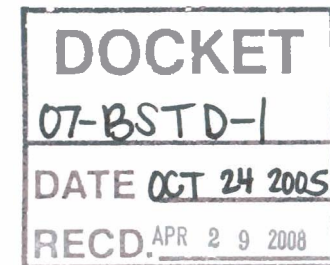


Inclusion of Cool Roofs in Residential Title 24 Prescriptive Requirements

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Cool Roof Benefits

F Roofs stay cool in sun if they have

- high thermal emittance and high solar reflectance

OR

- low thermal emittance and exceptionally high solar reflectance

F Cool roofs can reduce

- building cooling electricity use
- peak power demand
- ambient air temperature



Environmental Impact

F Benefits

- increased human comfort
- slowed smog formation
- mitigation of urban heat islands in summer
- decreased waste from disposal of roofs

F Penalties

- possible higher wintertime heating energy use
- degraded wintertime urban air quality
- possible use of water and detergents to clean roofs



Scope

F Cool roofs for residential buildings

- New study
- Steep-sloped and Low-sloped roofs



Methodology

F Review measure availability and cost

- technologies, market share
- manufacturers, distribution
- availability, cost
- useful life

F Perform building cost/benefit analysis

- evaluate measured energy savings
- use MicroPas (with new, improved, and free attic model) to simulate cooling and heating energy use
- net savings = cooling savings - heating penalties

F Project state-wide savings

