

Articles > [how to](#)

“DeSiding” on materials

By Jake Sadler on 03/24/2011

Shelter. Protection. Comfort. Design. The siding we use on our homes is important for all of these reasons. Siding is a home’s first line of defense against the elements, and it is the first thing we see from the curb. Over time, builders have experimented with many different types of siding in attempts to combine both form and function when constructing a house. However, not all siding materials are created equal. Each particular type has its own set of benefits and drawbacks.

Current trends can be divided into two umbrella categories: wood-style siding and masonry-style siding. The most common wood styles include solid-wood panels or “shakes,” fiber cement and vinyl siding. The most common masonry styles are brick, stucco and, to a lesser extent, stone.

The standard criteria for selecting siding typically concerns cost, durability and design. These aspects are certainly important, whether you are building green or not. But there are a few additional issues to consider when building green and with sustainability in mind: resource efficiency, embodied energy and performance.

First, resource efficiency addresses the material’s content and production. A material’s recycled or locally acquired content, durability and renewability all benefit the material’s overall resource efficiency. Next, embodied energy represents the total energy input into a product, including manufacturing, transportation and installation. The lower the embodied energy, the greener the product. Finally, performance of a material, in the case of siding, relates to its ability to protect a house from the elements, control moisture and minimize maintenance. The better the siding performs, the fewer problems a home will have. Keeping these additional criteria in mind, we can take a look at the common siding types and better understand the green impacts of your material choice.

Wood siding has been a standard and effective siding choice for centuries. As a material, wood is readily available in most parts of the world, and it is strong, durable and visually pleasing. Traditional panel siding — as well as bark and cedar shakes — are all popular siding choices. In recent years, many builders have shifted away from wood siding because of the maintenance required, pest threat and (compared to synthetic alternatives) higher cost. But when building green, wood can be a great choice. It is biodegradable, toxin-free and can be sustainably harvested and replanted (look for Sustainable Forestry Initiative and Forest Stewardship Council certifications, which are approved wood materials for NC HealthyBuilt homes). With proper installation, and use of low toxicity paints and stains, the green benefits of wood siding are many. Be sure to choose wood that is sustainably harvested and does not require a great distance to travel.

Alternatives to wood siding include engineered products such as **vinyl siding**, fiber cement and other composite siding products. Vinyl siding has become the most popular siding choice in the United States because of its low cost, easy installation, durability and superior moisture protection. It is not, however, the greenest choice. Vinyl siding is made from man-made polyvinyl chloride, which is not biodegradable. Additionally, toxic chemicals used to manufacture vinyl siding severely limit recycling and reuse. Vinyl siding also has a very high embodied energy because of the required processing and transportation involved.

Fiber cement is a common alternative to vinyl siding. Fiber cement is very durable and requires little maintenance. The Portland cement used in its production is energy intensive to produce and wood fiber, the other major ingredient, typically requires long distances to transport and may come from non-sustainably harvested wood. However, engineered composite materials such as Nichiha and LP Smartside siding have done an excellent job to lower their energy use, incorporate higher recycled content and reduce the raw materials used in production, all while keeping the benefits of fiber cement siding, making them a good green siding choice.

Masonry siding is the other common siding style used today. Brick siding, for one, is highly durable, and fire- and pest-resistant. Bricks, most often formed from clay and finished in large kilns, are probably one of the most durable and low maintenance siding materials available. Search locally to find a brick producer in your area. While installation time and overall cost are the most common drawbacks, bricks can be an excellent green-siding solution. Attention to detail in how the bricks are



A bark away: The standard criteria for selecting siding typically concerns cost, durability and design. A few additional issues to consider when building green and with sustainability in mind: resource efficiency, embodied energy and performance. photo courtesy of Highland Craftsmen Inc./Barkhouse

#avlgb

- WNC Green Building**
@WNCGBC

20h

Future is bright for solar in N.C. | Local News | fayobserver.com fayobserver.com/news/local/fut...
#avlgb
- boonet2**
@boonet2

8 Jan

NC coal ash victims blast state for downgrading Duke Energy dumpsite risks
southernstudies.org/2016/01/nc-coa... #avlgb
- boonet2**
@boonet2

8 Jan

[SolarIndustryMag.com](http://solarindustrymag.com): How State RPS Policies Benefit Renewable Energy In The U.S.
solarindustrymag.com/e107_plugins/c... #avlgb
- boonet2**
@boonet2

8 Jan

Opinion: Duke Energy's (Secret) Dinner with Pat - Charlotte Magazine - January 2016 - Charlotte, NC
charlottemagazine.com/Charlotte-Maga... #avlgb
- boonet2**
@boonet2

8 Jan

'Find Parking' site launches in Asheville « City Parking Garages « City Facilities « Asheville City Source coablog.ashevilenc.gov/2015/11/find-p...
#avlgb
- WNC Green Building**
@WNCGBC

7 Jan

NC's renewable energy tax breaks remain with phased-out repeal wxii12.com/news/NC-s-rene...
#avlgb
- boonet2**
@boonet2

7 Jan

Governor, top Duke Energy officials met privately, won't say why :: WRAL.com
wral.com/governor-top-d... #avlgb

Retweeted by J. Max Hunt

Show Summary
- boonet2**
@boonet2

7 Jan

Governor, top Duke Energy officials met privately, won't say why :: WRAL.com

Tweet #avlgb

laid and ensuring that moisture barriers are in place will guarantee the best long-term results.

Stucco is another common masonry siding material. It comes in two main varieties — traditional and modern. Traditional stucco is made of all natural ingredients, including lime, sand and water. This type of stucco has been avoided in more recent times due to its more difficult and time-intensive installation, which requires application in three layers, with the outer most layer finished by hand or with a trowel. Modern stucco incorporates Portland cement and, in some cases, chemical binders into the traditional stucco mixture. This reduces the need for additional layering, but necessitates additional material cost and adds to the overall embodied energy. While both types are durable, incorporating proper drainage and moisture barriers will maximize the performance benefits of each.

Stone is most often used as facing on foundations. The most common deterrent for use of stone siding is cost, often priced around \$20 per square foot. When it comes to building sustainably, however, stone is hard to beat. Stone is all natural, will last thousands of years, is available locally and is fire- and pest-resistant. But make sure the stone is installed properly to eliminate any moisture problems, and be conscious of how far the stone has traveled to the building site. Also be cautious when considering synthetic stone as a siding choice. This type of stone is fabricated from Portland cement and is often transported longer distances than real stone. Synthetic stone is easy to install, but lacks the aesthetic character of local stone and carries a very high embodied energy value.

Choosing green siding can be simple and rewarding. With just a little consideration and research, you can afford siding that will improve the look and feel of your home, and its health and performance too.

Jake Sadler is the Residential Outreach Coordinator for the WNC Green Building Council. You can reach him at Jacob@wncgbc.org or 828-254-1995.