So long as the manufacturers minimum R-value is met and the specifications do not state a specific R-value, the roof can reroof to meet original R-value with out Code violations.

Lynchburg, VA: The local and state codes require that existing R be enhanced to meet minimum R-15.

If the job is a complete rehab of building, the R-value does need to be brought up to code

2004 ASHRAE 90.1 STANDARD
INSULATION REQUIREMENTS

4.2 Compliance

4.2.1 Compliance Paths

- 4.2.1.1 **New Buildings:** New Buildings shall comply with either the provisions of Sections 5, 6, 7, 8, 9, and 10 or Section 11.
- 4.2.1.2 **Additions to Existing Buildings:** Additions to existing buildings shall comply with either the provisions of Sections 5, 6, 7, 8, 9, and 10 or Section 11.
- 4.2.1.3 **Alterations of Existing Buildings:** Alterations of existing buildings shall comply with the provisions of Sections 5, 6, 7, 8, 9, and 10, provided, however that nothing in this standard shall require compliance with any provision of this standard if such compliance will result in the increase of energy consumption of the building.

5.1 General

- 5.1.3 **Envelope Alterations.** Alterations to the building envelope shall comply with the requirements of Section 5 for insulation, air leakage, and fenestration applicable to those specific portions of the building that are being altered.

Exemptions to 5.1.3: The following alterations need not comply with these requirements, provided such alterations will not increase the energy usage of the building:

(e) replacement of a roof membrane where either the roof sheathing or roof insulation is not exposed or, if there is existing roof insulation, below the roof deck;

5.4 Mandatory Provisions

- 5.4.1 **Insulation.** Where insulation is required in 5.5 or 5.6, it shall comply with the requirements found in 5.8.1.1 through 5.8.1.9.
- 5.5.3.1 **Roof Insulation.** All roofs shall comply with the insulation values specific in Tables 5.5 – 1 through 5.5 – 8.