

sustainability standard for tiles

BY BILL GRIESE



Tile is a uniquely sustainable building material. For example, it is so durable that tile installed in England in 1800 AD remains as beautiful and functional as it was more than 200 years ago. And since durability equals longevity, tile's many environmental benefits can be enjoyed throughout its lengthy lifecycle. But the inherent eco-friendliness of tile and tile installation products is perhaps most evident in Green Squared Certified products, which satisfy many requirements of major green building standards such as IgCC and the recently-released LEED v4.

Green Squared is a multi-attribute, industry-wide standard that underscores the North American tile industry's commitment to sustainable manufacturing. The Green Squared standard and process provide architects, specifiers, and consumers with a consistent set of criteria and an established process for evaluating the sustainability of tile and tile installation products.

Products bearing the Green Squared Certified logo are manufactured according to rigorous sustainability criteria that govern everything from extracting raw materials to end of life cycle management. Manufacturers of Green Squared Certified products invest considerable resources to ensure that their facilities and manufacturing practices are socially and environmentally responsible, and to obtain third-party certification. Hundreds of products have earned Green Squared certification, and others are in the process of becoming certified.

Some criteria are mandatory while others count for elective credit units (CUs). In recognition of the increased emphasis on product transparency (in LEED v4 and elsewhere) the Green Squared standard includes provisions for documenting material ingredients, Environmental Product Decla-

ration (EPD), and annual corporate sustainability reporting.

criteria for the green squared standard include:

Environmental product characteristics. Tile is made from natural materials that are both readily available and highly recyclable, so that old or unused tile can be ground down to make new tile. Green Squared Certified products must contain prescribed percentages (based on product type) of reclaimed or recycled content. Green Squared Certified ceramic tile must not emit any volatile organic compounds (VOCs), and installation products must adhere to set levels for low-VOC emissions. Optional criteria aimed at reducing fuel consumption and emissions specify that raw materials used in manufacturing are recovered, harvested, or extracted either within a 500 mile radius of the manufacturing facility or a 2000 mile radius if materials are transported by ship or rail. Other environmental product criteria concern packaging sustainability and product durability, and criteria for manufacturers to provide eco-friendly guidelines for cleaning and maintenance of installed products.

Environmental product manufacturing and raw material extraction. Criteria in this section dictate strict compliance with measures to prevent pollution and ensure that raw materials are supplied in a manner that is socially and environmentally responsible and in compliance with mining laws. Facilities must meet set levels for emissions and low carbon-generating fuel use, and manufacturers can choose among several optional criteria for waste diversion, including incorporating waste into other products, donating products to charitable organizations instead of disposing of them, and recycling or reusing

incoming shipping materials. Manufacturers may also choose to conform to the elective criteria for the re-use of water, limiting waste water discharge, renewable energy use, re-directing otherwise wasted heat energy to generate electricity (known as cogeneration), or conducting ASHRAE audits. A documented environmental management plan (EMP) is mandatory; this EMP constitutes a commitment to continual environmental improvement and pollution prevention, and covers lighting and electricity use as well as water usage and heating fuel.

End of product life management. Although installed tile is durable enough to last the expected lifespan of the building in which it is installed, in the interests of enhancing sustainability Green Squared certification includes optional criteria that addresses manufacturers' plans for collecting, processing, recycling, and re-tasking their products at the end of their life cycle. For example, a manufacturer can elect to provide documentation verifying that its product is inert and solid, and thus eligible for state and local clean fill acquisition initiatives.

Progressive corporate governance. Because true sustainability includes social responsibility, Green Squared Certified product manufacturers must operate consistent with all labour, health, and safety laws, including those outlined in International Labor Organization (ILO) Conventions prohibiting forced and child labour.

Innovation. This section recognizes, among other things, that innovative tile installations can yield tremendous energy savings. Tile's thermal mass, which is its unique ability to retain heat and release it slowly, means that it is perfectly suited to a wide variety of energy conserving applications. For example, tile is ideal for use with energy efficient radiant heat underlayment systems in homes, and conserves energy in commercial buildings in the form of ventilated facades.

Green Squared truly represents an industry-wide collaboration. North American tile industry stakeholders including manufacturers, distributors, installers, and green building professionals volunteered countless hours of their time to carefully draft a standard to support their shared vision of sustainability. □

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