

# Ceramic Tile: A Strong Foundation for the Sustainable Future

With green building standards already awarding points and credits for using ceramic tile, and Green Squared® gaining traction among design professionals, TCNA is embarking on the next green construction expectation: EPDs

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The tile industry's very own standard and certification program for sustainable tiles and installation materials, Green Squared, is on course and moving forward with momentum. With hundreds of products either certified or in the process of obtaining certification, sustainable product selection is easier than ever. Green Squared is more than just a labeling program for green products. It represents North America's consensus on what is required for a tile, mortar, grout, membrane or underlayment to be truly sustainable, including a full range of social and ecological attributes considered important to the North American green building community. The Green Squared Certified mark facilitates marketplace identification of such products. The result is a valuable specification tool that simplifies the specification process.

The 2013 edition of the American Society of Interior Designers (ASID) Guide to Ecolabels finds Green Squared in accordance with the intent and requirements of some of the most common green building standards and rating systems. Additionally, the National Association of Home Builder's National Green Building Standard (ICC 700-2012) awards three points for using Green Squared Certified products.



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Green Squared is also on file with the General Services Administration (GSA), which is working on updates to its Facilities Standards for the Public Buildings Service (P100) in order to more thoroughly mandate sustainability aspects of government buildings.

As the U.S. Green Building Council (USGBC) launches the next era of LEED (Leadership in Energy and Environmental Design), it is likely there will be an increased emphasis on industry sustainability standards and possible points for the use of certified products. Also, the U.S.

Environmental Protection Agency and National Institute for Building Science are looking for ways to update the Whole Building Design Guide to better define and specify green product selection. And in the months and years ahead, industry standards for sustainable products will play an important role in the evolution of the International Green Construction Code, the California Green Building Code and the ASHRAE Standard for the Design of High-Performance Green Buildings (189.1).

### **Environmental Product Declarations (EPDs): Get to know them, Get to love them**

Environmental Product Declarations (EPDs) have been around for a while and have been used commonly in Europe for over a decade. Recently, there has been an increased interest in EPDs in the North American marketplace, which has led to new initiatives by manufacturers, certification organizations and standards developers. What is an EPD? Also known as a Type III environmental label, an EPD is a report of quantified environmental impacts of a product throughout its life cycle. An EPD is not intended to be a claim of environmental superiority. Rather, it is similar in concept to a nutrition label in that it provides a

product's full environmental story in a familiar reporting format so an end user can make an informed decision.

To ensure that an EPD of one product is consistent with that of similar products, product category rules (PCRs) are developed. These rules establish the framework for how evaluations should be made, what information should be reported and how declarations should be organized within a common category of products. A true Type III environmental label is provided by an independent third party EPD program operator. This program operator works with manufacturers to evaluate products and provide reports in accordance with relevant PCRs. If a PCR does not exist for a category into which a certain product falls, the program operator engages with relevant industry stakeholders to develop a new PCR. Once completed, that PCR is registered in a publically available PCR library so that it is available for use by other program operators. In general, the demand for EPDs is being driven by the general desire of the green building community to evaluate product sustainability in



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two ways: conformance to multi-attribute sustainability performance standards (Type I environmental labels such as Green Squared) and EPDs in conformance with Type III environmental reporting standards.

Given that many Type I labeling programs already exist for building products, efforts to develop more building product PCRs will likely increase over the next several years so that an equal number of Type III labeling options will be available. One thing is for sure: EPDs are here to stay. Most green building organizations, including USGBC, are beginning to reference EPDs in standards and rating systems such as LEED. Tile Council of North America (TCNA) and its fellow building product trade groups are considering generic EPDs and informing members about options for their products. While not as ubiquitous as labels for carbs and calories, expectations for their widespread use are growing rapidly. **TILE**

## ABOUT 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 direction of TCNA's sustainability efforts. Additionally, he works closely with TCNA's Product Performance Testing Laboratory. Griese serves as Chairman for the ASTM C21 Committee on Ceramic Whitewares and Related Products and as an appointed member of ASTM's Committee on Technical Committee Operations (COTCO). He is an active participant in the World Ceramic Tiles Forum and serves as a U.S. delegate in several global standardization initiatives. Each year, he speaks at industry events in the U.S. and abroad, and he is a regular author and columnist in several industry publications. Griese is a LEED Accredited Professional (LEED AP) with a specialty in Building Design and Construction (BD +C). He earned a Bachelor of Science degree in Ceramic and Materials Engineering from Clemson University in Clemson, SC.

Environmental Facts	
Functional unit: 1 m <sup>2</sup> of Ceramic Tile (Porcelain) Floor Covering	
Reference Service Life (RSL): 50 Years	
60 Year Inventory Analysis	
Energy Demand [MJ x (60 / RSL)]	
Primary Renewable [MJ x (60 / RSL)]	
Primary Non-Renewable [MJ x (60 / RSL)]	
Secondary [MJ x (60 / RSL)]	
Non-Renewable Material Sources [kg x (60 / RSL)]	
Waste Output [kg x (60 / RSL)]	
Non-Hazardous [kg x (60 / RSL)]	
Hazardous [kg x (60 / RSL)]	
60 Year Impact Assessment	
Global Warming Potential [lb CO <sub>2</sub> eq x (60 / RSL)]	
Acidification Potential [lb H <sup>+</sup> eq x (60 / RSL)]	
Ozone Depletion Potential [lb CFC-11 eq x (60 / RSL)]	
Smog Potential [lb O <sub>3</sub> eq x (60 / RSL)]	
Eutrophication Potential [lb N eq x (60 / RSL)]	
Boundaries: Cradle to Grave	Clay: 50%
Company:	Quartz: 10%
Product Name:	Feldspar: 40%
Total Recycled Content %:	Misc. Minerals: <0.1%
<b>Green Squared Certified (Y or N):</b>	
Other Attributes:	

Environmental Facts Chart