

BUYING “GREEN” PRODUCTS

What Makes a Product “Green?”

There are a number of construction products that can be easily used for new home building that are considered green. According to Environmental Building News, a publication produced by Building Green, Inc., a product is considered green if it meets one of several criteria:

1. Products made with salvaged, recycled, or agricultural waste
2. Products that conserve natural resources
3. Products that avoid toxic or other emissions
4. Products that reduce environmental impacts during construction, demolition, or renovation
5. Products that save energy or water
6. Products that contribute to a safe, healthy indoor environment



Based upon the above criteria, it would seem to be logical that a builder might have interest in incorporating some green products into the design of a new home. The benefits of purchasing green materials will be discussed in the following sections.

Why Buy “Green”?

The marketplace drives the manufacture of products, recycled or not. Herein lies the key to all of recycling. Without a market for a products, there is no economic reason to collect recyclables. Many environmental reasons can be promoted for recycling (saving resources, extending landfill life, less polluting in the environment). Without economic feasibility, these reasons alone will not satisfy the business environment. That is why it is important to buy recycled to stimulate markets, provide jobs, and make more efficient use of our existing resources.

An example of “closing the loop” in the recycling process can be seen with wood recycling. Wood scraps generated from new home construction can be recycled into engineered-wood products like furniture and plastic-composite decks, as well as landscaping mulch, playground material, animal bedding, compost and landfill roads. Some processors reuse wood from broken pallets in the production of new pallets. When builders purchase these recycled-content products, the “recycling loop” is closed.

A Word on Energy Savings:

As mentioned in the list at left, products that save energy or water are considered “green.” Products that can save energy fall into several distinct subcategories.

1. Building components that reduce heating and cooling loads, such as structural insulated panels (SIPs), insulated concrete forms (ICFs), and high-performance windows and glazings.
2. Equipment that saves energy, such as refrigerators and water heaters that meet ENERGY STAR standards or higher.
3. Renewable energy and fuel cell equipment, such as solar water heaters, photovoltaic systems and wind turbines.

For more information on energy savings, visit www.buildinggreen.com or www.energystar.gov for more details on the ENERGY STAR program.

What to Look for When Buying “Green”

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System certifies buildings, not products. However, since the products and materials that are used in designing and construction a project can contribute to earning LEED points, third-party certification programs may offer assistance when seeking environmental building materials.

When you are looking to purchase an environmentally-responsible product, there are several different types of symbols or certifications that may indicate the product’s “greenness.” What may be the most widely-known symbol is the “chasing arrows”, signifying recycled-content. Other examples of symbols or certifications include:

FSC Certified. The Forest Stewardship Council (FSC) promotes responsible forest management globally by certifying forest products. Visit www.fscus.org for more information.

Green Seal. Green Seal (www.greenseal.org) is an independent, non-profit organization that strives to achieve a healthier and cleaner environment by identifying and promoting products and services that cause less toxic pollution and waste, conserve resources and habitats, and minimize global warming and ozone depletion.

Low-Emitting Materials (Carpets). The Carpet and Rug Institute’s Green Label Indoor Air Quality Test Program identifies low-emitting carpet systems that meet scientifically established standards. Visit www.carpet-rug.com for more information.

ENERGY STAR. Many different types of products are certified as energy-efficient through the ENERGY STAR program (www.energystar.gov).

Green-e. Certain renewable energy sources (solar, wind, geothermal, biomass or low-impact hydro sources), are defined by the Center for Resource Solutions Green-e (www.green-e.org) products certification requirements.

GreenGuard. The GreenGuard (www.greenguard.org) Environmental Institute is a global, non-profit organization with a scientific, third-party board to establish and test environmental standards for low-emitting indoor products and building materials.



What Types of Products Are Available?

A variety of products made from recycled materials are available to the construction industry. A supplemental Green Products Resources library is available at MMWA (989-755-2716) with detailed listings on a wide variety of products, including ASTM data where available, retail locations in Michigan, company information and brand names.

The U.S. Environmental Protection Agency produces the Comprehensive Procurement Guide (CPG) as part of their ongoing effort to promote the use of materials recovered from this waste stream. The CPG Program recommends high-performance construction products, including:

- ◆ **Building insulation.** Recycled-content insulation is available in standard forms (rolls, loose fill, and spray foam) and contains a range of recovered materials, including glass cullet, plastics, paper fiber, and blast furnace slag. Cellulose insulation is made from recycled wood fiber, primarily newspaper. One hundred pounds of cellulose insulation may contain between 80 and 85 pounds of recycled newsprint.



- ◆ **Carpet.** Contractors can select recycled-fiber carpet made from either polyester or nylon. Environmentally-responsible carpet may also be available with recycled-content backing. Often carpet is made from recycled PET bottles, even though it is not advertised as such. The carpet distributor can usually confirm whether it is recycled-content. It is estimated that two cases of pop bottles diverted from the waste stream will make one square yard of polyester carpet.
- ◆ **Cement and concrete.** These materials can be made using fly ash recovered from coal-burning power plants and ground blast furnace slag recovered from iron production.
- ◆ **Consolidated and reprocessed latex paint.** Consolidated paint, produced by mixing different types of collected post-consumer paint, is only recommended for outdoor applications. Reprocessed paint is sorted according to color, finish and type during collection and can be used either outdoors or indoors. When purchasing paint, contractors can look for paints labeled “Low VOC (volatile organic compounds) emissions” as well (see sidebar at right).

Why Buy “Green” Paint?

Anyone who has ever painted a room knows that paint has a very distinctive smell --sometimes driving occupants out of a newly-painted room for days. Some people wish to avoid these fumes, which may include petroleum derivatives, formaldehyde and heavy chemical preservatives, and have begun to seek alternatives to traditional paint.

Several different kinds of “greener” paint are available:

- ◆ **Low-VOC and Zero-VOC paints.** These paints are classified as low volatile organic compounds (VOC) because they are water-based and release lower levels of toxic emissions. Zero-VOC paints contain fewer than 0.5 grams of these toxic molecules per liter.
- ◆ **Natural paints.** Made solely from plants and minerals, these water-based natural paints do not emit odors. In fact, some even have pleasant smells such as citrus, lavender, or essential oils.
- ◆ **Milk paints.** These paints are the oldest form of paints, and were first sold commercially in the mid-1800s. They are made from milk, protein, clay, lime and earth pigments, and come in deep, rich colors.

Information on where to purchase these paints is available in Appendix C.

- ◆ Floor tiles. Recycled-content floor tiles and patio blocks can contain high percentages of plastic or rubber salvaged from truck and airplane tires.
- ◆ Laminated paperboard and structural fiberboard. Paperboard contains brown kraft paper and can be ideal for indoor decorative applications such as millwork and furniture components. Fiberboard is manufactured using recycled wood, cane, or paper and can be used as structural material, insulation, or acoustical tile.

Habitat for Humanity’s “ReStore Saginaw”

A ReStore is a great concept -- it combines both recycling and purchasing salvaged or recycled materials with a way to generate money for Habitat for Humanity. Donations of closeout and surplus items from area home-supply stores and retailers, leftovers from remodeling projects or house demolitions, and general donations from residents of Saginaw County are accepted and then sold to the public and contractors at 50% of their value.

Typical items that may be found at ReStore Saginaw include: tools, paint wallpaper, accessories such as drawer pulls/knobs, windows, doors, fixtures, lighting units, screens, plumbing fixtures, and more.

The ReStore is unique within Saginaw County, but has proven successful in other areas of Michigan and throughout the country. Benefits of the ReStore Saginaw include:

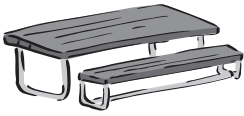
Habitat for Humanity’s ReStore
 2121 S. Michigan Ave.,
 Saginaw
 Monday through Friday
 7:30 am to 3:00 pm.

- ◆ conserves resources by keeping otherwise unwanted items out of landfills;
- ◆ provides a local place to shop for recycled building and home improvement supplies;
- ◆ allows for donation opportunities to help others benefit from good quality yet unneeded materials; and
- ◆ provides funding for operational expense for Saginaw Habitat for Humanity to continue working towards its mission of eliminating poverty housing.

Donations may be brought to the store during the posted business hours. If a donation cannot be made during that time, please call the ReStore at 989-791-4598 to arrange an appointment, or for transportation of the donated materials if necessary.

The ReStore also accepts batteries, cell phones, and printer ink cartridges for recycling.

- ◆ **Recycled plastic lumber.** Recycled-content lumber can contain as much as 100% post-consumer plastic (often milk jugs) or a blend of recycled plastic and recycled wood waste. Plastic lumber is often touted for being long lasting -- some manufacturers guarantee their products for 50 years. It does not require painting or staining; it is graffiti resistant; and it can be sawed and drilled like wood. Recycled plastic lumber is usually recommended for use in decking or fencing rather than in load-bearing areas of building construction.



Appendix C of this document lists manufacturers or retailers of recycled-content products available in the Saginaw area. MMWA also has a comprehensive Green Product Resource listing -- call for details and to borrow. With just a little additional effort, you can include these items in your next new home construction project!



Will I Sacrifice Quality if I Purchase Recycled- Content Products?

No! Cellulose insulation made from newspaper is a good example of a high-quality recycled-content product. Studies have shown that cellulose-insulated buildings may use 20% to 40% less energy than buildings insulated with fiberglass, even if the R-value of the insulation in the walls and ceilings is identical.

Many area contractors are also using the fabricated wood I-beams, which are touted as stronger than typical wood beams.

What is “Green” Building?

The Home & Building Association of Greater Grand Rapids, sponsors a program where builders become “Certified Green Built” by building homes that are energy efficient, environmentally friendly, healthy and safe, and resource responsible. While no official program to certify builders is in place in the Saginaw area at present, contractors are encouraged to adopt these practices as part of their home designs.

Different aspects of home building have different “green” approaches that would qualify under the Green Built program. A few of these ideas are summarized below for local contractors to incorporate in their own building plans.

Land Use. Ideas include salvaging existing vegetation; installing permeable patios, walkways and driveways; using soil erosion control measures; and reusing existing topsoil.

Water Efficiency. Practices to improve water efficiency include installation of a water tempering valve on water heater; insulating hot water lines; choosing 0.8 gallon flush toilets; installation of a rainwater cistern; locating the water heater within 20 feet of the kitchen and laundry; and directing gutters and downspouts to a pervious area.

Roof. Contractors can select a recycled-content roof material or a 30-year or 40-year roofing material rating.

Framing / Decking. Builders can opt for engineered “I” joists in roofs and floors; reducing framing studs (such as 24-inch centers); using steel studs; installing insulated concrete forms; purchasing lumber from certified sustainable harvested sources; and using decking made from recycled materials.

Design Efficiency / Waste Management. Ideas in this category include use of recycled or reclaimed lumber; using finger-jointed studs; installing composite trim; selling or donating scrap materials; and selecting suppliers with return policies.

In addition, contractors are encouraged to select appliances with ENERGY STAR ratings since they use less energy, which translates into savings for the occupant and an improved environment. Builders can find more specific information on the Certified Green Built program at www.hbaggr.com/about_issues_green.htm.

Waste Reduction

Another important way for a contractor to “build green” is to reduce waste generated on the jobsite.

Several ways to do this include:

1. Use designs with standard sizes and building techniques (i.e., switch from 16-inch to 24-inch studs wherever possible).
2. Work with suppliers to reduce packaging waste. Ask that fixtures and other items be shipped with minimal packaging, and check if the supplier will take back their pallets.
3. Invest in a computer program that will more accurately determine the exact amount of material needed on site to reduce waste.
4. Make all wood cuts at a central location, or bring them to a central location, so smaller lengths of lumber needed for cripples and lintels are readily available. Bridging, blocking, and back-framing lumber can also come from the cut-off pile.