

7 Design Principles For Healthy Homes

To stand out from the competition in this new buyers' market, concentrate on designing your structures to meet healthy home guidelines.

Green building is catching the eye of many new home buyers, which is why a growing number of builders and contractors are becoming educated on its principles. In some markets, such as Seattle's King County, a full 20% of all new homes are built to green standards. Moreover, it offers a way for builders to dramatically differentiate their product from existing housing.

If you're looking for still more ways to differentiate your building business, we encourage you to investigate the Healthy Home Guidelines developed by the National Center for Healthy Housing. The concept of healthier housing is receiving considerable attention from buyers and builders alike. A growing body of evidence links homes that operate poorly to health issues such as asthma, lead poisoning, lung cancer and injuries.

To help remedy this, longtime modular manufacturer Penn Lyon Corporation (Selinsgrove, PA) agreed to offer a line of Healthy Home designs. It offers a way for the company to offer green building with a healthy twist. "We are extremely enthusiastic about this," says David Reed, president of Penn Lyon Homes Corporation. "We look forward to launching a complete series of Ecohealth Homes in the coming months."

A healthy home is accomplished with solid design strategies as well as with continued maintenance performed by the homeowner. Here's how it breaks down:

1. Keep It Dry

Using a building system enables homes to be constructed in a controlled indoor environment, preventing water damage and mold issues. In addition, all cold water pipes are to be insulated to reduce condensation problems.

2. Keep It Clean

Using a building system reduces dust and contaminants. Precise machines and more skilled tradesmen results in less material waste, which has a lower impact on the environment. In addition, less cleanup on

the job site as well as less dust and pollution from the workers coming and going from the site creates a lower environmental impact.

3. Keep It Ventilated

To reduce the concentration of contaminants in the home, ventilate bathrooms, kitchens, laundry areas and all HVAC equipment, and use whole house ventilation for supplying fresh air. Fireplaces should either have a chimney (that is cleaned annually) or have a direct vent to the exterior (never vented indoors as some gas models are allowed to be in some building codes). HVAC should not be an afterthought—it should be carefully designed into the home's performance from the beginning.

4. Keep It Safe

Install smoke and carbon monoxide detectors on every floor, provide escape ladders and offer locked medicine cabinets. Encourage homeowners to have all HVAC equipment and appliances cleaned and inspected every year.

5. Keep It Free Of Contaminants

Use low-VOC (volatile organic compounds) paints and no building products with formaldehyde in them. Include a mudroom with shoe storage in the floor plan to reduce contamination of the rest of the home.

6. Keep It Well-Maintained

Home buyers have to be educated on inspecting, cleaning and repairing their home routinely. They need to repair problems before they become larger issues.

7. Keep It Pest Free

All pests look for food, water and shelter. That's why homeowners have to be vigilant about sealing cracks and openings throughout the home. They should store food in pest-resistant containers. Use non-toxic pesticides, such as boric acid powder.

OFFER A TRAINING MANUAL

The best way to keep the home healthy is to train the homeowners on warning signs

and suggested strategies for upkeep. Tips to include in your training manual:

- **Dry:** Damp houses provide a nurturing environment for mites, roaches, rodents and molds, which are all associated with asthma.

- **Clean:** Clean homes help reduce pest infestations and exposure to contaminants.

- **Pest-free:** Recent studies show a relationship between exposure to mice or cockroaches and asthma episodes in children. Yet inappropriate treatment for pest infestations can exacerbate health problems, since pesticide residues in homes pose risks for neurological damage and cancer.

- **Contaminant-free:** Chemical exposures include lead, radon, pesticides, volatile organic compounds and environmental tobacco smoke. Exposures to asbestos particles, radon gas, carbon monoxide and secondhand tobacco smoke are far higher indoors than outside.

- **Properly ventilated:** Studies show that increasing the fresh air supply in a home improves respiratory health.

Builders can get started building green by first understanding the basic materials they are using and how a house actually lives and breathes. You will not only benefit yourself but your customers as well. There are several books, seminars and videos as well as trained healthy home experts out there to get you started.

For more information, including an analysis of how green building guidelines and healthy home principles interact, visit centerforhealthyhousing.org. ■

Amy Ellison Ostberg is president and lead architect of The New Hampshire Design Collaborative. (email amy@nhdesigncollaborative.com).

Michelle Roberts is founder of Ecohealth Homes, a division of Chatham Hill Residential Design Build (michelle@ecohealthdesigns.com).