

## The Basic 10 of Green Construction – Part III

The fundamental elements of green construction result in energy conservation, water conservation, improved indoor air quality, and a more durable structure.

Having covered orientation and design, sealing the building envelope, improving the insulation, and upgrading the HVAC system in the first two articles, we continue the series with two more energy saving basic green features.

**5—Upgraded Windows:** The windows are another feature that will influence the energy efficiency of the building envelope. The energy saving attributes of windows, such as insulated, gas-filled, double-pane glass; low-E coatings; and vinyl, wood, or fiberglass composite frames contribute to a lower SHGC (solar heat gain coefficient) and U-Value. (The lower the better for both these numbers in our climate zone.)

These two figures appear on the NFRC (National Fenestration Rating Council) label affixed to the window and directly affect the HERS index – the energy score for the home. Check with your supplier to make sure the recommended windows have been rated by the NFRC.

Window size, placement, quantity, and specifications are considered in conjunction with home orientation and design, the first component of green building discussed in Part I of this series. This is just one of the reasons why a home design that's focused on retaining the sun's heat in winter and blocking it in summer can play a significant role in energy savings.

**6— Energy-Saving Appliances:** Energy Star qualified appliances incorporate advanced technologies that use 10 to 50 percent less energy and water than standard models.

Not only are Energy Star appliances more energy-efficient, they're also quieter. And let's address the water usage issue. For example, Energy Star qualified dishwashers not only use at least 41 percent less energy than the federal minimum standard for energy consumption, they also use about one-third less water than non-qualified models.

Front-loading washing machines also use less water, about 15 gallons less than older, top-loading models. When considering an Energy Star machine, take a look at the Water Factor — the lower this number, the

more efficient the machine. (Water Factor is a measurement of the number of gallons per cycle, per cubic foot, that a clothes washer uses. For example, if a machine uses 30 gallons per cycle and has a tub volume of 3.0 cubic feet, the Water Factor for that device is 10.0.)

Although Energy Star appliances are addressed in the HERS index and are therefore not part of the FGBC Green Home Standard Checklist, the checklist does offer points - up to 3 - for installed washing machines with low Water Factors. A list of Energy Star washing machines and their corresponding Water Factor can be found at [http://www.energystar.gov/index.cfm?fuseaction=clotheswash.display\\_products\\_html](http://www.energystar.gov/index.cfm?fuseaction=clotheswash.display_products_html).