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INNOVATIONS FOR LIVING™

FOAMULAR® Insulation
e-news
Designing High Performance Building Envelopes

July 19 , 2007

Dear [~Fname~],

Two questions: Have energy prices increased in the past 15 years? Do you believe energy prices will increase in the next 15 years and beyond? The answer to both is obviously, "Yes." So, why specify insulation levels today for tomorrow's buildings based on yesterday's energy economics?

Energy conservation code requirements for buildings are, in many states and communities, based on ASHRAE 90.1-2004. Minimum prescriptive R-values in the ASHRAE 90.1 standard have not changed for items such as roof and continuous insulation (ci) since 1999, and the '99 values were based on energy cost data from 1990!

Change Coming Soon(er)

That is about to change and perhaps sooner than some expected. ASHRAE committees have been hard at work on the next (2007) edition of standard 90.1, which will be based on current energy cost data and projections. As a result, the new edition, now scheduled for publication in the fall of this year, will prescribe higher levels of building insulation.

The U.S. Department of Energy (DOE) has urged ASHRAE to reduce energy use in new buildings by 30 percent by 2010. That is a lofty goal that ASHRAE chose to begin addressing now in the 2007 edition. Another new edition of ASHRAE 90.1 will be published in 2010, following the regular 3-year cycle, and insulation levels are expected to be increased again in that edition in an attempt to meet the DOE national goal.

Insulation increases were not a certainty in the 2007 edition until ASHRAE decided earlier this year to delay publication of the '07 edition from early summer to fall this year, long enough to allow inclusion of new standards for R-values including "ci" and roof insulation.

The upshot of all of this is that buildings you are designing today may not meet the most up-to-date ASHRAE 90.1 prescriptive standard for "ci" and roof insulation by the time ground is broken to build them. For example, the R-value prescribed for roof insulation in most of the USA under the 2004 edition is 15. The 2007 edition raises the prescribed R-value to 20 in most of the country.

Why Wait?

So, why wait for the local energy code adoption process to catch up to the new minimum standard? It makes sense to anticipate the future for your client and base today's insulation levels on today's construction and energy costs. That is what the ASHRAE 90.1-2007 edition does. And that is saving tomorrow's energy today. When you couple economic return with the national energy conservation goal expressed in the American Institute of Architect's (AIA's) *2030 Challenge* and the green aspirations of LEED, ample justification exists to at least meet what are rapidly becoming the new ASHRAE prescriptive R standards shown in Table 1.

Thanks for reading this second edition of *FOAMULAR Insulation e-News*. I appreciate the feedback from the first letter and look forward to your comments and suggestions to make this newsletter more helpful to you in future editions.

Sincerely,

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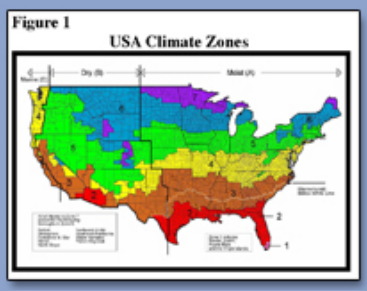
Change Coming Soon(er)

Why Wait?

Climate Zones for the continental US are shown in this map. Alaska is Zone 7, except the most northern boroughs that are Zone 8. Hawaii is Zone 1.



The minimum prescriptive R values needed to comply with the standard for above deck roof insulation.

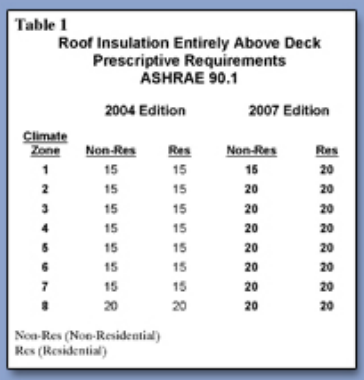


Table 1
Roof Insulation Entirely Above Deck
Prescriptive Requirements
ASHRAE 90.1

Climate Zone	2004 Edition		2007 Edition	
	Non-Res	Res	Non-Res	Res
1	15	15	15	20
2	15	15	20	20
3	15	15	20	20
4	15	15	20	20
5	15	15	20	20
6	15	15	20	20
7	15	15	20	20
8	20	20	20	20

Non-Res (Non-Residential)
Res (Residential)

The minimum prescriptive R values needed to comply with the standard for batt insulation in a steel stud cavity plus the minimum R value for continuous insulation (ci).

Table 2

Steel Frame Wall
Prescriptive Insulation Requirements
ASHRAE 90.1

Climate Zone	2004 Edition		2007 Edition	
	Non-Res	Res	Non-Res	Res
1	13	13	13	13
2	13	13	13	13 + 7.5
3	13	13 + 3.8	13 + 3.8	13 + 7.5
4	13	13 + 7.5	13 + 7.5	13 + 7.5
5	13 + 3.8	13 + 7.5	13 + 7.5	13 + 7.5
6	13 + 3.8	13 + 7.5	13 + 7.5	13 + 7.5
7	13 + 7.5	13 + 7.5	13 + 7.5	13 + 15.6
8	13 + 7.5	13 + 10	13 + 7.5	13 + 18.8

Non-Res (Non-Residential)
Res (Residential)

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