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BY STEVE EASLEY

## New Solutions for Melting Vinyl Siding

A new additive may solve the issue of siding that melts due to reflected heat.

**Last year I reported on the relatively new problem in the construction industry of vinyl siding melting and distorting because of reflected heat.**

In recent months, I have received a number of complaints about this problem. Often the vinyl siding has melted because the sun's heat reflects off of the surface of nearby low-E windows, but windows are not the only source of this problem.

When the sun's energy strikes low-E windows and skylights, it can re-radiate heat and cause significant melting. (The amount of energy from the sun that strikes a surface can be 250 to 300 btu's per square foot per hour.)

Low-E glass commonly reflects 70% of the sun's heat. I've seen this happen even when the distance between houses is 15 to 20 feet.

**CLARIFICATION:** In last month's article on building mold-resistant bathrooms, I want to be more clear about the proper application of Dens Armor Plus and DensShield tile backer. DensShield tile backer is designed to be used in wet locations behind tubs, showers, floors, and countertops. Dens Armor Plus is a mold-resistant panel that should not be used as a tile backer. For more information, go to [www.gp.com/build/](http://www.gp.com/build/)

Since my last report, I have also learned that this phenomenon can occur simply due to the heat of dark roofs re-radiating and deforming adjacent siding. This might happen when you have a sloping, dark-colored roof that intersects a vertical wall close to a window.

The sun's energy strikes the roof and the heat is re-radiated and absorbed by the siding.

An example of melted siding.



## Who's at Fault?

It doesn't exactly build homeowner confidence in their builder, or vinyl siding as a quality product, when the homeowner sees the siding melting off their homes.

Siding products need to keep pace with advances in building technologies and building codes. (I know builders who have switched from vinyl siding to other siding products because of the melting siding issue.)

In my opinion, low-E windows are not the problem. Many states now have energy codes that require builders to install windows that have a U-factor and a solar heat gain coefficient of .4 or less. Builders almost always use low-E windows to meet this requirement in the code.

The code requirement for better windows is a good one because in many climates, 45% of a home's air conditioning loads are the result of solar heat gain through windows. Low-E glass has saved

Americans millions of dollars in energy since its adoption. These window products can also substantially reduce greenhouse gas emissions because of the reduced electricity consumption required to heat and cool buildings.

## New Additive May Be the Answer

So given the desirability of using low-E windows, but the potential attendant problem of melting vinyl siding, what's the solution? It may be a new additive that vinyl siding manufacturers will turn to prevent the problem.

A chemical company called Lubrizol, an international manufacturer of specialty polymers and resins, makes an additive called TempRite that vinyl siding manufacturers can add to their plastic during the extrusion process to solve the reflected heat problem. (You may know this company because they also manufacture CPVC plumbing pipe that goes by the

trade name of Flow Guard.) Normal vinyl siding starts distorting at around 170°F. Siding made with Temp-Rite can take temperatures in the 225°F range, which solves the problem.

To date, I'm only aware of one manufacturer that offers a vinyl siding product with this heat-resistive additive. The company is Heartland Vinyl Building Products, and the product line is their Visionary Accents collection.

If your builder customers are concerned about the potential reflected heat problem with some vinyl sidings, you may want to offer them this alternative. ■

**STEVE EASLEY** is president of Steve Easley & Associates, which consults and trains on building science issues. His seminar topics include reducing call backs, high-performance building envelopes, and cost-effective strategies for green building. For more information, visit [www.codecollegenetwork.com](http://www.codecollegenetwork.com).

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