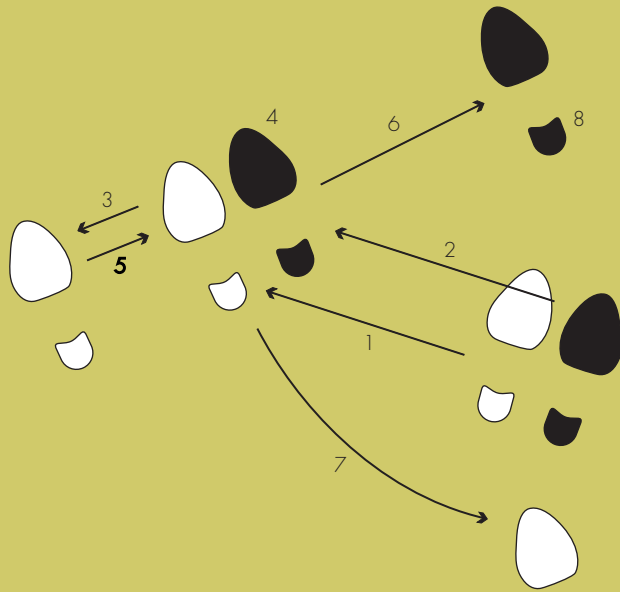


LEARN TO LEED



At Mannington, 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.

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 implementation challenges.

This brochure is designed to help our customers understand the role we can play as a manufacturer 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 nearly 3,000 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. Mannington has been a member of the USGBC since 1998.

OVERVIEW OF THE LEED RATING SYSTEM

The USGBC LEED program offers third-party certification of qualifying buildings, 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, but due to market demand and a variety of other project types applying the LEED Rating System to various project types, the USGBC has created several other LEED Products.

LEED-NC

(New Construction & Major Renovations)

Released 2000

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. LEED-NC is also referred to as LEED 2.0. In response to USGBC members and other LEED users, LEED-NC Version 2.1 was released in November 2002 and it provides technical clarifications and streamlines certification submittal requirements.

LEED-CI

(Commercial Interiors)

Expected Release Date 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.

LEED-EB

(Existing Buildings)

Expected Release Date 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 the interior or exterior surfaces of the building.

LEED-CS

(Core & Shell Development)

Expected Release Date 2005

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. Together, LEED-CI and CS will establish green building criteria for commercial office real estate for both developers and tenants.

MANNINGTON CREDIT CONTRIBUTIONS

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 Mannington products may contribute to these credits.

Also another consideration to keep in mind is that the Materials and 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 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 Calculation.

Please Note: No single product can, by itself, obtain a LEED Credit. Products can, in aggregate, contribute to attaining credits. The only exception is the Indoor Environmental Quality – Low Emitting Materials (Carpet) Credit.

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.

MANNINGTON CREDIT CONTRIBUTION

Mannington is striving to be what we're calling a net user of waste. We're also committed to the reduction of landfill waste from both our operations and products. More information regarding being a net user of waste can be found in the "ON THE ENVIRONMENT" section of our website at www.mannington.com.

Mannington Carpet Products can be reclaimed through the Environmentalists Reclamation Program. All commercial New Construction and Commercial Interiors projects should take advantage of the reclamation program. For more information please visit www.theenvironmentalists.com

INVISTATM Reclamation Program

Recycled Content

Credit 4.1	Recycled Content: 5% (post-consumer + 1/2 post-industrial)	1 Point
Credit 4.2	Recycled Content: 10% (post-consumer + 1/2 post-industrial)	1 Point in addition

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 post-industrial content constitutes at least 5% 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 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/grnrule/guides980427.htm.

MANNINGTON CREDIT CONTRIBUTION

Mannington has a variety of products that can contribute to this credit calculation. Here are two simple generic examples.

EQUATIONS AND SAMPLE CALCULATIONS:

EQUATION 1:	Recycled [\$] Content Value	=	Material or [\$] Product Cost	x	Recycled [%] Content
EQUATION 2:	Recycled [%] Content Rate	=	$\frac{\text{Post Consumer RCV } [\$] + \frac{1}{2} \text{ Post Industrial RCV } [\$]}{\text{Total Materials Cost } [\$]}$		
Note: For Equation 2 RCV = Recycled Content Value					

FLOORING PRODUCT:

Total Project Materials Cost
\$5,000,000

Product Material Cost
\$100,000

Recycled Content
30% Post-Industrial

Post Industrial RCV
 $\$100,000 \times 30\% = \$30,000$

Recycled Content Rate
 $\frac{\text{Post Consumer RCV} + \frac{1}{2} \text{ Post Industrial RCV}}{\text{Total Materials Cost}}$

$\frac{\$0 \text{ PC RCV} + \frac{1}{2} [\$30,000]}{\$5,000,000}$

$\frac{\$15,000}{\$5,000,000}$

.3%
toward 5% or 10% minimum requirement of total materials cost of the LEED project

FLOORING PRODUCT:

Total Project Materials Cost
\$5,000,000

Product Material Cost
\$100,000

Recycled Content
15% Post Consumer & 30% Post Industrial

Post Consumer RCV
 $\$100,000 \times 15\% = \$15,000$

Post Industrial RCV
 $\$100,000 \times 30\% = \$30,000$

Recycled Content Rate
 $\frac{\text{Post Consumer} + \frac{1}{2} \text{ Post Industrial}}{\text{Total Materials Cost}}$

$\frac{\$15,000 + \frac{1}{2} [\$30,000]}{\$5,000,000}$

$\frac{\$30,000}{\$5,000,000}$

.6%
toward 5% or 10% minimum requirement of total materials cost of the LEED project

Regional Materials

Credit 5.1 Regional Materials 20% Manufactured Regionally 1 Point

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 a minimum of 20% of building materials and products that are manufactured* regionally within a radius of 500 miles.

* *Manufacturing refers to the final assembly of components into the building product that is furnished and installed by the tradespersons. For example, if the fiber comes from Dallas, TX, the backing from Philadelphia, PA, and the carpet is manufactured in Calhoun, GA; then the location of the final assembly is Calhoun, Georgia.*

MANNINGTON CREDIT CONTRIBUTION

Mannington produces a variety of products that can contribute to the attainment of this credit. All Carpet products are manufactured in Calhoun, GA. All resilient products are manufactured in Salem, NJ.

Example:

Carpet - Calhoun, GA

Major Project Cities include: Charlotte, Atlanta, Jacksonville, Tampa, New Orleans, Nashville, Indianapolis, Chicago, Richmond, Cincinnati, etc.

Resilient - Salem, NJ

Major Project Cities include: Boston, Syracuse, New York City, Philadelphia, Washington DC, Pittsburgh, etc.



EQUATIONS AND SAMPLE CALCULATIONS:

EQUATION 1:	Regionally Manufactured [%] Products Rate	=	<u>Regionally Manufactured Products Cost</u> [\$] Total Materials Cost [\$]
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PRODUCT: MODULAR CARPET TILE

Place of Manufacture: Calhoun, GA
 Material Cost of Carpet Tile: \$100,000
 Project Location: Indianapolis, IN

Total Project Material Cost: \$5,000,000
 Distance from manufacture to project: 373 miles

This product is manufactured within a 500 mile radius of the project.

Regionally Manufactured Products Rate [%] = \$100,000 / \$5,000,000
 = 2% of total material cost is provided by carpet toward minimum requirement of 20%

Regional Materials

Credit 5.2 Regional Materials 50% Extracted 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

Of the regionally manufactured materials documented for MR Credit 5.1, use a minimum of 50% of building materials and products that are extracted, harvested or recovered (as well as manufactured) within 500 miles of the project site.

MANNINGTON CREDIT CONTRIBUTION

This contribution must be calculated for every project location. For a customized calculation, call 1-800-241-2262 and go to Technical Services (option #3).

EQUATIONS AND SAMPLE CALCULATIONS:

EQUATION 1:	Regionally Extracted [%] Materials Rate	=	<u>Regionally Extracted Materials Cost</u> [\$] Regionally Manufactured Products Cost [\$]
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PRODUCT: VCT

Place of Manufacture: Salem, NJ
 Material Cost of VCT : \$100,000
 Total Project Material Cost: \$5,000,000

Minimum Regional Manufactured Material required in Credit 5.1 = 1,000,000 [\$5,000,000 * 20%]
 Minimum Regional Extracted required in Credit 5.2 = 50% of 5.1 = \$1,000,000 * 50% = \$500,000

Material Composition [by weight]	%	Extraction Location
Limestone Filler	85%	< 500 miles
Other Ingredients	15%	> 500 miles

Project Location: Washington, DC Distance from manufacture to project: 100 miles

This product contains 85% of its ingredients extracted from within 500 miles of the project site, therefore 85% of its total material cost [\$100,000] can be contributed to the overall calculation.

Regionally Manufactured Products Rate [%] = \$85,000 / \$500,000
 = 17% of required regionally manufactured materials

INDOOR ENVIRONMENTAL QUALITY

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 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 sealants used as fillers must meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

SCAQMD LIMITS	
Installation Products	VOC Limit (g/L)
Non-Vinyl Backed Installation	150
Carpet Pad Installation	150
Wood Flooring Installation	150
Ceramic Tile Installation	130
VCT and Asphalt Tile Installation	150

MANNINGTON CREDIT CONTRIBUTION

Mannington has a complete adhesive line for all products that meets the SCAQMD Limit on VOC Emissions.

Low-Emitting Materials

Credit 4.3 Low-Emitting Materials - Carpet

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

Carpet systems must meet or exceed the requirements of the Carpet and Rug Institute’s Green Label Indoor Air Quality Test Program.

The current criteria for the program are based on a maximum emission factor measured in [mg/m ² ×hr] as follows:	
Total Volatile Organic Compounds	0.5
4-PC (4-Phenylcyclohexene)	0.05
Formaldehyde (to prove that none is used)	0.05
Styrene	0.4

MANNINGTON CREDIT CONTRIBUTION

Mannington is committed to IAQ issues and has had the entire product line certified in accordance with the CRI Green Label Indoor Air Quality Test Program. This qualifies each and every carpet project that we manufacture to provide this credit to a project.

MANNINGTON – CONTINUING TO LEARN

At Mannington, 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. What are the implementation challenges? How do LEED buildings age and perform? That's why we're completely renovating and adding to our existing, on-site fitness center in accordance with LEED standards.

We're taking steps 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. People want to know what you've learned and what you're doing with that knowledge. It may not be as sexy as winning an Oscar, but it's what we're working towards and how we would like to be judged.

Mannington 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

For more information regarding Mannington's commitment to the environment please visit www.mannington.com.

For technical information regarding this brochure or other Mannington solutions, visit us at www.mannington.com or call your mannington sales representative at 1-800-241-2262.

