

LEED® 2009 Green Building Rating Systems Information Sheet

06/03/2009

LEED® is an acronym for Leadership in Energy and Environmental Design. It is a program developed by the US Green Buildings Council (USGBC) and has gained widespread support in the commercial and institutional marketplace. For more information on the USGBC, visit their Internet web site at www.usgbc.org. The purpose of this informational sheet is to overview the LEED 2009 Green Building Rating Systems, primarily for New Construction projects and to identify areas where American Olean products can support a building project's effort to obtain LEED Certification.

The LEED Green Building Rating System for new construction projects was first introduced in 1998 and is now in its fifth iteration.

Version 1.0 Pilot	1998
Version 2.0	March, 2000
Version 2.1	November, 2002
Version 2.2	October, 2005
Version 3	November, 2008

LEED Version 3, also known as LEED 2009, was approved by membership ballot in November of 2008 and was first available for project registration on April 27, 2009. Beginning on July 27, 2009 new projects must use the new LEED 2009 Rating Systems.

One of the stated purposes of LEED 2009 was to provide for "harmony" in the technical requirements for the various Rating Systems that had been developed over the last 10 years. Consequently, with few exceptions - the language of the credit points in all of the LEED 2009 Rating Systems are identical: LEED-New Construction, LEED-Commercial Interiors, LEED-Core & Shell, LEED-Existing Buildings, and LEED-Schools.

Inquiries as to how American Olean products can help a project's efforts to obtain certification are predominantly for new construction of commercial, institutional, and high-rise residential buildings. In the LEED 2009-NC Rating System, a qualifying project can receive certification in four different levels depending on how many "points" they achieve. In the latest Version 3, there are seven separate categories encompassing a total of 110 possible points.

Sustainable Sites	26 points
Water Efficiency	10 points
Energy and Atmosphere	35 points
Materials and Resources	14 points
Indoor Environmental Quality	15 points
Innovation In Design	6 points
Regional Priority	4 points

CERTIFICATION LEVELS	
Certified	40 – 49
Silver	50 – 59
Gold	60 – 79
Platinum	80 and above

The areas where American Olean, as a supplier of ceramic tile and installation products, can directly impact the project’s point total, is in the categories of Materials & Resources, Indoor Environmental Quality, and Sustainable Sites. More specifically, there are potentially anywhere from one to eleven points available based in part on the volume of recycled material content and the location where the product is manufactured (i.e. proximity to construction site). The LEED credit points most applicable to our products are as follows.

Materials & Resources: Construction Waste Management

M&R Credit 2 (1 or 2 points)

Recycle and/or salvage nonhazardous 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 comingled. 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. The minimum percentage debris to be recycled or salvaged for each point threshold is as follows:

Recycled or Salvaged	Points
50%	1
75%	2

Materials & Resources: Recycled Content

MR Credit 4 (1 or 2 points)

Use materials with recycled content¹ such that the sum of post-consumer recycled content plus 1/2 of the pre-consumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The minimum percentage materials recycled for each point threshold is as follows:

Recycled Content	Points
10%	1
20%	2

Materials & Resources: Regional Materials

MR Credit 5 (1 or 2 points)

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% or 20%, based on cost, of the total materials value. If only a fraction of a product or material is extracted, harvested, or recovered and manufactured locally, then only that percentage (by weight) can contribute to the regional value. The minimum percentages of regional materials for each point threshold are as follows:

Regional Materials	Points
10%	1
20%	2

Sustainable Sites: Heat Island Effect – NonRoof

SS Credit 7.1 (1 point)

To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

Requirements

OPTION 1

Use any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots):

- Use hardscape materials with an SRI of at least 29.

Indoor Environmental Quality: Construction Indoor Air Quality – Before Occupancy

EQ Credit 3.2 (1 point) Develop an IAQ management plan and implement it after all finishes have been installed and the building has been completely cleaned before occupancy.

OPTION 2. Air Testing

Conduct baseline IAQ testing after construction ends and prior to occupancy using testing protocols consistent with the EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition.

Indoor Environmental Quality: Low-Emitting Materials – Adhesives and Sealants

IEQ Credit 4.1 (1 point)

All adhesives and sealants used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope:

- Adhesives, Sealants and Sealant Primers must comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. Volatile organic compound (VOC) limits listed in the table below correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

Indoor Environmental Quality: Low-Emitting Materials – Paints and Coatings

IEQ Credit 4.2 (1 point) Paints and coatings used on the interior of the building (i.e., inside of the weatherproofing system and applied onsite) must comply with the following criteria as applicable to the project scope:

- Architectural paints, coatings and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in Green Seal Standard GS-11, Paints, First Edition, May 20, 1993.

- o Flats: 50 g/L

- o Non-Flats: 150 g/L.

Indoor Environmental Quality: Low-Emitting Materials – Flooring Systems

IEQ Credit 4.3 (1 point)

OPTION 1

All flooring must comply with the following as applicable to the project scope:

- All hard surface flooring must be certified as compliant with the FloorScore standard (current as of the date of this rating system, or more stringent version) by an independent third-party. Flooring products covered by FloorScore include vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring and wall base.

or

OPTION 2

All flooring elements installed in the building interior must meet the testing and product requirements of the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

The LEED 2009-NC Rating System criteria document provides more specific guidance regarding the definition for "Pre-Consumer" recycled materials. The Manual states that "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". *A good example is an aluminum beverage can.* "Pre-consumer material is defined as material diverted from the waste stream during the manufacturing process. Reutilization of materials (i.e., rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it) is excluded."

In American Olean's case, waste fired tile of any type that was previously disposed of as a waste qualifies. In addition, American Olean has modified operations and made process changes in order to recover and recycle waste water, waste glazes, and some unfired scrap materials. These were all previously wastes, but are now able to be recovered and returned to our manufacturing processes.

Specifications and requests for environmentally friendly products are expected to continue their rapid increase. After an initial flurry of interest in the late 80's and early 90's, there was a drop in interest during the period 1995 - 1999. However, the advent of the USGBC's LEED program and other organizations (ANSI, ASTM, and ISO) has resulted in a renewed emphasis on "green buildings". Further, there are a growing number of government entities that have placed requirements that new public and/or commercial construction be LEED certified.

Over the last few years, American Olean has received many inquiries about the environmentally friendly nature of our products and processes. For the most part, all of the inquiries that have been received in the past on this issue have been with the single question of 'what is the recycled content of our tile products'. More recently, we have even received reports of lost tile sales to products that "look terrible and are expensive, but have high recycled material content". American Olean's products contain varying amounts of recycled materials depending on the manufacturing location. Real-time information on the specific recycled materials content of any American Olean manufactured, and most sourced products can be found online at <http://www.AmericanOleanproducts.com/leed> .

It is noted that the LEED criteria is such that a recycled materials content of any percentage will help the project obtain the recycled materials credit. This means that American Olean manufactured products, some of which contain over 50% pre-consumer recycled materials, can add significant value to a project's LEED certification effort. There are only a few products that do not have any recycled materials content, thus the majority of our products will make a positive contribution toward the credit for Recycled Content.

In conclusion, there is the potential for gaining additional points if other American Olean products are specified for the project. Data tables have been created that can be used to provide a response to inquiries by Architects and/or Project Managers that will help provide an understanding of how specification of American Olean products can help a project achieve up to eleven (11) points toward the LEED certification effort. American Olean's LEED web site is continuously being updated whenever new information becomes available. In addition, it is possible to generate and download/print a LEED Certification Letter from the web site.

In the event the information desired is not available online for any reason, please feel free to contact me or Jan Moore (214/309-4393 or jan_moore@mohawkind.com) directly if you have any questions.

Best Regards,



www.americanolean.com/leed

www.americanoleangreenworks.com

A handwritten signature in black ink that reads "Robert Hurt".

Director – Environmental, Health & Safety