

GREEN TECH THE SERIES COLUMN FOR NOVEMBER 11, 2015
HEADLINE: VINYL SIDING; INSULATED AND RECYCLED!

I have never been a fan of vinyl siding. It has always left me with the impression of a quick, cheap, exterior finish. For many years there was no way to recycle this product. When you consider that over a third of new homes have some or all of their exteriors covered in vinyl and that it's the number one replacement siding for renovation work, I've been unimpressed. Other than as a weather barrier, I've felt that it added little to the value of a home.

As with many products, the manufacturers of vinyl siding realized that, while they had the market cornered for cost per square foot installed, the stigma on this siding existed. Knowing that, they have slowly, over the past few years, made changes. Numerous changes, actually, have been made since the late 50's when vinyl siding was introduced.

It has its good points. Today, you can buy this siding in a wide selection of colors and textures, vertical and horizontal installations and with matching architectural trim. There is no question that vinyl siding is durable, if correctly installed; I stress the word "correctly." I have lost count of the number of homes I see with the "wave" down the exterior wall. This is caused by nailing the siding too tight to the wall or not centering the shingle nails to allow the siding to move and vinyl does move, upwards of ¼-3/8 inch from summer to winter. I have heard from more than one reader contacting me about the "bang" they heard during a bitter cold stretch. Simply, it's the vinyl siding moving. Rattling in high wind is another complaint I have heard repeatedly.

Vinyl siding is also easy to maintain. It never needs painting. Fading is minimal and only noticeable over a number of years or when you try to direct match an area. The vinyl manufacturers are very clear, "Just wash with soap and water." Some time ago, there was quite an issue where ammonia based cleaners were being used with a power washer. This cleaner mix got behind the vinyl siding and began to decay the building wrap considerably. Stick with the recommendations and, for stubborn areas, use a car brush. As noted, it is durable and will resist most heat and wind if properly installed. Extreme heat, like a BBQ parked too close, will deform vinyl. If it receives a direct hit with a stone or the like, it will crack and break.

In regard to recyclability, the first of my two main points of contention, in the early 2000's, the Environmental and Plastics Industry Council (EPIC) and the Vinyl Council of Canada (VCC) monitored some pilot projects in their efforts to recycle

this siding. In 2002, close to 160 homes were demolished at Canadian Forces Base Borden, just north of Barrie, Ontario. The demolition was in two stages, 11 homes first and then 149 the second round. The EPIC and the VCC stepped in and helped the government contractor to recycle the material. A total of over 60,000 lbs. of vinyl was recycled to three different recycling companies in western Ontario, generating nearly \$2,500.00 in revenue for the demolition contractor. VCC also ran a recycling pilot project on a new housing development in Ajax, Ontario and similar results were attained. The off-cuts from 136 homes were estimated to be 5-10% of the total vinyl installed; enough to fill one 40 yard waste container. These two organizations have produced a book called, "Best Practises Guide" for installation and recycling. If you go to www.kboa.com/c3library/960vdirectory.2, you will find a list on Ontario Vinyl Siding Recyclers.

The second issue I had with vinyl siding was that it lacked some manner of insulation behind the vinyl layer. This seemed like a no brainer to me, since aluminium siding has had it for years. Insulated vinyl siding arrived in 1997, but, recently, the vinyl manufacturers hit the marketing button hard and sharpened the cost, too. The value of any insulation is a bonus for a home. The "R" value that insulated vinyl adds is not great, however, only from R-2 to R-5. One advantage I can see, though, is reduction of the thermal bridging, especially if used on a siding retrofit of an older home. Fitted directly to the siding, there will be some sound barrier improvements, too. Impact resistance is probably one of the real plusses for the siding. Having filled the hollow space behind the vinyl, some considerable rigidity will have been added, which is a bonus. I have installed many, many squares of vinyl siding and it is one the "fussiest" to keep level. More rigidity will please every installer I know.

The catch, however, is cost. Insulated vinyl siding is at least a 1/3 more and can reach close to double the cost of a traditional vinyl install. The other issue I see and it is documented by others, is that regular vinyl allows for air movement behind it, allowing the wall to dry. As we rush to increase insulation values, air movement and condensation entrapment are quickly becoming an issue. This may add to the issue unless there is a gap or drainage plane as we call it. The other side of the argument is the newer wall wraps are designed to increase this drainage condition, reducing the need to strap the walls.

While it's nice to see progress in the recycling of vinyl, there are other methods to add insulation value outside a home and to get better "R" value for the dollar. One comment I heard recently was, "It's hard to screw up vinyl siding; it's the

single most forgiving residential cladding system on the market.” I agree, better selection, more colors and profiles improve the street appeal. If this is your siding of choice, stick with the traditional vinyl and use another method of wall insulation.

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