DINOFLEX Group Limited Partnership

LEED®
GREEN BUILDING RATING SYSTEMS

LEED USGBC - Green Building Rating Systems

The United States Green Building Council (USGBC) created the Leadership in Energy and Environmental Design (LEED) Green Building system in an effort to provide a national standard for what constitutes a “green building.” Architects, designers, retail executives and facility managers, seeking to develop high-performance, sustainable buildings utilize it as a design guideline.

New Construction (NC)
LEED for New Construction and Major Renovations is designed to guide and distinguish high-performance commercial and institutional projects.

Existing Buildings: Operations & Maintenance (EB)
LEED for Existing Buildings: Operations & Maintenance provides a benchmark for building owners and operators to measure operations, improvements and maintenance.

Commercial Interiors (CI)
LEED for Commercial Interiors is a benchmark for the tenant improvement market that gives the power to make sustainable choices to tenants and designers.

Core & Shell (CS)
LEED for Core & Shell aids designers, builders, developers and new building owners in implementing sustainable design for new core and shell construction.

Schools
LEED for Schools recognizes the unique nature of the design and construction of K-12 schools and addresses the specific needs of school spaces.
Based on the LEED for New Construction rating system, it addresses issues such as classroom acoustics, master planning, mold prevention and environmental site assessment.

Homes
LEED for Homes promotes the design and construction of high-performance green homes.

LEED USGBC - Green Building Performance Criteria

The LEED rating systems promotes improved practices in the following credit categories:

- **Sustainable Sites**
- **Water Efficiency**
- **Energy and Atmosphere**
- **Materials and Resources**
- **Indoor Environmental Quality**

A sixth category, Innovation and Design Process, rewards exceptional environmental performance or innovation over and above that explicitly covered in the basic LEED credits.

The rating system defines the requirements, by category (listed above), needed to achieve points under each area. Projects earn one or more points toward certification by meeting or exceeding each credit's technical requirements. Points compute to a final score that relates to one of four possible levels of certification: LEED Certified, LEED Silver, LEED Gold or LEED Platinum.

LEED is flexible enough to accommodate a wide range of green building strategies that best fit the constraints and goals of particular projects.

This chart summarizes the potential performance categories Dinoflex recycled rubber products may contribute to help your project attain the one (1) LEED point for each category.

Performance Category	Sub-Category	Credit	Rating System	
Sustainable Site	Landscaping	SS 2.2	Homes	*Limit use of turf in densely shaded areas*
	Landscaping	SS 2.3	Homes	*Limit use of conventional turf*
	Surface Water Management	SS 4.1	Homes	*Permeable lot - use of permeable paving*
	Storm-water Design	SS 6.1	NC; CI; EB; CS; Schools	
	Storm-water Management	SS 6.2	NC; CI; EB; CS; Schools	
Materials & Resources	Construction Waste Management	MR 2	NC; CI; EB; CS; Schools	
	Environmentally Preferable Products	MR 2.2	Homes	*Low emission flooring*
	Recycled Content	MR 4	NC; CI; EB; CS; Schools	*See chart*
	Regional Materials	MR 5	NC; CI; EB; CS; Schools	*Refer to map*
Indoor Environmental Quality	Low Emitting Adhesives / Sealers	EQ 4.1	NC; CI; EB; CS; Schools	
SCS-1350	Low Emitting Flooring Systems	EQ 4.3	NC; CI; CS; Schools	*FloorScore™ Certified - SCS-FS-02144*
Innovation & Design	Innovation	ID 1.1	NC; CI; EB; CS; Schools	**using interlocking products removes adhesive requirements*

Sustainable Sites: Credit 2.2 – Landscaping

Basic Landscape Design (2 points). Meet the following requirements for all designed landscape soft capes:

a) Any turf must be drought-tolerant.
b) Do not use turf in densely shaded areas.
c) Do not use turf in areas with a slope of 25% (i.e., 4:1 slope).
d) Add mulch or soil amendments as appropriate.
e) Mulch is defined as a covering placed around plants to reduce erosion and water loss and to help regulate soil temperature. In addition, upon decomposition, organic mulches serve as soil amendments. The type of mulch selected can affect soil pH.
f) All compacted soil (e.g., from construction vehicles) must be tilled to at least 150 mm (6 inches).

Sustainable Sites: Credit 2.3 – Landscaping

Limit Conventional Turf (maximum 3 points, as specified in Table 3). Limit the use of conventional turf (including drought-tolerant turf), in the designed landscape soft capes. Potential Strategies and Technologies:
Design the project site to maintain natural storm water flows by promoting infiltration. Specify vegetated roofs, pervious paving and other measures to minimize impervious surfaces. Reuse storm water for non-potable uses such as landscape irrigation, toilet and urinal flushing, and custodial uses.

Table 3. Limited Conventional Turf

Percentage of designed landscape softscape area that is conventional turf	Points
41 - 60%	1
21 - 40%	2
20% or less	3

Sustainable Sites: Credit 4.1 - Surface Water Management

Permeable Lot (maximum 4 points).
Design the lot such that at least 70% of the built environment, not including area under roof, is permeable or designed to capture water runoff for infiltration on-site. Area that can be counted toward the minimum includes the following:
a) Vegetative landscape (e.g., grass, trees, shrubs).
b) Permeable paving, installed by an experienced professional. Permeable paving must include porous above-ground materials (e.g., open pavers, engineered products) and a 150-mm (6-inch) porous sub-base, and the base layer must be designed to ensure proper drainage away from the home.
c) Impermeable surfaces that are designed to direct all runoff toward an appropriate permanent infiltration feature (e.g., vegetated swale, on-site rain garden, or rainwater cistern). Limit Conventional Turf (maximum 3 points, as specified in Table 3). Limit the use of conventional turf (including drought-tolerant turf), in the designed landscape soft capes. Potential Strategies and Technologies:

Design the project site to maintain natural storm water flows by promoting infiltration. Specify vegetated roofs, pervious paving and other measures to minimize impervious surfaces. Reuse storm water for non-potable uses such as landscape irrigation, toilet and urinal flushing, and custodial uses.

Sustainable Sites: Credit 6.1 – Storm water Design

Potential Strategies and Technologies: Design the project site to maintain natural storm water flows by promoting infiltration. Specify vegetated roofs, pervious paving and other measures to minimize impervious surfaces. Reuse storm water for non-potable uses such as landscape irrigation, toilet and urinal flushing, and custodial uses.

Sustainable Sites: Credit 6.2 – Storm water Management

Potential Strategies and Technologies: Use alternative surfaces (e.g., vegetated roofs, pervious pavement, grid pavers) and nonstructural techniques (e.g., rain gardens, vegetated swales, disconnection of imperviousness, rainwater recycling) to reduce imperviousness and promote infiltration and thereby reduce pollutant loadings. Use sustainable design strategies (e.g., low-impact development, environmentally sensitive design) to create integrated natural and mechanical treatment systems such as constructed wetlands, vegetated filters and open channels to treat storm water runoff.

Strategy: Dinoflex Exterior Recycled Rubber Surfacing - CushionWalk Pavers or NuVista Tiles

Porosity of:
CushionWalk Pavers = 2.3 fluid ounces per square inch of area per minute
NuVista Tiles = drained 4 liters of water in 306.71 seconds
Playground Tiles = 2.25” all black tile drained 4 liters of water in 319.56 seconds

Material & Resources: Credit 2

Construction Waste Management
Potential Strategies and Technologies: Establish goals for diversion from disposal in landfills and incineration facilities and adopt a construction waste management plan to achieve these goals. Consider recycling cardboard, metal, brick, mineral fiber panel, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Construction debris processed into a recycled content commodity that has an open market value (e.g., wood derived fuel [WDF], alternative daily cover material, etc.) may be applied to the construction waste calculation. Designate a specific area(s) on the construction site for segregated or comingled collection of recyclable materials, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.

Strategy: Dinoflex will take returns of any unused Dinoflex products including scrap pieces and re-use in its manufacturing of other products.

Material & Resources: Credit 2.2

Environmentally Preferable Products (0.5 point each, maximum 8 points)
Use building component materials that meet one or more of the criteria below. Except as noted in Table 24, a material must make up 90% of the component, by weight or volume. A single component that meets each criterion (i.e., environmentally preferable, low emissions, and local sourcing) can earn points for each. a) Environmentally preferable products (0.5 point per component) that reduce environmental impact external to the house site (EPP Specification), or internal to the house (Emission Specification). Product specifications, including EPP and Emission Specifications, are listed in Table 24. Note: Recycled content products must contain a minimum of 25% postconsumer recycled content. Post-industrial (pre-consumer) recycled content must be counted at half the rate of postconsumer content.

Material & Resources: Credit 4

Use materials with recycled content1 such that the sum of postconsumer2 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:
10% recycled content = 1 point, 20% recycled content = 2 points.

The recycled content value of a material assembly is 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 cannot be included in this calculation. Include only materials permanently installed in the project.

Potential Technologies & Strategies
Establish a project goal for recycled content materials, and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

Material & Resources: Credit 5

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 percentage regional materials for each point threshold is as follows: 10% recycled content = 1 point, 20% recycled content = 2 points. See page 5 for map.

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment must not be included in this calculation. Include only materials permanently installed in the project.

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.

Shaded areas indicate 500 miles from extraction and manufacturing location.

One passenger tire provides enough recycled crumb rubber for 11.5 sq.ft. of black rubber flooring 5/16” (8 mm) thick.

Recycled Content Chart (chart 1.1)

RECYCLED CONTENT CHART

EVOLUTION RUBBER TILE	Total % RECYCLED	Post-Consumer CONTENT	Post-Industrial CONTENT
Rain Forest #514E43 Casino Royale #514E44 Purple Rain #514E45 Dream Catcher #514E46 Spanish Moss #514E58 Sapphire Haze #514E62 Smoky Azure #514E63	64%	58%	6%
Fire Fly #014E41 Moon Beam #014E42	60%	53%	7%
Stone Ground #014E54 Burning Embers #014E68	54%	45%	9%
Rio Grande #004E81 Flamenco #014E82 Mardi Gras #014E83	51%	42%	9%
Irish Moss #014E59 Pixie Moss #014E60 Liquid Metal #014E64 Brush Fire #004E66 Molten Lava #014E67 Mesquite #004E50	51%	41%	10%
Muddy Water #014E52 Spun Silver #014E65	36%	23%	13%
Adobe #004E51 Wheat #004E55 Baked Clay #001E53 Sunflower #014E56 Glade Moss #004E61	31%	16%	15%
Oatmeal #014E57 Hot Salsa #014E69	18%	0%	18%

RECYCLED CONTENT CHART

SPORT MAT FLOORING PRODUCTS	Total % RECYCLED	Post-Consumer CONTENT	Post Industrial CONTENT
100% Recycled Black	**88%**	**88%**	
Standard Colors • 10% Speckle & Two Color	**82%**	**80%**	**2%**
Granite Flex	**81%**	**74%**	**7%**
Granite Flex Plus	**79%**	**71%**	**8%**
Decor Collection	**73%**	**69%**	**4%**
Standard Colors • 30% Speckle	**73%**	**69%**	**4%**
Stone Line	**33%**	**19%**	**14%**
Standard Colors • 50% Speckle	**64%**	**58%**	**6%**
Elite Line	**22%**	**5%**	**17%**

RECYCLED CONTENT CHART

DINOFLEX EXTERIOR SURFACING PRODUCTS	Total % RECYCLED	Post-Consumer CONTENT	Post-Industrial CONTENT
Playground Tiles			
100% Recycled Black	**90%***	**90%***	
Pigment Colors: Red, Green, Beige, Brown	**90%***	**90%***	
EPDM Speckled Colors: 25%	**86%***	**85.5%***	**.5%***
50%	**84%***	**83%***	**1%***
75%	**79%***	**77%***	**2%***
90%	**75%***	**73%***	**3%***
***CushionWalk®* Pavers**			
100% Recycled Black	**90%***	**90%***	
Pigment Colors: Red, Green, Beige, Brown	**87%***	**87%***	
EPDM Speckled Colors: 25%	**69%***	**65%***	**4%***
50%	**62%***	**56%***	**6%***
75%	**56%***	**49%***	**7%***
***Nu*Vista Tiles**			
100% Recycled Black	**90%***	**14%***	**72%***
Pigment Colors: Red, Green, Beige, Brown	**90%***	**14%***	**71%***
EPDM Speckled Colors: 25%		**11%***	**73%***
50%		**9%***	**72%***
75%		**8%***	**70%***

***Varies slightly with tile size.**

Any unused Dinoflex recycled rubber materials can be sent back to our manufacturing facility for recycling. The materials are reclaimed and used in the manufacturing of our other environmentally friendly Dinoflex products!

Environmental Quality: Credit 4.1

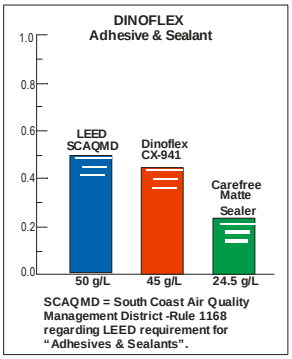
Low Emitting Adhesives & Sealants

Potential Strategies and Technologies: Specify low-VOC materials that meet emission limits.

Strategy: Dinoflex recommended Adhesive - CX941 or Sealer - Taski Vision.

DINOFLEX CX-941 adhesive is a single component polyurethane based trowel-grade, structural adhesive. The patented formula is VOC compliant and it does not contain any solvents or water. CX-941 provides excellent grab and outstanding bond strength. It is formulated for indoor and outdoor applications. The VOC content is 45 grams per liter, which falls below the current SCAQMD VOC limit of 50 grams per liter.

Johnson Diversey Carefree Floor Sealer is a very uniquely formulated floor finish that provides a durable protective coating, while providing a low gloss silky shine. VOC content is 24.5 grams per liter.



Low Emitting Materials Chart

Environmental Quality: Credit 4.3

Low Emitting Flooring Systems

SCS-1350 Compliant - Floorscore® Certified, SCS-FS-02144

Floorscore, a voluntary independent program which was developed by the resilient floor covering institute (RFCI) and is managed by SCS - Hard surface flooring and flooring adhesives that earn this certification meet the indoor air emission criteria of California 01350 and LEED EQ 4.1 and 4.3.

Innovation & Design Process: Credit 1.1

Potential Strategies and Technologies: Substantially exceed a LEED performance credit.

Strategies:

1) Dinoflex interlocking recycled rubber indoor flooring requires no adhesive in certain applications. This product extends life as it can be managed and turned over and re-used or removed and used in another application. (See chart 3.1)
2) Dinoflex Underlay and Rubber Tiles contribute to Acoustic Performance and can be applied in demonstrating that the acoustical performance improvements of a building clearly enhance the indoor environment in ways consistent with the preservation of human health and maximization of occupant productivity.

SUSTAINABLE

Under normal type of foot traffic and wear, rubber flooring typically outlasts carpet and linoleum. The interlocking pieces can be moved from high traffic to low traffic zones, thus extending their performance period.

In addition, the tiles are fully reversible and easy to re-install. When combined with the above mentioned floor management, the useful life-span may be doubled or even tripled.

Installed 2000

Installed 2010

Naturally Dinoflex

As a sustainable product manufactured from recycled materials, Dinoflex Rubber Surfacing is the right choice for high performance green building design.

Our products not only help customers qualify for LEED credits, but they also, in themselves, pass stringent indoor air quality testing for low emissions of total volatile organic compounds.

Any unused Dinoflex recycled rubber material can be shipped back to our facility for recycling. The materials are reclaimed and used in the manufacturing of our other environmentally friendly products.

For Further Information:
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