Lead to LEED

Flooring and LEED-NC 2.2

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The LEED (Leadership in Energy and Environmental Design) rating system has emerged as an important force in today's building industry, serving as a touchstone for those seeking to build high performance, more sustainable buildings. We're working to understand all of the program's ramifications and imple mentation challenges.

This brochure is designed to help our customers understand the role we can play as a manufacturer and distributer of flooring products. We have outlined and illustrated how our products contribute to the achievement of certain LEED credits

Overview of the USGBC

The U.S. Green Building Council (USGBC) is the nation's foremost nonprofit coalition of over 10,000 companies and organizations from across the building industry promoting high-performance green buildings that are environmentally responsible, profitable, and healthy places to live and work. The USGBC developed LEED as a voluntary, consensus-based national standard to support and validate successful green building design, construction, and operations.

Overview of the LEED Rating System

The USGBC LEED program offers third-party certification of qualifying buildings and interiors, high-performance design guidelines, and professional training and accreditation services. After a project's completion, it may be qualified at LEED Certified, Silver, Gold or Platinum level. LEED was created to:

- define "green building" by establishing a common standard of measurement
- promote integrated, whole-building design practices
- recognize environmental leadership in the building industry
- stimulate green competition
- raise consumer awareness of green building benefits
- transform the building market

The LEED Rating System evaluates projects over 5 core and 1 bonus credit categories:

- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality
- Bonus Credits for Process and Design Innovation

LEED Certified projects achieve 40% or more of the Core Credits
LEED Silver projects achieve 50% or more of the Core Credits
LEED Gold projects achieve 60% or more of the Core Credits
LEED Platinum projects achieve 80% or more of the Core Credits

Overview of LEED Programs

The LEED Rating System originated as a program designed to evaluate new construction and major renovations for office buildings. Due to market demand and the variety of other project types needing to apply the LEED Rating System, the USGBC has created several other LEED Products.

LEED-NC (New Construction & Major Renovations)

Version 2.2 Released 2005

LEED-NC is designed to be applied to Commercial and Institutional buildings that are either new or undergoing major renovations 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. LEED-NC Version 2.2 was released in late 2005.

LEED-CI (Commercial Interiors)

Released 2004

LEED-CI is designed to address the specifics of tenant spaces primarily in office and institutional buildings. LEED-CI provides the opportunity for building tenants to design and certify high performance, healthy, durable, affordable and environmentally sound workplaces. For Prime Flors credit contributions and formulas, please see our "Flooring and LEED-CI" brochure.

LEED-EB (Existing Buildings)

Released 2004

LEED-EB is designed to be a set of performance standards for the sustainable operation of existing buildings. It includes building operations and upgrades of systems and/or processes in existing buildings where these upgrades do not significantly change to the interior or exterior surfaces of the building.

LEED-CS (Core & Shell Development)

Released 2006

LEED-CS is a set of performance standards for the sustainable design and construction of speculative and core-and-shell buildings. Based on the LEED-NC Rating system, LEED-CS has been developed in recognition of the unique nature of core and shell development, especially the lack of developer control over key aspects such as interior finishes, lighting, and HVAC distribution. LEED-CS is designed to complement the LEED-CI Green Building Rating System so that a LEED-CS certified building that also incorporates a LEED-CI certified interior fit-out will be the equivalent to a LEED-NC certified building.

Although LEED is comprised of five core and one bonus category, flooring products typically only play a role in two core credit categories: Materials & Resources and Indoor Environmental Quality. This document will further explain the requirements of the impacted credits and provide a description of how Prime Flors products may contribute to these credits.

Also another consideration to keep in mind is that the Materials & Resource Credits are mainly based on the cost of the material and the relative percentages that those materials contribute to the overall budget of the project.

Projects certifying under the LEED-NC program will typically have budgets that range from $120/sf to $400/sf. Flooring materials typically average between $2.00/sf - $8.00/sf. On an entire building project floor covering is only a fraction of the costs associated with materials. Therefore differences of minor %'s when calculating recycled content do not necessarily have significant impacts in LEED-NC calculations.

Projects certifying under the LEED-CI program typically have budgets that range from $30/sf to $150/sf. Flooring materials typically average between $2.00/sf - $8.00/sf. On a commercial interior/tenant improvement project, floor covering may be a major component of the costs associated with materials. Therefore it is important to review the impacts of varying recycled content percentages and their overall impact on the LEED-CI Calculation.

Note: No single product can, by itself, obtain a LEED Credit. Products can, in aggregate, contribute to attaining credits.

LEED-NC Materials & Resources Credits

Construction Waste Management

Credit 2.1	Construction Waste Management: Divert 50%	1 Point
Credit 2.2	Construction Waste Management: Divert 75%	1 Point in addition to 2.1

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 waste management plan, quantifying material diversion goals. Recycle and/or salvage at least 50% or 75% of construction, demolition and land-clearing waste. Calculations can be done by weight or volume, but must be consistent throughout.

Recycled Content

Credit 4.1	Recycled Content: 10% (post-consumer + 1/2 pre-consumer)	1 Point
Credit 4.2	Recycled Content: 20% (post-consumer + 1/2 pre-consumer)	1 Point in addition to 4.1

Note: pre-consumer recycled content has the same meaning as post-industrial.

Intent

Increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new 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% or 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 value of the item.

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).

Prime Flors Credit Contribution

Prime Flors has a variety of products that can contribute to this credit calculation. Two simple generic examples are on the following page.

Equations and Sample Calculations:

Equation 1:

Recycled [$] Content Value = Material or [$] Product Cost x Recycled [%] Content

Equation 2:

$$\text{Recycled [\%] Content Rate} = \frac{\text{Post-consumer RCV [\$]} + 1/2\ \text{Pre-consumer RCV [\$]}}{\text{Total Materials Cost [\$]}}$$

Note: For Equation 2, RCV = Recycled Content Value

Flooring Product Calculation:

Total Project Materials Cost: $5,000,000
Product Material Cost: $100,000
Recycled Content: 30% Pre-consumer
Pre-consumer RCV: $100,000 x 30% = $30,000

$$\text{Recycled Content Rate:} \quad \frac{\text{Post-consumer RCV} + 1/2\ \text{Pre-consumer RCV}}{\text{Total Materials Cost}}$$

$$\text{Calculation:} \quad \frac{\$0\ \text{PC RCV} + 1/2\ [\$30{,}000]}{\$5{,}000{,}000} = \frac{\$15{,}000}{\$5{,}000{,}000} = .3\%$$

.3% toward 10% (1 pt.) or 20% (2 pt.) minimum requirement of total materials cost of the LEED project

Flooring Product Calculation:

Total Project Materials Cost: $5,000,000
Product Material Cost: $100,000
Recycled Content: 15% Post-consumer & 30% Pre-consumer
Post-consumer RCV: $100,000 x 15% = $15,000
Pre-consumer RCV: $100,000 x 30% = $30,000

$$\text{Recycled Content Rate:} \quad \frac{\text{Post-consumer RCV} + 1/2\ \text{Pre-consumer RCV}}{\text{Total Materials Cost}}$$

$$\text{Calculation:} \quad \frac{\$15{,}000 + 1/2\ [\$30{,}000]}{\$5{,}000{,}000} = \frac{\$30{,}000}{\$5{,}000{,}000} = .6\%$$

.6% toward 10% (1 pt.) or 20% (2 pt.) minimum requirement of total materials cost of the LEED project

Regional Materials

Credit 5.1	Regional Materials:	
	10% Extracted, Processed & Manufactured Regionally	1 Point
Credit 5.2	Regional Materials:	
	20% Extracted, Processed & Manufactured Regionally	1 Point in addition to 5.1

Intent

Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the regional economy 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% or 20% (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.

Rapidly Renewable Materials

Credit 6	Rapidly Renewable Materials:	1 Point

Intent

Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

Requirements

Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.

LEED-NC Indoor Environmental Quality Credits

Low-Emitting Materials

Credit 4.1 Low-Emitting Materials - Adhesives and Sealants 1 Point

Intent

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

Requirements

The VOC content of all adhesives and sealants used must be less than the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, AND all aerosol adhesives must meet Green Seal Standard for Commercial Adhesives GS-36 requirements.

SCAQMD Installation Product Limits	VOC Limit (g/L)
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Wood Flooring Adhesives	100
Ceramic Tile Adhesives	65
VCT & Asphalt Adhesives	50
Cove Base Adhesives	50

Low-Emitting Materials

Credit 4.3 Low-Emitting Materials - Carpet Systems 1 Point

Intent

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

Requirements

All carpet must meet or exceed the requirements of the Carpet and Rug Institute's (CRI) Green Label Plus Indoor Air Quality testing and product requirements. Carpet cushion must meet CRI's Green Label Indoor Air Quality testing and product requirements, and all carpet adhesive must meet the requirements of EQ Credit 4.1, a VOC limit of 50 g/L.

Prime Flors – Continuing to Learn

At Prime Flors, our environmental commitment isn't just about where we are. It's about where we want to go. Every day we focus on the steps that will take us there. We're constantly learning, revising, improving.

LEED has emerged as an important force in today's building industry, serving as a touchstone for those seeking to build high performance, more sustainable buildings. We're working to understand all the program's ramifications and gaining insights we will share with the environmental community and use when working with our customers.

While we speak and act candidly when it comes to the environment, we know that, in the end, rhetoric means nothing. It's our actions that speak, and people want to know what we've learned and what we're doing with that knowledge. It may not be as glamorous as winning an Oscar, but it's what we're working towards and how we would like to be judged.

Prime Flors recognizes that the growth of the green building movement in the world is increasing daily. We are committed to being a part of this movement and recognize that the LEED rating system is also adapting to new markets and project types. As the new LEED Rating Systems are released and new LEED Application guides developed, we will continue to be a trusted resource to our customers and their projects.

Contact Information

Contact us at 905-604-7692 or U.S. & Canada 1-888-220-9093