

Tile industry making it easier to understand

BY BILL GRIESE

When selecting ceramic (or porcelain) tile for a green building project, it is important to consider a wide variety of sustainability concepts. Through technical research and standardization, the Tile Council of North America (TCNA) is helping lead the effort to develop and communicate sustainability performance criteria and environmental reporting rules for the tile industry.

Over the past several years, the industry considered a host of sustainability criteria in creating a wide-ranging multi-attribute product sustainability standard. Titled Green Squared, it establishes prerequisite and elective criteria for sustainable tiles and installation materials, including social and environmental criteria. It is the first product sustainability standard to encompass a full range of products within an industry and is a valuable tool in the achievement of sustainable tile systems.

Green Squared is being considered by the ANSI A108 committee, which repre-



sents a diverse cross-section of tile industry and green building community stakeholders. Once approved, it will serve as a valuable tool and clear standard for assessing the overall sustainability of tile and installation materials in today's green building world.

EPD

Based on lifecycle assessments (LCA) in accordance with ISO 14040, environmental product declarations (EPD) are a handy way of communicating a product's full environmental story, similar in concept to "Nutrition

Facts" in the food industry.

Unlike multi-attribute standards with established performance criteria, EPDs are merely a reporting mechanism for manufacturers and are intended to assist end users in making informed decisions.

As consumer demand for standardized sustainability reporting in the U.S. increases, the establishment of criteria for writing EPDs is becoming more critical. Known as product category rules (PCR), these criteria are developed to ensure information on EPD labels are reported consistently for all products within a common category.

TCNA is participating in the first joint flooring industry initiative to develop PCRs in the U.S. With the establishment of EPD programs in the U.S., quantitative apple-to-apple environmental comparisons will be possible, even if the products being compared are different types of flooring.

What kind of sustainability attributes can be expected of tile products?

•*Durability.* Product durability is one of the most important contributors to the sus-

environmental 101: Mohawk

Establishing your presence in the local community

BY JENNY CROSS

Director of sustainability, Mohawk Industries

We hear it time and time again. Going green is good for business.

Executives from every flooring manufacturer are preaching sustainability as a responsible way to develop and implement cost-saving measures during a persistent period of weak demand. The belief is, when we do this, we will emerge from the recession as stronger, more sustainable, more competitive companies.

As a local flooring retailer, you may be skeptical of the impact sustainable practices will have on your bottom line. This is understandable. Change is never easy and it takes time to calculate the return on your investment.

Nevertheless, embracing the green movement can most assuredly benefit your local business. Many retailers achieve measurable results when they think of sustainability as a community investment. When you invest in community programs you differentiate your local business from big box competitors and show potential customers the value of your services.

Admittedly, balancing your big heart with a limited budget can be difficult, so here are some suggestions to consider.

Times are tough. In today's economic climate, it isn't possible to donate to every organization that comes knocking on your door. It's

OK to say no to sponsorships that aren't as relevant to you and your customers.

We all know women make most of the decisions when it comes to home fashion. Consider reaching out to organizations that your customers are already connected to and support them. Susan G. Komen for the Cure, an organization leading the fight against breast cancer, is a good example of a collaboration that naturally fits.

Of course, no two communities are the same. Prioritize your partnerships, but also trust your instincts. No one knows your customers better than you.

Also, keep in mind, forming a community partnership isn't enough on its own, no matter how worthy the cause. Be sure to communicate your efforts through advertising and community education opportunities. More than anything, you want your customers to know who your business supports and why the cause is close to your heart.

Every business owner, small and large, is looking for new ways to grow the company's brand. Don't miss out on your opportunity to do this in the most meaningful way. Consumers want to support responsible businesses that care about sustaining the local community. When you align with the right people and programs, you make the customer's decision easy. She will shop at your store and feel good about it. Just as significant, she will tell others about your good work and her positive retail flooring shopping experience.



green attributes

tainability of any installation. When considering the environmental, social and economic sustainability of a product, all relevant impacts are repeated each time that product is replaced within a normalized timeframe (usually, the expected life of a building).

Ideally, a product's expected service life is at least as long as the building in which it is installed, in which case its relative impacts are considered only once. Tiled surfaces can have a perpetual service life, especially if they meet or exceed recognized durability criteria such as from ANSI, ASTM and ISO.

By following approved industry installation guidelines such as those outlined in the 2011 TCNA *Handbook for Ceramic, Glass, and Stone Tile Installation*, durable and ultimately sustainable tile installations can be achieved.

•*Recycled content.* Tile and installation material manufacturers offer wide varieties of products with pre- and post-consumer recycled content. This can contribute to overall building recycled content and help achieve compliance with criteria in various green building standards and rating systems. It is always a good idea to consult directly with manufacturers to ensure products la-

beled as containing recycled content meet project-specific requirements.

Additionally, high levels of responsibly recovered waste, including dust, powder, unfired scrap and water, are commonly reincorporated into the manufacturing process. Such materials, when reincorporated into the same processes that created them, are not typically considered pre-consumer recycled content by ISO and FTC definitions.

However, waste reclamation is a vital component to minimizing waste and maximizing resources. In fact, many tile factories are so efficient at this, they are effectively closed-loop facilities. Reducing waste to zero and fully utilizing all inputs is paramount to sustainability and the Holy Grail of efficient manufacturing.

•*Indoor air quality.* Building materials with few or no volatile organic compounds (VOC) are necessary for good indoor air quality. Ceramic and porcelain tile products have zero VOCs—because they are manufactured at high temperatures—and easily meet the requirements of commonly referenced emission specifications.

In fact, tile and stone floor coverings with no organic-based coatings or sealants are exempted from VOC emissions testing in most green building standards and rating



systems, including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).

While tile setting materials are not exempted from VOC testing in LEED and other green building standards and rating systems, cementitious mortars (with and without polymer additives) typically have low to no VOC content or emissions. Such products, as well as most mastics and reactive resins in the North American marketplace, have been tested and are in compliance with VOC content and emission criteria.

•*Cleaning and maintenance.* The use of tile generally eliminates the need for harsh cleaning chemicals and their impact on the environment. Tile and grout manufacturers should be

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A WORD FROM OUR SPONSOR: MAPEI

Greener formulas improve the environment

The latest technological advancements in flooring adhesives include formula changes to existing products that incorporate various new research discoveries.

These changes are represented by innovations such as dual-function products, phthalate-free and isocyanate-free formulas, as well as by the use of rapidly-renewable raw materials. There have also been new developments in adhesives in response to recent trends in floor coverings.

Mapei has and continues to be a leader in the adhesives industry because it continuously reviews its formulations in light of changing and emerging technologies, to improve its products for installers and end users.

A major influence in recent developments has been the emphasis on formulating adhesive products that have a greater focus on environmental sustainability. For instance, replacing phthalate plasticizers with rapidly renewable raw materials produces a more environmentally conscious product and reduces the manufacturer's carbon footprint required for producing such a product.

Mapei's new family of Ultrabond ECO urethane wood adhesives is a perfect example of the types of products which incorporate these innovative formulations.

Dual-function adhesives that can control moisture from a subfloor and bond in a single step help address the requirements of fast-track construction and high-moisture-content slabs.

Previously, these conditions had to be addressed with multiple products that needed to be used sequentially. The old saying goes, "time is money." And being able to save time often means being able to save a lot of money—which means more money gets to stay in your pocket.

Mapei's Ultrabond ECO 995 combines an effective moisture barrier with a superior wood flooring adhesive into one application, saving contractors time and money.

While Ultrabond ECO 995 is for wood flooring, Mapei has just released a unique carpet adhesive designed to adhere new carpet backing systems that are totally recyclable. Mapei's Ultrabond ECO 885 can be used for both carpet tile and broadloom products. It can also be used for both permanent and releasable installations. The use of post-consumer recycled content

in place of traditional mineral-type fillers in Ultrabond ECO 885 adds to the product's green contribution.

To learn more about Mapei's Ultrabond ECO

line of eco-friendly adhesives for carpet, wood and resilient floor coverings, visit mapei.com. While there, you will find information about the more than 110 Mapei products that are not only environmentally friendly they are compatible with LEED requirements in the four categories that involve flooring installation.



Ceramic

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contacted to provide cleaning and maintenance recommendations for products used in green buildings.

When a sealer is used, it is important to consult with the manufacturer regarding its product's compliance with VOC content and emission criteria, especially for ones being utilized on green building projects.

•*Cleanliness and sterility.* Inherently, tile is inhospitable to dust mites, mold, germs and bacteria. Additionally, several of today's tile products have innovative coatings which inhibit microbial growth.

TCNA routinely runs tests and performs research to evaluate the antibacterial activity on such products, and is also evaluating the durability of these coatings. Although antimicrobial tile products are fairly new to the tile industry, such products are expected to grow.

AB2398

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manner. They will then transmit those funds to CARE along with aggregate sales data.

Subsequently, CARE will be charged with disbursing the funds to qualified recipients. CARE has put together detailed requirements prospects must meet to be eligible to receive the funds. Fund recipients are required to submit a 12-month business projection so CARE can evaluate future requirements and adjust as needed.

One of the unique features of this law is CARE has the ability to adjust as market condition change. We are not locked into a set model.

Expectations are that the first funds will be distributed at the beginning of 2012 for submissions based on requests for the third quarter of 2011. It is important to note all this activity will take place prior to CARE submitting its Stewardship Plan to CalRecycle—CARE had until Sept. 30—and the plan must be approved no later than March 31, 2012 in order to be in compliance with AB 2398.

We are well on our way to successful implementation of a groundbreaking way to deal with product stewardship that involves the entire spectrum of players—the manufacturer, the retailer and the consumer.

To learn more about CARE and its implementation of AB 2398, visit carpetrecorvery.org.

Frank Hurd is chairman of the Carpet America Recovery Effort (CARE)

Preliminary research by TCNA on the effectiveness of these coatings is encouraging, and they are yet another feature to consider when choosing ceramic floor and wall coverings.

•*Regional availability.* Products manufactured with indigenous raw materials and within close proximity of building sites can help reduce overall energy consumption and air emissions associated with transportation. For product contributions to green building projects, manufacturers can provide the necessary paperwork regarding product manufacturing locations, quantities of indigenous raw materials, and modes of product and raw material transportation.

•*Exterior contribution.* Light-colored tiled surfaces for site hardscaping, as opposed to traditional paving materials, can lower a development's heat absorption, or heat island effect. Such use of tile can contribute toward compliance in green building standards and rating systems when products have a solar reflectance index value of 29 or greater. For more information on such products, contact the tile manufacturer.

•*Energy reduction.* There are a number of ways tiled finishes can contribute to the energy efficiency of a building. They can help lower a building's energy footprint, reduce operational costs and serve as a valuable strategy in meeting energy consumption reduction targets specified by green building standards and ratings.

By their nature, tile products have exceptional thermal mass. The incorporation of heavy and dense ceramic and cement-based materials into floor, wall and ceiling installations allows for their storing and slow release of



heat. This means in the summer, tiled surfaces capture and store heat from interior environments without significantly changing temperature, keeping interiors cool during the hottest parts of the day. During the winter, tiled surfaces are able to store heat and radiate it back to an interior environment in a comfortable and energy-efficient fashion.

Also, there is an increasing popularity in the use of ventilated façade tiling systems. With such systems, there is a gap between a building's exterior wall and its tile cladding. The resulting ventilated space creates a "chimney" effect where hot air is evacuated in the summer and a building's insulation properties are improved in the winter. Some experts calculate the use of ventilated façades can result in energy savings of between 20% and 30%.

Some tile manufacturers are beginning to add photovoltaic cells onto the surfaces of some of their specialty products. Such technologies are becoming more sophisticated and could potentially introduce a new variety of renewable energy solutions for building exteriors.

•*Innovation.* Manufacturers of tile and installation materials continue to create new products that lower energy usage, reduce material consumption, improve human health and lower other environmental burdens.

As the expectations of green products continue to evolve, people are encouraged to check with manufacturers regularly for details on new environmental technologies.

Bill Griese is the standards development and green initiative manager for Tile Council of North America (TCNA).

Resilient

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stringent VOC emissions standard for building materials.

The voluntary FloorScore program is accepted as an indicator of IAQ by all major environmental rating systems including LEED, Green Globes, Collaborative for High Performance Schools (CHPS), Green Guide for Health Care and EPA's Tools for Schools.

So, it is easy to see why and how resilient flooring and the industry itself is helping to lead the way in environmental sustainability. And we haven't even mentioned the companies that produce high quality—durable and stylish—products made from used tires and other sources.

Indeed, rubber flooring can also contribute to LEED certification without compromising

stock availability, performance durability or style. The initial cost may be higher, but the real savings comes in the form of lower maintenance costs and longer life, two more reasons why it is a good choice for green applications.

Rubber does not have to be replaced as often as some other floors and the product plays a role across certain green credit categories, covering such areas as materials and resources, IAQ, energy and atmosphere, and innovation and design.

Finally, beyond just the products, many resilient companies have environmental programs in place to cut energy usage (including solar power and alternative fuel sources), conserve natural materials and reduce waste. Many manufacturing facilities have achieved ISO 14001 certification for Environmental Management System.