Q&A

Q. Attic Insulation for Hot Climates?

Builders in cold climates often go beyond code-required attic insulation levels, especially when using a relatively inexpensive material like blown-in cellulose. Is the same approach helpful in cooling climates?

A. *Mike Rogers of Green Homes America, a home-performance contracting company with locations across the country, responds:* Yes, it is helpful. Too often homeowners and contractors think of insulation as a warm blanket intended primarily to keep the heat in. But that's the wrong analogy: It's really more like the insulated mug that I use to keep my coffee hot, and that my wife uses to keep her ice coffee cold. A properly insulated home keeps the heat in during the winter and out in the summer. Keeping the heat out raises comfort levels, reduces complaints and callbacks, and lowers your customers' energy bills in the summer.

With insulation, more is usually better. Building codes vary among the thousands of jurisdictions, but a typical requirement in hot climates is R-38. Common practice in some areas still has it pegged at R-19. And yet, for example, our Fresno, Calif., franchise, ABC Cooling, routinely insulates attics from R-50 to R-60 in home retrofits. This is actually consistent with Energy Star recommendations (see table, left).

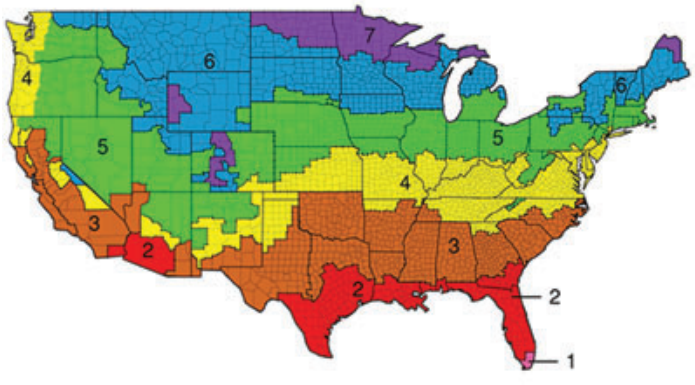
One argument I hear frequently is that insulating to these levels is not cost-effective — "There are diminishing returns!" the critics claim. But, in fact, R-50 or even R-60 does make sense, for several reasons. First, of course, is energy savings. In hot climates, attics get hot! In Fresno, attic temperatures can exceed 140°F. Compare that to an inside set point of 75°, and we have a pretty significant temperature difference driving the heat flow into the house. Slowing that flow is critical. In some homes with poorly insulated attics, we've measured ceiling drywall temperatures of over 90°F. This means that the ceiling is serving as a big radiant heater in the space we're trying to keep cool — with huge comfort and energy implications. Anything we can do to bring that ceiling more fully inside the house is a good thing.

Second, the cost of the extra insulation is a small percentage of a typical retrofit job. On an attic project, there are a number of fixed costs — driving the truck and crew to the house, gaining access to the attic, protecting finishes, setup, and cleanup. Most of the labor time is spent air-sealing and prepping for insulation; the actual blowing of the insulation is the quickest part of the job. The cost of several more inches of cellulose — to get into that R-50-to-R-60 range — is typically only a few hundred dollars. If you're going to the trouble to insulate, you might as well do it right. And by the way, don't bother with the insulation if you're not going to take the time to seal the attic plane to reduce air movement through the insulation.

Third, insulation isn't just about energy savings. Much of the ranting about cost-effectiveness and payback misses the most important benefits. Sure, our customers

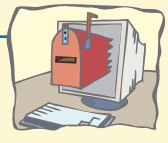
Attic R-Value Recommendations

Zone	Energy Star	2009 IRC
1	R30 to R49	R30
2	R30 to R60	R30
3	R30 to R60	R30
4	R38 to R60	R38
5	R49 to R60	R38
6	R49 to R60	R49
7	R49 to R60	R49
8	R49 to R60	R49



GOT A QUESTION?

Send it to Q&A, *JLC*, 186 Allen Brook Lane, Williston, VT 05495; or e-mail to jlc-editorial@hanleywood.com.



care about saving energy and lowering their utility bills, but comfort is usually a bigger concern. And by taking better control of the house through air-sealing and insulation, we can deliver much better comfort than we were ever able to with hvac equipment alone.

This is worth a quick story. On the hottest day of the summer last year, we were insulating a Fresno customer's attic. We had turned the central air conditioner off so we could use the juice to run our insulation blower, and the unit remained off for most of the day. At 4 p.m., the crew chief went inside to let the homeowner know that her AC would be turned back on momentarily. She gave a quizzical look and said, "I forgot you'd turned it off." With the new insulation and air-sealing, her home felt comfortable even without the AC. It's not unusual for our customers to be expressing enthusiasm on the second day of a two- to three-day project because they're already feeling the results; they don't have to wait for their next utility bill to appreciate the difference.

Finally, insulation and air-sealing have a noticeable effect in reducing noise, which is especially important in city locations with close-together houses, lots of street noise, kids playing ball, and planes flying overhead. This is one of the reasons we also do wall retrofit insulation even in hot climates; DOE's cost-effectiveness numbers don't capture it, but our customers sure notice.

Q. Connecting Girders to Deck Ledgers

In the article "Building Safer Decks" (6/11), Glenn Mathewson notes that the IRC's prescriptive bolting schedule is limited to uniformly distributed loads and that you may be able to use a tighter fastener schedule to account for a doubled joist that carries a headered opening for steps. Some code inspectors treat the double joist as a girder carrying a point load and don't permit attachment to the ledger board at all, based on IRC section R502.2.2.2, "Alternate Deck Ledger Connections," which says, "Girders supporting deck joists shall not be supported on deck ledgers or band joists." I'm wondering how Glenn applies R502.2.2.2?

A. *Former deck-builder Glenn Mathewson, now a building inspector in Westminster, Colo., responds:* While the new ledger bolting table in the 2009 code is useful, I'm less impressed with some of the other new deck-related provisions. As for the prohibition you ask about, I've researched its intent and how it came to be in the code, and I haven't found a good reason to outright prohibit a "girder" connection to the ledger. It's a matter of degree, and I try to be flexible. For minimal loads, such as might be carried by a joist doubled to catch a stair header, a tighter bolting pattern at the ledger connection works for me — without an engineer's seal. For larger loads, I like to see the ledger split and the beam hung directly on the band joist. I'm sure some engineers may worry about the rotational effects of loading the band joist from one side only, and while I understand the issue, it would take a really big load to convince me that the band is going to roll out of the house from one beam connection. Each situation is different, of course, and in some cases I may require engineering.

For girders carrying large loads, I prefer to see the beam run into the floor framing, where it can be directly supported on the sill or studwalls. Another option is to support the beam on a post placed near the house, but this requires a solid footing on undisturbed soil — which is tricky next to a backfilled foundation wall.

Ask the inspectors what the intent of the prohibition is, so that you can propose an alternative. Perhaps they will find — as I did — that it's not clear-cut and they'd be willing to accept one of the methods I've described here.