



An Update on Today's Evolving Sustainability Demands

By Bill Griese

What changes are being made to LEED which impact tile products?

In April 2011, the US Green Building Council (USGBC) established a LEED credit pilot program. This program was developed to encourage testing of new and revised LEED credit language, alternative compliance paths, and new or innovative green building technologies and concepts. A working group was established to develop a new library of pilot credits, each of which can count towards one *Innovation in Design* (ID) Credit on a current project. USGBC is organizing LEED project team feedback to evolve and refine pilot credits during their pilot period with a goal of incorporating them as regular credits within their respective chapters in LEED.

USGBC recently announced the addition of pilot credit number 43 for "Certified Products." This credit

awards a point to a building project that utilizes products with single or multi-attribute sustainability certifications, lifecycle assessments, and/or standardized environmental product declarations (EPDs) that in aggregate contribute a weighted value of at least 10% of the total value of all non-structural materials and products on the project. Products with single attribute or self-declared sustainability are half-weighted, products with industry-recognized sustainability (multi-attribute sustainability or industry-wide declarations) are full-weighted, and products which declare everything, including sustainability achievements and shortcomings (product specific reporting), are double-weighted. **See Tables 1 and 2 for a breakdown of LEED pilot credit 43 compliance pathways and a calculation example.**

Barring negative feedback from LEED development stakeholders, pilot credit 43 will become a regular credit in the Materials and Resources section of LEED. As evidenced in the tables above, LEED pilot credit 43 is introducing two important new ways of measuring sustainability: one which requires compliance with multi-attribute criteria, and another which requires standardized sustainability reporting (i.e. EPDs).

Above: The "Crush" series from Fireclay Tile features 100% recycled glass tile.

Table 1

Pathway A: Products with certification(s)	
A: Single Attribute Certification	Weight = 50%
B: Type I Environmental Label (Multi-Attribute Certification)	Weight = 100%
C: Type I label based on Type III EPD	Weight = 200%
Pathway B: Products with environmental product declarations (EPDs)	
A: Self-Declared LCA	Weight = 50%
B: Third Party Certified Type III EPD: Industry-Wide	Weight = 100%
C: Third Party Certified Type III EPD: Product-Specific	Weight = 200%

Table 2

- Total cost of project's nonstructural materials: \$10,000,000
- 10% threshold requirement for Pilot Credit #43: \$1,000,000

Product Name	Total Product Cost	Certification Pathway			EPD Pathway			Weighted Value
		A Single Attribute (50%)	B Multi-Attribute (100%)	C Label based on EPD (200%)	A Self-Declared LCA (50%)	B EPD based on Industry PCR (100%)	C EPD based on Product Specific PCR (200%)	
Product A	\$300,000	X						\$300,000
Product B	\$300,000		X					\$300,000
Product C	\$100,000		X				X	\$300,000
Product D	\$300,000	X	X					\$300,000
TOTAL	\$900,000							\$1,000,000

Product cannot be counted twice within the same pathway

Product may be counted twice if in different pathways



What does Green SquaredSM mean for the ceramic tile industry?

The Tile Council of North America (TCNA) is leading an effort to develop Green SquaredSM, a lifecycle-based multi-attribute standard for sustainable tiles and installation materials. Once in place, products certified to the Green SquaredSM standard could be considered for contribution to LEED and would receive even greater acceptance in the sustainable product marketplace.

Green SquaredSM will introduce sustainability criteria for porcelain, pressed floor, mosaic, quarry, and glazed wall tiles. Additionally, mortar, grout, membranes, backerboards, and many other products needed to tile floors and walls will

Table 1: LEED pilot credit 43 compliance pathways
Table 2: LEED pilot credit 43 compliance calculation example
Bottom Left: Products Covered by Green SquaredSM

be standardized. Once completed, it will be the very first sustainable building material standard to encompass a full range of products within an industry!

The sustainability criteria for each product category in Green SquaredSM will be in accordance with the North American green building industry's practices, expectations, and leading initiatives. The standard will establish a consistent approach to the evaluation and determination of sustainable products, and it will include relevant criteria through the product lifecycle, from raw material extraction through manufacturing, use, and end of life management.

Reflecting the latest environmental thinking and to meet today's multi-attribute sustainability expectations, the first section of Green SquaredSM defines the criteria for General Environmental Characteristics (product characteristics).

The second section of Green SquaredSM, Environmental Product Manufacturing and Raw Material Extraction, lays the foundation for environmental manufacturing.

The third section of Green SquaredSM, End of Product Life Management, considers that tile products are durable, inert, and intended to last as long as the buildings in which they are installed. Furthermore, it notes product end of life management is most pertinent to building demolition waste and waste generated during construction.

The fourth section of Green SquaredSM, Progressive Corporate Governance, sets corporate social responsibility criteria for the workplace and for community involvement.

The final section of Green SquaredSM, Innovation, gives manufacturers the opportunity to achieve product sustainability recognition through exceptional performance beyond the requirements set forth in the standard and/or for innovative performance in categories not specifically addressed.

Green SquaredSM is currently being considered under the designation A138.1 by the ANSI A108 Committee, which represents a diverse cross-section of tile industry and green building community stakeholders. As the first ANSI multi-attribute sustainable tile product standard, it will serve as a valuable tool for assessing the overall sustainability of tile and installation materials in today's green building world.

What are EPDs and PCRs, and what do they mean for the tile industry?

Product Category Rules (PCRs) are the basis for developing Environmental Product Declarations (EPDs) in accordance with ISO 14025 Type 3 Environmental Declaration Principles and

Procedures. This means that in order for a product to receive a declaration of its environmental performance from a third-party EPD program operator, the program operator must first possess a set of “rules” agreed upon by relevant stakeholders for making the declaration.

EPDs are not intended to be claims

of environmental superiority. Rather, they are similar in concept to nutrition labels. Based on lifecycle assessments (LCAs) in accordance with ISO 14040, EPD labels tell a product’s full environmental story so end users can make informed decisions. PCRs are developed to ensure information

on these labels is reported consistently and is appropriately standardized for all products within a common product category.

Since PCRs for flooring in the U.S. do not currently exist, and to address today’s growing demand for EPDs and standardized sustainability reporting in general, 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 comparison of products will be possible, even if those products

Coming soon ...

Green SquaredSM

The Standard for
Sustainable Tiles and Installation Materials



An Initiative of the Tile Council of North America



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come from different flooring industry sectors.

The effort to develop flooring industry PCRs in the U.S. is being facilitated by NSF International’s National Center for Sustainability Standards. As this effort comes to fruition, U.S. flooring products will have another opportunity for acknowledgement by LEED. Additionally, as EPDs are very common in Europe and parts of Asia, domestic flooring products with EPDs would receive greater acceptance internationally in the sustainable product marketplace. **TILE**

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