http://www HOUSE WISE

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1989–2009 20 YEARS OF EXCELLENCE Dan Guinn Homes

What's your SRI rating?

How Shiny is Your Roof?

By Elizabeth Guinn

Do you know what the Solar Reflectivity Index is for your roof? Chances are you have never even heard of an SRI before. When choosing shingles for your house, most people are only thinking about the color and does it match the siding. When it comes to saving money on your summer cooling bills, maybe you should take a few more factors into consideration.

The SRI is an index that allows you to choose roofing material based on how much heat the roof absorbs. How much heat the roof absorbs is based on how much of the sun's heating rays actually penetrate the roofing material and how much is reflected back off of the roof. Energy Star has some strict standards when it comes to roofing products that earn the Energy Star label. You can read the Energy Star standards at http://www.energystar.gov/index.cfm?c=roof_prods.pr_roof_products.

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Inside This Issue

Dan's Desk

By Dan Guinn

Recently I was asked if I thought a whole house fan could help with reducing high energy costs in the summer months. My initial answer was that whole house fans cause more problems than they actually are intended to help. Up till just recently all that I have learned about them has been mostly bad but there are some benefits if they are thoughtfully installed and sized correctly.

First off we need to examine why we have come to the conclusion that a whole house fan is right for us. Most

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By choosing reflective roofing materials you can reduce the surface temperature of your roof by as much as 100 degrees F on a hot summer day. The high surface temperature indicates stored heat which then radiates into your attic, just like a huge radiator. This can have a dramatic effect not only on your energy bills on hot days but also because this occurs during peak usage times we can reduce our need for new power plants. Power companies base the need for plants on peak usage. The reduced surface temperature also reduces heat stress on your building materials that can cause shortened lifespan or premature failure.

There are several companies out there that offer reflective roofing products, some better than others. The one that I find the most interesting is the roofing tiles by US Tile (www.ustile.com). They have a wide variety of styles with one line appropriately called Cool Roofs which has a SRI rating of 29. These are clay roofing tiles either in the traditional two part form or in an easier to install one part configuration. These tiles come with a lifetime warranty and are guaranteed not to fade at all for 20 years. They are available in all fifty states and in my opinion are beautiful to look at.

What makes these tiles great? They actually reflect 53% of the sun's heat energy instead of allowing it to heat up your house. Standard asphalt shingles reflect 10% of the sun's heat energy and that's only if you happen to have picked a very light shade of asphalt shingle. Once the tiles do absorb some heat, because of their design, they quickly release that heat energy back into the atmosphere instead of holding on to it with a Thermal Emittance rating of 86%. So this means they don't stay hot for long!

Another important aspect I like about these tiles is that they are 100% recyclable with Cradle to Cradle certification. That means that used tiles or waste from installation can be recycled right back into the manufacturing plant and come back out as a useful product for someone else to enjoy. Also important is sustainability, remember they carry a lifetime guarantee. Lastly depending on where you live some power

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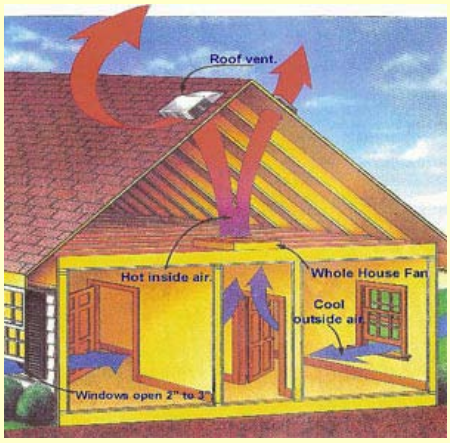

reasons are to reduce high energy costs, during the summer months, while increasing comfort. Both good reasons to consider but these issues can be resolved a number of ways a whole house fan is just one solution. Examining our motives and what the end result that you are looking for is a good exercise in determining which energy saving solution is going to work best.

Just exactly how does a whole house fan work anyway? During the day our houses absorb heat energy from the sun and the temperature inside rises to an uncomfortable level. Much like our cars left out in the hot sun with the windows closed. During the evening when outdoor temperatures have cooled back down turning on the whole house fan exhausts warm indoor air from the house and at the same time pulls the cooler outdoor air inside. This process, called "flushing", helps to increase comfort by reducing temperatures inside the house and increasing air flow. A good concept in theory, but there are more than a few problems you need to know about.

One problem is that a whole house fan requires work on the part of the homeowner. You have to be willing to open all the windows as outdoor temperatures begin to fall and turn the fan on and then back off again in the morning when things begin to heat back up. This is an important key to how successful these systems will work. One good way to determine if this is going to work for you is to try naturally flushing your house by opening the windows in the evening and then closing them before leaving for work in the morning. This will simulate the work necessary to produce the results that you want with a whole house fan. Most of us have enough to worry about without adding more to our daily schedule. This is the precise reason I like programmable thermostats you "Set 'em and Forget 'em"

Another problem is the amount of vented air space you have in the attic. Remember you are exhausting the hot air from the house into your attic. In order for this to work, you need your attic to be able to exhaust precisely the same volume of air that your whole house fan is pumping into it. You might think that your standard hooded roof vents will provide sufficient airflow and they would if you had fifteen of them in your roof. If your attic does not have the correct amount of venting your attic will become pressurized and this condition will push the hot air right back into your house through every light fixture, recessed light or any small crack it can find. The positive pressure created in your attic by the fan will cause air to rush in carrying with it dirt and insulation fibers from your attic. Think about how hot your attic gets on a 95 degree day. It could be as much as 140 degrees in a standard vented attic, does that sound like a part of your house that is venting hot air well? This as you can imagine can cause comfort as well as serious indoor air quality issues.

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companies are offering rebates for installing these kinds of roofs, too bad Dominion Power is not one of them. Pacific Gas & Electric does offer rebates for this type of roof. They estimate, installation of this type of roof will lower your cooling bills by up to 20%. Why is it that the west coast always gets the rebates?

That's my hot tip for making it through these warm summer days.

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The other important consideration is that when we install these fans we open up a large hole in our ceiling to the attic. When these fans are not properly insulated they let conditioned air escape in the winter months and during extreme heat in the summer when the fan just is not effective at all. Many models do not have any insulation at all to prevent this from occurring. This would be like opening a window to the outside during the coldest and hottest part of the years. As you can imagine whatever energy savings you gained just went right back out that window you created.

So should we consider whole house fans as a solution to reducing energy costs? There are models out there that address some of these problems associated with whole house fans but this particular solution is a labor intensive one. Understanding how to evaluate and calculate how changes will affect your bottom line is what we do best. Let us help you trim the fat off your energy bills by tailoring a system to match your house and your needs.

Taking you from
Dreams to Reality
Psalms 127:1a