



Information on acquiring LEED credits on green friendly projects: Porcelain Tile , Ceramic Tile, and Natural Stones

The following is intended only to serve as an outline of probable credits earned when using Emser's porcelain, ceramic, and natural stones correctly on green friendly projects. Points are never guaranteed for a specific product or system. A product or system must be observed as a ratio of contribution to the project as a whole in order to gain maximum points.

EMSER'S GREEN FRIENDLY PROGRAM

As a reminder of the preciousness of the environment, Emser's Green Friendly Program is symbolized by a green leaf and the words "Green Friendly" right above it. The program consists of a systematic two-prong approach. The first prong includes an effort by Emser and its trade partners to incorporate environmentally friendly practices wherever possible. The second prong includes driving a companywide program amongst Emser employees to incorporate environmentally friendly office practices.

EMSER TILE'S MANUFACTURING AND DISTRIBUTION PROCESSES

1. Emser Tile works with suppliers that recycle the maximum amount (3%) of material including unused powders back into raw bisque which then is utilized in making new tile products.
2. Understanding the importance of water conservation, Emser Tile works with suppliers that recycle and re-use water during the manufacturing process.
3. All glazes used in the production of ceramic and porcelain tile are water based and no solvents are used. This reduces the potential for emissions of volatile organic compounds (VOCs) during the manufacturing process. Emser Tile requires that its factory partners reduce energy consumption during production and use natural gas to minimize air emissions.
4. Ceramic and porcelain tile is easy to clean without harsh chemicals. It is also resistant to chemicals.
5. Unlike other types of floor coverings, the longevity of ceramic, porcelain, and natural stone prevents frequent replacement.
6. Emser Tile has two strategically placed Distribution Centers and 56 Branch Offices throughout the United States. Having these multiple facilities allows us to maximize the volume of every truckload for the most efficient transportation of our products

EMSER TILE'S COMPANYWIDE CONSERVATION EFFORTS

Emser Tile has been working to reduce the environmental impact of our Corporate Headquarters and Branch Offices.

Some of our specific efforts include:

1. Recycling of cell phones, computers, and electronic equipment through our suppliers and a third party electronics recycling service provider.
2. Putting a priority on recycled content in our office supply purchases.
3. Recycling paper through a third party service provider that shreds and recycles the paper after shredding.
4. Use of auto turn on/shut off lights in our facilities. Employees are encouraged to turn off lights in meeting rooms when not in use, turn off computers before leaving for the evening, use electronic mail instead of paper wherever possible.



***MR CREDIT 4.1: RECYCLED CONTENT: 10% (POST-CONSUMER + 1/2 PRE-CONSUMER) (1 POINT)**

- **Intent:** Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.
- **Requirements:** Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7. Recycled content shall be defined in accordance with the International Organization of Standards document, ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling).
- **Post-consumer material** is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.
- **Pre-consumer material** is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.
- **Response:** Many masonry designs may use flyash and slag as a portion of their cement in grouting. These products reduce the quantity of cement and thus reduce CO2 emissions and increase the amount of recycled content. In addition, quantities of recycled aggregate can be used in some products.

***MR CREDIT 4.2: RECYCLED CONTENT: 20% (POST-CONSUMER + 1/2 PRE-CONSUMER) (1 POINT IN ADDITION TO MR CREDIT 4.1)**

- **Intent:** Increase demand for building products that incorporate recycled content materials, thereby reducing the impacts resulting from extraction and processing of virgin materials.
- **Requirements:** Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20%, based on cost) of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7. Recycled content shall be defined in accordance with the International Organization of Standards document, ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling).
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- **Response:** Many masonry designs may use flyash and slag as a portion of their cement in grouting. These products reduce the quantity of cement and thus reduce CO2 emissions and increase the amount of recycled content. In addition, quantities of recycled aggregate can be used in some products.



RECYCLED CONTENT:

Category	Series	Pre Consumer	Post Consumer
>40%	Eclipse	>40%	0%
>40%	Gibraltar	>40%	0%
>40%	Lindos	>40%	0%
>40%	Moda	>40%	0%
>40%	Morfos	>40%	0%
>40%	Naples	>40%	0%
>40%	Piazza	>40%	0%
>40%	Tivolti	>40%	0%
>30%	Pamplona	>15%	>15%
>30%	Torino	>15%	>15%
>30%	Strands	>15%	>15%
>30%	Belgio	>15%	>15%
>30%	Coliseum	>15%	>15%
>30%	Tex-Tile Cotton	8%	22%
>30%	Tex-Tile Linen	4%	28%
>30%	Tex-Tile Velvet	4%	20%
>30%	Tex-Tile Wool	6%	23%
>20%	Landscape	>20%	0%
>20%	Forma	>20%	0%
>20%	Forma Texture	>20%	0%
>20%	Sistina	>20%	0%
>15%	Seta	>15%	0%
3%	Cape cod	3%	0%



***EQ CREDIT 4.3: LOW-EMITTING MATERIALS: CARPET SYSTEMS 1 POINT
(ADDENDUM BY FLOORSORE & SCS (SCIENTIFIC CERTIFICATION SYSTEMS)****

- **Intent:** Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.
- **Requirements:** All carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. All carpet adhesive shall meet the requirements of EQ Credit 4.1: VOC limit of 50 g/L.
- **Potential Technologies & Strategies:** Clearly specify requirements for product testing and/or certification in the construction documents. Select products that are either certified under the Green Label Plus program or for which testing has been done by qualified independent laboratories in accordance with the appropriate requirements. The Green Label Plus program for carpets and its associated VOC emission criteria in micrograms per square meter per hour, along with information on testing method and sample collection developed by the Carpet & Rug Institute (CRI) in coordination with California's Sustainable Building Task Force and the California Department of Health Services (DHS), are described in Section 9, Acceptable Emissions Testing for Carpet, DHS Standard Practice CA/DHS/EHLB/R-174, dated 07/15/04.

**** THE ADENDUM BY FLOORSORE BRAODENED THIS STANDARD BY TAKING ALL HARD FLOORING INCLUDING TILE INTO CONSIDERATION FOR THIS CREDIT. ALTHOUGH PORCELAIN AND CERAMIC WILL PASS A VOC RATING THE SYSTEM AS A WHOLE IS WHAT IS BEING TESTED NOT THE INDIVIDUAL TILES.**

VOC RATINGS:

All glazed products are water based and VOC safe, no solvents are used. Proper VOC rating will be necessary for setting materials, cleaners and sealers as part of the installation and care & maintenance systems.

REGIONAL MATERIALS:

Emser tile manufacturers limited collections of ceramic tile and natural stones in North America. For a list of current products produced in North America please contact your local Emser representative.

***MR CREDIT 5.1: REGIONAL MATERIALS: 10% EXTRACTED, PROCESSED & MANUFACTURED REGIONALLY - 1 POINT**

- **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.
- **Requirements:** Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.
- **Potential Technologies & Strategies:** Establish a project goal for locally sourced materials, and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.



***MR CREDIT 5.2: REGIONAL MATERIALS: 20% EXTRACTED, PROCESSED & MANUFACTURED REGIONALLY - 1 POINT IN ADDITION TO MR CREDIT 5.1**

- **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.
- **Requirements:** Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value. If only a fraction of the material is extracted, harvested, recovered, and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.
- **Potential Technologies & Strategies:** Establish a project goal for locally sourced materials and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

***EQ PREREQUISITE 1: MINIMUM INDOOR AIR QUALITY PERFORMANCE (REQUIRED)**

***EQ CREDIT 4.1:**

- **Intent:** Low-Emitting Materials: Adhesives & Sealants (1 point) Ceramic tile can be an integral component toward a design strategy that establishes minimum indoor air quality performance because it does not contain VOCs, lead or other allergens, it resists mold growth and it does not require sealants, wax or coatings that may emit indoor air contaminants.
- **Response:** Adhesives for ceramic tile with low VOC emissions are available for installing tile.

***ID CREDIT 1–1.4: INNOVATION IN DESIGN (1–4 POINTS)**

- **Intent:** To provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the LEED-NC Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED-NC Green Building Rating System.
- **Requirements:** In writing, identify the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach (strategies) that might be used to meet the requirements.
- **Response:** Possible areas where masonry can contribute include: acoustic performance, life-cycle cost and durability, efficient use of materials with pre-stressed or reinforced masonry, and improved air quality by reducing the need for paint or interior coatings (thereby reducing volatile organic compounds) and by reducing the possibility of mold growth.

***MR CREDIT 2.1: CONSTRUCTION WASTE MANAGEMENT: DIVERT 50% FROM DISPOSAL (1 POINT)**

- **Intent:** Divert construction, demolition and land-clearing debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.
- **Requirements:** Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.
- **Response:** Being modular in nature, masonry products are less prone to waste. Designers can maintain the rigor of modular dimensions, reducing cutting of units on site. Masonry units can be crushed and recycled or reused as filler and crushed aggregate, or as landscape material.



***MR CREDIT 2.2: CONSTRUCTION WASTE MANAGEMENT: DIVERT 75% FROM DISPOSAL (1 POINT IN ADDITION TO MR CREDIT 2.1)**

- **Intent:** Divert construction and demolition debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.
- **Requirements:** Recycle and/or salvage an additional 25% beyond MR Credit 2.1 (75% total) of non-hazardous construction and demolition debris. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.
- **Response:** Being modular in nature, masonry products are less prone to waste. Designers can maintain the rigor of modular dimensions, reducing cutting of units on site. Masonry units can be crushed and recycled or reused as filler and crushed aggregate, or as landscape material.

***SS CREDIT 7.1: HEAT ISLAND EFFECT: NON-ROOF (1 POINT)**

- **Intent:** Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.
- **Requirements:**
 - **OPTION 1**
 - Provide any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots): Shade (within 5 years of occupancy), Paving materials with a Solar Reflectance Index (SRI)2 of at least 29, Open grid pavement system.
 - **OPTION 2**
 - Place a minimum of 50% of parking spaces under cover (defined as under ground, under deck, under roof, or under a building). Any roof used to shade or cover parking must have an SRI of at least 29.
- **Response:** Light colored, high albedo of high reflectance (0.30 or greater) paving blocks such as Turfstone or an open lattice type paver can reduce the amount of on-site heat generated when the sun hits the pavement.