



City of Vacaville
Community Development
Building Division
**Reroof Requirements for Residential Buildings
As of July 1, 2014**

For residential buildings, including single family dwellings and apartment building, in Vacaville with a roof slope of greater than 2 to 12 the roof material must have a minimum aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75, **or** a minimum SRI of 16. This is a cool roof product.

If you do not want to use a cool roof product you may use any one of the following:

- a. Provide an air-space of 1.0 inch between the top of the roof deck to the bottom of the roofing product;
- b. Install a roofing product with has a profile ratio of rise to width of 1 to 5 for 50 percent or greater of the width of the roofing product, this mean a tile products;
- c. Existing ducts in the attic are insulated and sealed according to Section 150.1(c)9;
Space conditioning ducts. All ducts shall either be in directly conditioned space as confirmed by field verification and diagnostic testing in accordance with Reference Residential Appendix RA3.1.4.3.8 or be insulated to a minimum installed level as specified by TABLE 150.1-A. All ducts shall meet all applicable mandatory requirements of Section 150.0(m). NOTE: Requirements for duct insulation in TABLE 150.1-A do not apply to buildings with space conditioning systems that do not have ducts.
- d. Buildings with at least R-38 ceiling insulation;
- e. Buildings with a radiant barrier in the attic meeting the requirements of Section150.1(c)2;
The radiant barriers shall be installed at the top chords of the roof truss/rafters in any one of the following methods:
 - (a) Draped over the truss/rafter (the top chords) before the upper roof decking is installed.
 - (b) Spanning between the truss/rafters (top chords) and secured (stapled) to each side.
 - (c) Secured (stapled) to the bottom surface of the truss/rafter (top chord). A minimum air space shall be maintained between the top surface of the radiant barrier and roof decking of not less than 1.5 inches at the center of the truss/rafter span.
 - (d) Attached [laminated] directly to the underside of the roof decking. The radiant barrier shall be laminated and perforated by the manufacturer to allow moisture/vapor transfer through the roof deck.
 - (e) In addition, the radiant barrier shall be installed to cover all gable end walls and other vertical surfaces in the attic.

If a radiant barrier is used, the attic shall be ventilated to (all a through e):

- (a) Provide a minimum free ventilation area of not less than one square foot of vent area for each 300 ft² of attic floor area.
- (b) Provide no less than 30 percent upper vents.
- (c) Ridge vents or gable end vents are recommended to achieve the best performance. The material should be cut to allow for full airflow to the venting.
- (d) The product shall meet all requirements for California certified insulation materials [radiant barriers] of the Department of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation, as specified by CCR, Title 24, Part 12, Chapter 12-13, Standards for Insulating Material.
- (e) The use of a radiant barrier shall be listed in the Special Features and Modeling Assumptions listings of the Certificate of Compliance and described in detail in the Residential ACM Manual and conform to the radiant barrier manufacturer's instructions.

- f. Buildings that have no ducts in the attic;
- g. Install R-4 or greater insulation above the roof deck.

For residential buildings, including single family dwellings and apartment buildings, in Vacaville with a roof slope of 2 to 12 or less there are no energy requirements.

A completed CF2R-ENV-05-E form must be with the inspection card at the time of the final inspection.