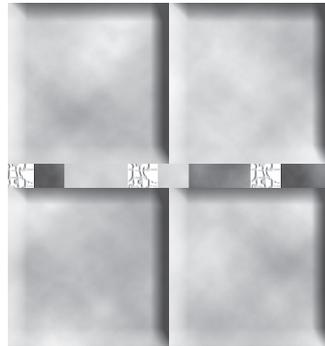


TILE FILES



Kermit the Frog said it best when he sang the words, “It’s not easy being green.” Of course he was referring to his color, but with all of the modern day standards and competing rating systems, and the sometimes overwhelming and conflicting information in green marketing, one just might find Kermit’s words to be applicable when trying to select green building products.

Trying to compare the greenness of one flooring product to another is like trying to compare two people—each may excel in his own way. The key to selecting sustainable flooring is in understanding the specific contributions that flooring and its installation methods can make to the overall design and performance of a green building.

Ceramic tile has many ecological attributes, some of which are inherent and others that are innovative. Tile can easily be incorporated into green building and design in programs such as Leadership in Energy and Environmental Design (LEED), The California Collaborative for High Performance Schools—2009 Criteria, and the National Green Building Standard. Tile can help earn credits in these programs for its recycled content, place of manufacture, low jobsite emissions, indoor air quality and other attributes that may not be readily apparent.

By its very nature, ceramic tile is an ecological product. Tile is made from natural raw materials (sand, clay, and minerals), which are widely available. In many cases, these natural materials are mined within 500 miles of the manufacturing and job site locations, minimizing transportation fuel consumption and greenhouse gas emissions.

The quantity of raw materials needed for production has been falling, as tile and installation material manufacturers use large quantities of recycled material in their products. These might include glass or various recycled aggregates. Installation materials manufacturers use wide varieties of recycled materials, including rubber, plastic, glass, calcium sulfate from power plant coal scrubbers, and many others. Also, most tile and related installation material factories are closed loop, resulting in only negligible amounts of scrap and wastewater.

The installation of tile is also an ecological practice. Unlike many rolled flooring products, tile can be ordered and delivered in nearly the exact quantities that are needed for a job. This results in reduced amounts of jobsite waste. Also, scrap cuts and pieces are commonly used for trim and in transitional areas of a layout. Other unused or scrap material can either be ground and reused onsite for clean fill or landscaping, or sent off as recyclable material for other applications.

Because tile is non-absorptive, it can be installed early in the construction phase without need for protection from moisture exposure. Tile also doesn’t have to be finished on site. Indoor air quality of a construction site is also a major ecological consideration. Tile results in little to no volatile organic compound (VOC) emissions, and doesn’t require tools that could emit carbon monoxide. In addition, many adhesive manufacturers now incorporate dust-free technology into their products, minimizing quantities of jobsite particulates. Moreover, tile does not emit formaldehyde or contain any of the chemicals found in carpet.

Contribution to improved indoor air quality for occupants is another important characteristic of green building products. Tile is conducive to clean and healthy indoor air. It has long been known that tile is inhospitable to dust mites, mold, germs, and bacteria. But another big contribution is the fact that tile contains no VOCs. This is because tile is fired at high temperatures, usually in excess of 2,000 degrees Fahrenheit. Also, low and zero VOC tile adhesives are available from grout and mortar manufacturers.

Tile can also contribute toward reduced energy use in a building. Because of its thermal mass, tile works well with

radiant heat underlayment systems. The use of these systems results in heat distribution that is more uniform than conventional forced air heating, and is an energy efficient way to heat a home.

An ecological exterior use of tile can be on sidewalks, parking lots, driveways and courtyards. Ceramic tile, especially light colored tile, tends to reflect heat better than traditional paving materials like asphalt, and can help lower an urban development's heat island effect.

Perhaps the most ecological attribute of tile is its durability and sustainability. Few would argue that tile doesn't last a long time. In many cases, tile lasts through several building occupancies. When calculating a product's environmental footprint it's necessary to divide by the life expectancy of that product, and tile's long life results in a minimal environmental footprint.

Additionally, tile is one of the few building products that can be removed from one site and reinstalled in another as a reused or salvaged material.

Tile's durability makes it a superior surface covering for use in the harshest of conditions. It can be used as an alternative to carpet in areas adjacent to water closets or bath fixtures, or in wet areas in conjunction with approved tile backing.

One shouldn't necessarily focus on choosing products simply because they earn points in common green rating systems. When deciding on products, it is critical that form

and function are the first priorities, and that products are selected or specified based on their appeal and ability to serve the purposes required. Then, with knowledge of the environmental impact of the products chosen, and their installation and maintenance requirements, an assessment of their applicability to green building rating systems can be made. Given the many ecological benefits of tile, points can accumulate quickly and in ways one may have never thought possible. Thus, one may find, "It is easy being green." ■



THE AUTHOR

Bill Griese, Standards Development and Green Initiative Manager for the Tile Council of North America, is involved in the development and revision of ASTM, ANSI, ISO, and other industry-specific standards, and the coordination of TCNA's environmental efforts. He serves as chairman for the ASTM C21 Committee on Ceramic Whitewares and Related Products, and works closely with TCNA's Product Performance Testing Laboratory. Griese is a LEED Accredited Professional and earned a Bachelor of Science degree in Ceramic and Materials Engineering from Clemson University in Clemson, South Carolina.

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