

METROPOLITAN CERAMICS®

Sustainability

Metropolitan Ceramics® quarry products are one of the longest lasting flooring products available. In fact, a recent study conducted by the Tile Council of North America found quarry tile to be the best value among competing floor covering products based specifically on the price and longevity of the product. 'Cradle to Grave' is fast becoming the standard by which the sustainability of building products is measured. This concept puts focus on the entire life cycle of a product. Metropolitan® quarry tile is an excellent cradle to grave product because it is mined at a close proximity to the manufacturing site, it can last for many years and even centuries, and it can be recycled as a roadbed material with no negative impact to the environment at the end of its life cycle.

Durability Testing Data

Manufactured for long wear in demanding applications, Metropolitan Ceramics® unglazed ceramic quarry tile meets or exceeds the following standards relating to sustainability.

Specification	Test	Standard	Result
Abrasion Resistance	ASTM C501	Index of 35 or better	Metropolitan tests at >80 or better.
Absorption 5-hour boil	ASTM C373	5%	Metropolitan tests at 3% maximum and qualifies as vitreous.
Breaking Strength	ASTM C648	Min. 250 lbs.	Metropolitan tests at 400 lbs. or better.
Compressive Strength	ASTM C67	No industry standard	Metropolitan tests at 10,000 P.S.I. or better.
Facial Size Variation	ASTM C499	Average facial dimension of each tile not to exceed 4% from nominal dimension(s)	Metropolitan meets the standard.
Freeze/ Thaw	ASTM C67	No industry standard	ASTM test is 50 cycles.
	Metropolitan internal test	Metropolitan internal standard is 3,000 cycles.	

Metropolitan® quarry tile is a natural product with through-the-body color that will not wear off.

During Installation and Once Installed

Metropolitan Ceramics® quarry tile can be installed and sealed with inert products, providing air quality advantages during installation. The low absorption, kiln-fired, natural materials that make up Metropolitan® quarry tile produce no off-gassing sometimes associated with other 'soft' flooring products. Metropolitan Ceramics® quarry tile is neither an 'original source' nor a source for 'absorbed' volatile organic chemicals. Metropolitan® quarry tile will not contribute to the growth of mold and bacteria. Floor coverings make up a large percentage of surface space in a building, and a Metropolitan® quarry tile floor, when properly installed and maintained, will help contribute to a healthy work and living environment.

Other possible sources of VOCs are the cleaning products required to clean some surface materials. Metropolitan Ceramics® quarry tile can be cleaned using non-toxic, water-based cleaners.

The Manufacturing Process

- Nearly all our raw materials are mined within 50 miles of our facility.
- 2,028 tons of waste clay was reprocessed and recycled back into production.*
- The heat from our kilns is also a heat source for our dryers.
- 1,266 tons of fired scrap were reground and recycled into our products.*
- All shipping cartons contain recycled material and all cartons are recyclable.
- We use the most energy efficient production equipment available.

*Figures based on 2009 records.

Recycled content chart

The following chart contains percentages of **pre-consumer recycled** material defined as follows: *Pre-consumer recycled material is a waste product of a manufacturing process, diverted from the waste stream and not normally used by industry during the original manufacturing process.*

The following manufacturing waste streams, previously disposed of as waste, are now recovered, re-processed and returned to our manufacturing process: unfired waste clay and fired scrap.

#850 ENVIROQUARRY® over 50%

Quarrybasics® Colors

#101 Oyster Bay	4%
#105 Buckskin	4%
#107 Boulevard	4%
#108 Chestnut Brown	8.9%
#205 Adobe	6.3%
#310 Mayflower Red	9.6%
#220 Auburn	8.4%
#505 Plaza Gray	4%
#507 Puritan Gray	4%

X-Colors

#31X Commercial Red	59.3%
#57X Stone Gray	34.5%
#15X Malibu Beach	26.5%

Somerset™ Colors

#350 Harvard Square	9.6%
#458 Cordoba	8.9%
#250 Galaxy	8.4%
#255 Aztec	6.3%

Down to Earth® Colors

#350 Red Paver	9.6%
#458 Bedrock	8.9%
#155 Cobblestone	4%
#255 Desert Floor	6.3%

METROPOLITAN CERAMICS® AND LEED

Based on our review of LEED-NC Version 2009, we suggest that a LEED AP consider the following areas where Metropolitan Ceramics quarry tile may contribute to gaining LEED points.

Based on LEED Version 2009

Metropolitan Ceramics® quarry products are manufactured in Canton, Ohio U.S.A. To the right is a map showing cities within a 500 mile radius of the Metropolitan® manufacturing facility. Also, nearly all raw materials are mined within 50 miles of our facility.



MR Credit 5: Regional Materials: 1-2 Points

Intent - Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

Regional Materials	Points
10%	1
20%	2

Mined (as a by-product of coal strip mining) within 50 Miles of the manufacturing facility. Metropolitan's manufacturing plant is centrally located in Canton, Ohio.

MR Credit 4: Recycled Content: 1-2 Points

Intent - Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials

Recycled Content	Points
10%	1
20%	2

Metropolitan Ceramics' products are manufactured with up to in excess of 50% pre-consumer recycled material (EnviroQuarry). See Recycled Content Chart on previous page for content of individual offerings.

Note: 1/2 of pre-consumer content may be claimed.

ID Credit 1 : Innovation in Design - 1-5 Points

Intent - To provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System.

Because neutral cleaners are used, Metropolitan tile can be part of a green maintenance program. Metropolitan tile can also be used in other innovative ways such as being part of a passive solar energy plan when used in conjunction with natural lighting.

SS Credit 7.1: Heat Island Effect: Non-Roof - 1 Point

Intent - Reduce heat islands to minimize impact on micro climate and human and wildlife habitat.

Metropolitan Ceramics unglazed tiles are available in light-reflective colors and can be used outdoors for areas such as patios, walkways, pool surrounds and courtyards.

IEQ Credit 4.3: Low-Emitting Materials: Flooring Systems - 1 Point

Intent - Reduce the quality of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installer and occupants.

Metropolitan Ceramics unglazed quarry tile is kiln fired to temperatures in excess of 2000°F thus burning out any potential VOC's (Volatile Organic Compounds). In addition, the vitreous state of the product after firing makes it both mold and bacteria resistant.

IEQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealant - 1 Point

Intent - Reduce the quality of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installer and occupants.

Most manufacturers of ceramic tile installation materials have moved to - no or low - VOC products.



Printed on 100% recycled paper



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