

## ECOVerings from a LEED Perspective

By Coverings Etc

Coverings Etc is a member of the United States Green Building Council (USGBC) and is committed to seeking out and providing building materials with environmentally friendly sustainable attributes to meet the criteria of green building initiatives.

The new ECOVERINGS line of products, are produced from naturally occurring elements such as sand, clay and cement, recycled content and manufactured with processes that are sensitive to conservation of natural resources.

### Coverings Etc Green Policy

Coverings Etc offers green design solutions as a service – to our environment and to our clients. By using recycled products we can help to save trees, reduce landfill and lessen greenhouse emissions. Our manufacturers report information as it applies to the standards of green initiatives (i.e. recycled content, manufacturing policies). We have LEED® Accredited Professionals on staff to assist with green goals.

Our in-house programs include the increased daylighting in all work areas, implementation of designated recycling areas, waste water management and reduction of Heat Island effect. Other corporate goals comprise of going paperless to creating virtual showrooms.

Green Architecture takes energy savings, sustainability, and concern for the inhabitants into consideration and utilizes products with recycled materials thus reducing environmental impacts involved in the manufacturing of new materials. Tile and hardsurface materials traditionally have longer life cycles and minimal maintenance which gives them a very favorable LCA compared to other materials.

The ECOVERINGS collection consists of naturally occurring, reclaimed, reused, recycled or recyclable materials, which aside from their practical applications and contemporary design appeal, are moisture, mold, and mildew resistant and contain low or no off-gassing. Potentially less energy is required for illumination when light colored flooring and countertops (low albedo) are specified. By using environmentally friendly materials we help to conserve natural resources and create an improved environment.

The Coverings Etc ECOVERINGS product lines profiled in this review include:

**ECO-GRES™** porcelain sheets, tiles and mosaics are highly sustainable, easy to install and maintain. All Eco-Gres products are unglazed through-body tiles that do not require sealants. The life cycle of 40+ years and low maintenance contribute to a favorable LCA. Eco-Gres products are made by reclaiming and reusing unfired raw materials and are manufactured with a closed water system. Pre-consumer recycled content is 50%.

**ECO-GRES™ ULTRA**

Thin, flexible, and reinforced porcelain sheets or large format tiles with fiberglass backing. Light in weight these sheets lower transportation and installation costs.

**ECO-GRES™ ASIA**

Elongated porcelain tiles offer a clean linear aesthetic to your design application. Incorporating all of the technical features of "Ultra," ASIA is available in sheets for easy installation in backsplashes, flooring and wall coverings.

**ECO-GRES™ MOSAICS**

Available in 12"x12" sheets the sleek material provides a raw, contemporary look combining versatility and durability. Strikingly modern, the tiles may be incorporated seamlessly into interior spaces and are an ideal solution to wet areas.

**BIO-GLASS™** is a new product on the market, it is made from 100% recycled glass. Depending on the color this revolutionary new material is made from 100% pre-consumer (white) or 100% post-consumer recycled glass (dark green or brown). It will be introduced to the Market in 2007.

**ECO-TERR™** tiles and slabs provide a timeless look to a contemporary application. Highly sustainable, non-porous, moisture resistant and maintained without harsh chemicals – soap and water is sufficient. Created with 75-80% pre-consumer recycled marble or granite chips and a cementitious binder containing 5% fly ash, some variations also contain post-consumer recycled glass inserts.

**ECO-CEM™** large format sheets or tiles are made of cement strengthened with cellulose fibers. An attractive feature, Eco-Cem™ showcases a contemporary look, yet maintains the warm feeling of wood. This material is extremely versatile and may be installed as flooring, cladding, furniture or countertops. Non toxic, mildew and mold resistant. 20% post-consumer and 40% pre-consumer recycled content. Available in 6 organic colors.

## What is LEED?

The LEED® (Leadership in Energy and Environmental Design) Green Building Rating System is a voluntary, consensus-based program for developing high-performance, sustainable buildings developed by the U.S. Green Building Council ([www.usgbc.org](http://www.usgbc.org)). Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

The LEED programs currently available include:

- LEED-NC: New commercial construction and major renovation projects
- LEED-EB: Existing building operations
- LEED-CI: Commercial interiors projects
- LEED-CS: Core and shell projects
- LEED-H: Homes
- LEED-ND: Neighborhood development
- LEED Application Guides: Retail (currently in pilot), Multiple Buildings/Campuses, Schools, Healthcare, Laboratories, Lodging

LEED for New Construction and Major Renovations (LEED-NC) is the most utilized rating system and was designed to guide and distinguish high-performance commercial and institutional projects, with a focus on office buildings. Practitioners have also applied the system to K-12 schools, multi-unit residential buildings, manufacturing plants, laboratories and many other building types.

## Understanding LEED programs, points and credits

LEED provides a complete framework for assessing building performance and meeting sustainability goals. Based on a system of prerequisites and credits, LEED projects earn points during the certification process and then are awarded one of the four certification levels.

- 1) Platinum Level
- 2) Gold Level
- 3) Silver Level
- 4) Certified Level

Basically there are five environmental and one “Innovation” categories that are further divided into credits.

For each credit, the rating system identifies the intent, requirement, and technology or strategy to attain the credit. One or more points are available within each credit which are then added up towards achieving a certain level of Certification.

## ECOverings LEED assessment

Coverings Etc put together this information based on the understanding that each project is situational and that ECOverings products will vary in point contributions from project to project.

This report is suggesting potential areas where Coverings Etc or ECOverings Materials could aid in contribution to LEED points and credits.

<b>LEED-NC</b>	MR Credit 1.3	Building Reuse 50%	1 Point
	MR Credit 2.1-2.2	Construction Waste Mgt 50% / 75%	1-2 Points
	MR Credit 3.1-3.2	Materials Reuse 5% / 10%	1-2 Points
	MR Credit 4.1-4.2	Recycled Content 10% / 20%	1-2 Points
	EQ Credit 4.1	Low-Emitting Materials – Adhesives & Sealants	1 Point
	ID Credit 1.1-1.4	Innovation in Design	1-4 Points
	ID Credit 2	LEED Accredited Professional	1 Point
<b>LEED-CI</b>	MR Credit 1.2-1.3	Building Reuse 40% / 60%	1-2 Points
	MR Credit 2.1-2.2	Construction Waste Mgt 50% / 75%	1-2 Points
	MR Credit 3.1-3.2	Resource Reuse 5% / 10%	1-2 Points
	MR Credit 4.1-4.2	Recycled Content 10% / 20%	1-2 Points
	EQ Credit 4.1	Low-Emitting Materials – Adhesives & Sealants	1 Point
	ID Credit 1.1-1.4	Innovation in Design	1-4 Points
	ID Credit 2	LEED Accredited Professional	1 Point
<b>LEED-EB</b>	MR Credits 1.1 & 1.2	Construction, Demolition & Renovation 50% / 75%	1-2 Points
	MR Credit 2.1-2.5	Optimize Use of Alternate Materials	1-5 Points
	MR Credits 3.1 & 3.2	IAQ Compliant Products	2 Points
	IUOM Credit 1	Innovations in Upgrades, Operations and Maintenance	1-4 Points
	IUOM Credit 2	LEED Accredited Professional	1 Point

## LEED-NC Version 2.2

### **MR Credit 1.3: Building Reuse: Maintain 50% of Interior Non-Structural Elements**

1 Point

#### Intent

Extend the life cycle of the existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impact of new buildings as they relate to materials manufacturing and transport.

#### Requirements

Use existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building (including additions).

ECOverings products may contribute to this credit where interior ECOverings tile is utilized on floors, walls or counter tops and is maintained as structure is renovated. The design versatility of porcelain tile has extended life properties that make this an attractive incentive for adaptability in projects incorporating extended life design strategies.

### **MR Credit 2.1: Construction Waste Management: Divert 50% from Disposal**

### **MR Credit 2.2: Construction Waste Management: Divert 75% from Disposal**

1 Point each credit

#### 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 50% (MR 2.2 75%) of non-hazardous construction and demolition debris. Excavated soil and land-clearing debris does not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout

ECOverings products can be recycled through a construction waste program. It is unlikely any significant weight would be contributed towards this credit but can make a contribution based on packaging and broken or discarded cut pieces.

### **MR Credit 3.1: Materials Reuse - 5%**

### **MR Credit 3.2: Materials Reuse - 10%**

1 Point each credit

#### Intent

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

### Requirements

Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5% (MR 3.2 10%) based on cost, of the total value of materials on the project.

ECOverings may contribute to this credit where interior ECOverings tile is utilized as counter surface that could be salvaged for use in another project.

**MR Credit 4.1: Recycled Content - 10% (post-consumer + 1/2 pre-consumer)**

**MR Credit 4.2: Recycled Content - 20% (post-consumer + 1/2 pre-consumer)**

1 Point each credit

### Intent

Increase demand for building products that incorporate recycled content materials, therefore 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% (MR 4.2 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.

Recycled content shall be defined in accordance with the International Organization for Standardization document, *ISO 14021 - Environmental labels and declarations - Self-declared environmental claims (Type II environmental labeling)*.

**ECOverings** products report the following recycled content:

**Eco-Gres™** - Porcelain, 50% pre-consumer material

#### **Eco-Cem™**

20% post-consumer recycled and 40% pre-consumer recycled content (newspaper & fly-ash). Manufacturer is ISO 14 000 certified since 2005.

#### **Eco-Terr™ Slabs & Tiles**

75-80% pre-consumer recycled material (by-product of quarry production)

#### **Bio-Glass™**

White: 100% pre-consumer

Light Green: 70% pre-consumer, 30 % post-consumer

Other colors: 100% post-consumer

### Recycled calculation of each material is as follows:

Recycled Content Value (\$) = (% post-consumer recycled content x material cost) + 0.5 x (% pre-consumer recycled content x material cost)

## **Definitions:**

### **POST-CONSUMER MATERIAL**

End products generated by consumers that can no longer be used for its intended purpose and have been separated or diverted from the solid waste stream.

### **PRE-CONSUMER MATERIALS (was post-industrial)**

Materials diverted from the waste stream during a manufacturing process.

Pre-consumer materials have not met their intended end-use by a consumer, and include allowable waste left over from manufacturing, converting and manufacturing processes.

NOTE: Green Globes-US also provides points for building materials with recycled content. Recycled content is typically determined by calculating the weight of the recycled material divided by the total weight of the product and expressed as a percentage by weight. (The recycled content "value" of a product as assessed under LEED is determined by multiplying the recycled content percentage and the cost of the product.)

## **EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants**

1 Point

### 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 adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:

- Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

ECoverings products contain non-toxic, natural ingredients, are inert and thus do not emit air contaminants. Further they do not require the use of sealants. Ecoverings products should be installed with adhesives in compliance with the LEED criteria described above.

## **ID Credits 1.1-1.4: 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 Green Building Rating Systems and/or innovative performance in Green Building categories not specifically addressed by a 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.

ECOverings presents opportunities to contribute to earning innovative credits through designing spaces with the benefits of design flexibility, health attributes such as tile does not promote mold growth when properly maintained, high durability and long life cycle, Low maintenance requirements, excellent material to be considered for IEQ sensitive projects.

Education programs on the manufacturing processes of unglazed porcelain tile and design possibilities provide many opportunities for innovative design.

### **ID Credit 2: LEED Accredited Professional**

1 Point

#### Intent

To support and encourage the design integration required by a LEED-NC green building project and to streamline the application and certification process.

#### Requirements

At least one principal participant of the project team shall be a LEED Accredited Professional (AP).

Covering Etc. has LEED Accredited Professionals on staff to help with every aspect of the project.

## LEED-CI Version 2.0

### **MR Credit 1.2: Building Reuse: Maintain 40% of Interior Non-Structural Components**

### **MR Credit 1.3: Building Reuse: Maintain 60% of Interior Non-Structural Components**

1 Point each credit

#### Intent

Extend the life cycle of the existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

#### Requirements

Maintain at least 40% (MR 1.3 60%) by area of the existing non-shell, non-structure components (walls, flooring, ceilings).

ECOverings products can be recycled through a construction waste program. It is unlikely any significant weight would be contributed towards this credit but can make a contribution based on packaging and broken or discarded cut pieces.

### **MR Credit 2.1: Construction Waste Management: Divert 50% from Landfill**

### **MR Credit 2.2: Construction Waste Management: Divert 75% from Landfill**

1 Point each credit

#### Intent

Divert construction, demolition and land clearing debris from landfill disposal. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

#### Requirements

Develop and implement a construction waste management plan, quantifying material diversion goals. Recycle and/or salvage 50% (MR 2.2 75% total) of construction, demolition and packaging debris. Calculations may be done by weight or volume, but must be consistent throughout

ECOverings products can be recycled through a construction waste program. It is unlikely any significant weight would be contributed towards this credit but can make a contribution based on packaging and broken or discarded cut pieces.

### **MR Credit 3.1: Resource Reuse - 5%**

### **MR Credit 3.2: Resource Reuse - 10%**

1 Point each credit

#### Intent

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

### Requirements

Use salvaged, refurbished or reused materials for at least 5% (MR 3.2 10%) of building (construction) materials, excluding furniture and furnishings.

ECOverings may contribute to this credit where interior ECOOverings tile is utilized as counter surface that could be salvaged for use in another project.

**MR Credit 4.1: Recycled Content - 10% (post-consumer + 1/2 pre-consumer)**

**MR Credit 4.2: Recycled Content - 20% (post-consumer + 1/2 pre-consumer)**

1 Point each credit

### Intent

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

### Requirements

Use materials, including furniture and furnishings, with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10%(MR 4.2 20%) of the total value of the materials in the project.

The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total cost of the item.

Recycled content materials shall be defined in accordance with the Federal Trade Commission document, *Guides for the Use of Environmental Marketing Claims*, 16 CFR 260.7 (e), available at [www.ftc.gov/bcp/grn-rule/guides980427.htm](http://www.ftc.gov/bcp/grn-rule/guides980427.htm).

**EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants**

1 Point

### Intent

Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and wellbeing of installers and occupants.

### Requirements

All adhesives and sealants used in the building interior(i.e., inside of the exterior moisture barrier) must not exceed the VOC content limits of:

- Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168 requirements in effect on January 1, 2003 and rule amendment dated October 3, 2003.

ECOverings products contain non-toxic, natural ingredients, are inert and thus do not emit air contaminants. Further they do not require the use of sealants. Ecoverings products should be installed with adhesives in compliance with the LEED criteria described above.

## **ID Credits 1.1-1.4: Innovation in Design**

1-4 Points

### Intent

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.

### Requirements

Identify the intent of the proposed innovation credit, the proposed requirements for compliance, the proposed submittals to demonstrate compliance, and the design approach (strategies) that might be used to meet the requirements.

ECOverings presents opportunities to contribute to earning innovative credits through designing spaces with the benefits of design flexibility, health attributes such as tile does not promote mold growth when properly maintained, high durability and long life cycle, Low maintenance requirements, excellent material to be considered for IEQ sensitive projects.

Education programs on the manufacturing processes of unglazed porcelain tile and design possibilities provide many opportunities for innovative design.

## **ID Credit 2: LEED Accredited Professional**

1 Point

### Intent

Support and encourage the design integration required by a LEED Green Building project and streamline the application and certification process.

### Requirements

At least one principal participant of the project team has successfully completed the LEED Accredited Professional exam.

Covering Etc. has LEED Accredited Professionals on staff to help with every aspect of the project.

## LEED-EB Version 2.0

### MR Credits 1.1 & 1.2: Construction, Demolition and Renovation

1–2 Points

#### Intent

Divert construction, demolition and land-clearing debris from landfill and incineration disposal. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

#### Requirements

Develop and implement a Waste Management Policy covering any future building retrofit, renovation or modification on the site. Quantify diversions of construction, demolition and land-clearing debris from landfill and incineration disposal by weight or volume.

Divert at least 50% (MR 1.2 75%) of construction, demolition and land-clearing waste from landfill and incineration disposal.

ECOverings products can be recycled through a construction waste program. It is unlikely any significant weight would be contributed towards this credit but can make a contribution based on packaging and broken or discarded cut pieces.

#### Recommended Division 01 Specifications:

##### SECTION 01351 – WASTE MANAGEMENT

SPECIFIER NOTE: Edited from the Whole Building Design Guide Green Specs

This section includes requirements for waste management. This section represents data quality objectives and waste management consistent with ASTM D5792 for typical commercial construction. Edit to suit location and project.

##### PART 1 GENERAL

###### 1.1 SUMMARY

A. Section includes:

1. Special requirements for waste management during [deconstruction,] [renovation,] construction operations.
  - a. Protect the environment, both on-site and off-site, during [deconstruction,] [renovation,] and construction operations.
  - b. Maximize source reduction, reuse and recycling of solid waste.

##### PART 3 EXECUTION

###### 3.1 SOLID WASTE MANAGEMENT

- A. Develop and implement a waste management program in accordance with ASTM E1609 and as specified herein.
- B. Collection: Implement a recycling/reuse program that includes separate collection of waste materials of the following types as appropriate to the project waste and to the available recycling and reuse programs in the project area:
  1. Concrete and Masonry.
  2. Paper & Packaging waste from tile shipping

## **MR Credit 2.1–2.5: Optimize Use of Alternative Materials**

1–5 Points

### Intent

Reduce the environmental impacts of the materials acquired for use in the operations, maintenance, and upgrades of buildings.

### Requirements

Maintain a sustainable purchasing program covering at least office paper, office equipment, furniture, furnishings and building materials for use in the building and on the site. A template calculator will be provided for LEED-EB MR Credit 2.1–2.5. One point (up to a maximum of five) will be awarded for each 10% of total purchases over the performance period (on a dollar basis) that achieve at least one of the following sustainability criteria:

Contains at least 70% salvaged material from off site or outside the organization.

Contains at least 70% salvaged from on site through an internal organization materials & equipment reuse program.

Contains at least 10% post-consumer or 20% pre-consumer material.

Contains at least 50% rapidly renewable materials.

Is Forest Stewardship Council (FSC) certified wood.

Contains at least 50% materials harvested and processed or extracted and processed within 500 miles of the project.

ECOverings products may contribute to this credit by recycled content and/or salvaged materials such as counter tops with ECOverings products.

## **MR Credits 3.1 & 3.2: Optimize Use of IAQ Compliant Products**

2 Points

### Intent

Reduce the indoor air quality (IAQ) impacts of the materials acquired for use in the operation, maintenance and upgrades of buildings.

### Requirements

Optimize use of air quality compliant materials inside the building to reduce the emissions from materials used in the building.

Points are awarded for the existence of product purchasing policies for the building and site addressing the documentation of purchasing during the performance period in conformance with those policies.

Subsequent re-certification is tied to both polices and purchasing performance. At a minimum, these policies must include the following product groups: paint and coatings, adhesives, sealants, carpet, composite panels, and agrifiber products.

One point shall be awarded, up to a maximum of 2 points, for each 45% of annual purchases calculated on a cost basis that conform with one of the following sustainability criteria:

ECOverings products are inert and do not contribute to VOC's. Specify tile adhesives in mastic-set applications that meet the VOC limits and prohibited chemical limitations of the "Green Seal Environmental Standard for Certification of Commercial Adhesives" (GS-36), of Green Seal, Inc., Washington, DC. The VOC content of mortars or grouts for ceramic tile installations should not be in excess of 150 grams/liter, less water and less exempt compounds. See LEED requirements above.

### **IUOM Credit 1: Innovations in Upgrades, Operations and Maintenance**

1–4 Points

#### Intent

To provide building operation and upgrade teams with the opportunity to be awarded points for additional environmental benefits achieved beyond those already addressed by LEED-EB Rating System.

#### Requirements

Provide documentation of each proposed innovation credit, including a description of the achievement, the additional environmental benefits delivered and the performance metrics used to document the additional environmental benefits delivered over the performance period.

ECOverings products may contribute to this credit through the low maintenance required, products may be cleaned without use of harsh chemicals. Moreover they do not require sealants.

**References:**

[www.usgbc.org](http://www.usgbc.org) - US Green Building Council

[www.gbi.org](http://www.gbi.org) - The Green Building Initiative – Green Globes

<http://www.sbicouncil.org> - Sustainable Buildings Industry Council

[http://www.epa.gov/greeningepa/content/sustainable\\_mou\\_508.pdf](http://www.epa.gov/greeningepa/content/sustainable_mou_508.pdf) - search="EPA high Performance Buildings" EPA High Performance Buildings

[www.buildinggreen.com](http://www.buildinggreen.com) - Industry directory on green building products

[www.masterformat.com](http://www.masterformat.com) - CSI MasterFormat classification system for organizing specifications by work results

[www.wbdg.org](http://www.wbdg.org) Green Specs

[www.tileusa.com](http://www.tileusa.com) Tile Council of America

<http://www.ctdahome.org/> Ceramic Tile Distributors Association

<http://www.tile-assn.com/> National Tile Contractors Association

<http://www.ciwmb.ca.gov/> California Waste Management Board

NOTE: This evaluation is offered in good faith based on an independent LEED AP reviewer's knowledge of the LEED rating system and intended design strategy. This product potentially contributes to earning points and credits for the credits listed in the evaluation. Verification of qualifying points and credits is achieved according to the LEED documentation reporting, calculation requirements and methods. LEED® is a registered trademark of the US Green Building Council.

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