

Synthetic Turf and LEED®:

Introduction to the LEED® System and how it relates to Synthetic Turf



LEED®:

What is it and what does it mean for Synthetic Turf?

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Program:

What is LEED®?

What are the key areas of LEED® rating system?

Why is LEED® important?

Who uses LEED®?

How is LEED® “measured”?

How does LEED® relate to the synthetic turf industry?

Resources and Questions

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What is LEED®?:

Leadership in Energy and Environmental Design

“a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions”

Developed (2000) and administered by the US Green Building Council (USGBC) www.usgbc.org

Similar programs exist in other countries:
CaGBC, GBCItalia, GBC Australia, etc.



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What is LEED®?:

Buildings get “Certified” (through Green Building Certification Institute - GBCI)

People get “Accredited” (also through GBCI)

Products are neither “Certified” or “Accredited” nor are they ‘promoted or endorsed’ by USGBC or GBCI, but there are other “independent” bodies that do certify products such as Green Seal, Greenguard and Scientific Certification Systems

However products using the IMTS’ Sustainable Materials Rating Technology (SMaRT) rating system may qualify for Innovation credits



Proposed NFL Stadium Los Angeles

Credit: Aedas Architects

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What is LEED®?:

Originally LEED covered only new construction of single buildings.

It has now evolved to cover multiple project types and considers the entire building life-cycle from design and construction through operations and maintenance

Current version of LEED® is 2009 (V.3). LEED® V.4 is currently in the comment period and will likely be implemented in 2013.












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What are the key areas of LEED®?:

-  Sustainable Sites
-  Water Efficiency
-  Energy & Atmosphere
-  Materials & Resources
-  Indoor Environmental Quality
-  Locations & Linkages
-  Awareness & Education
-  Innovation in Design
-  Regional Priority



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Why is LEED® important?:

Reduces waste sent to landfills

Conserves energy and water

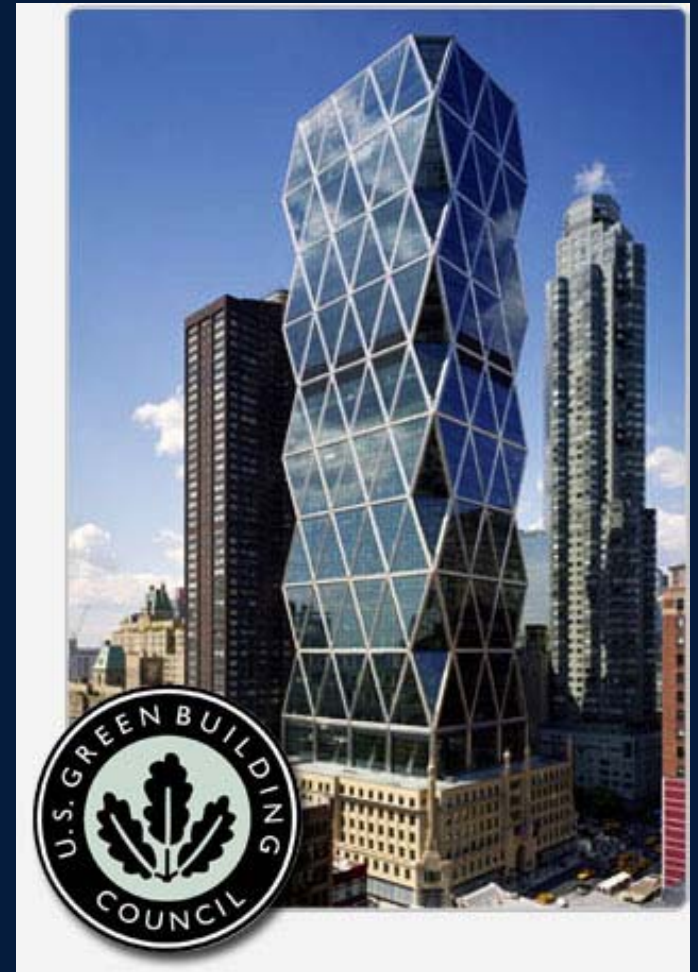
Results in healthier and safer buildings

Reduction of greenhouse gas emissions

May provide tax rebates and zoning allowances

May lower operating costs

May increase asset value



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Who uses LEED®?:

Design Professionals

Colleges & Universities

Developers and Building Owners

State & Local Governments

Federal Agencies

Material Producers & Suppliers (marketing)



University of Massachusetts Football Training Facility

Design Team: Perkins + Will / 360 Architects / Activitas

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How is LEED® measured?:

A project is first registered with the GBCI

The project must meet a number of prerequisites and then achieve a minimum number of points (credits) to be certified

There are 100 possible points + 10 potential bonus points

Based on how many points are achieved a project receives a rating of:

“Certified” (40+)

“Silver” (50+)

“Gold” (60+)

“Platinum” (80+)



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How is LEED® related to the synthetic turf industry?:

LEED 2009 for New Construction and Major Renovations			Project Name
Project Checklist			Date
Sustainable Sites		Possible Points: 26	Materials and Resources, Continued
<input type="checkbox"/>	Prereq 1	Construction Activity Pollution Prevention	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Site Selection	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	Development Density and Community Connectivity	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3	Brownfield Redevelopment	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.1	Alternative Transportation—Public Transportation Access	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.4	Alternative Transportation—Parking Capacity	<input type="checkbox"/>
<input type="checkbox"/>	Credit 5.1	Site Development—Protect or Restore Habitat	<input type="checkbox"/>
<input type="checkbox"/>	Credit 5.2	Site Development—Maximize Open Space	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6.1	Stormwater Design—Quantity Control	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6.2	Stormwater Design—Quality Control	<input type="checkbox"/>
<input type="checkbox"/>	Credit 7.1	Heat Island Effect—Non-roof	<input type="checkbox"/>
<input type="checkbox"/>	Credit 7.2	Heat Island Effect—Roof	<input type="checkbox"/>
<input type="checkbox"/>	Credit 8	Light Pollution Reduction	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4	Recycled Content	<input type="checkbox"/>
<input type="checkbox"/>	Credit 5	Regional Materials	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6	Rapidly Renewable Materials	<input type="checkbox"/>
<input type="checkbox"/>	Credit 7	Certified Wood	<input type="checkbox"/>
Water Efficiency		Possible Points: 10	Indoor Environmental Quality
<input type="checkbox"/>	Prereq 1	Water Use Reduction—20% Reduction	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Water Efficient Landscaping	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	Innovative Wastewater Technologies	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3	Water Use Reduction	<input type="checkbox"/>
<input type="checkbox"/>	Prereq 1	Minimum Indoor Air Quality Performance	<input type="checkbox"/>
<input type="checkbox"/>	Prereq 2	Environmental Tobacco Smoke (ETS) Control	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Outdoor Air Delivery Monitoring	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	Increased Ventilation	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3.1	Construction IAQ Management Plan—During Construction	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.2	Low-Emitting Materials—Paints and Coatings	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.3	Low-Emitting Materials—Flooring Systems	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	<input type="checkbox"/>
<input type="checkbox"/>	Credit 5	Indoor Chemical and Pollutant Source Control	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6.1	Controllability of Systems—Lighting	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6.2	Controllability of Systems—Thermal Comfort	<input type="checkbox"/>
<input type="checkbox"/>	Credit 7.1	Thermal Comfort—Design	<input type="checkbox"/>
<input type="checkbox"/>	Credit 7.2	Thermal Comfort—Verification	<input type="checkbox"/>
<input type="checkbox"/>	Credit 8.1	Daylight and Views—Daylight	<input type="checkbox"/>
<input type="checkbox"/>	Credit 8.2	Daylight and Views—Views	<input type="checkbox"/>
Energy and Atmosphere		Possible Points: 35	Innovation and Design Process
<input type="checkbox"/>	Prereq 1	Fundamental Commissioning of Building Energy Systems	<input type="checkbox"/>
<input type="checkbox"/>	Prereq 2	Minimum Energy Performance	<input type="checkbox"/>
<input type="checkbox"/>	Prereq 3	Fundamental Refrigerant Management	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Optimize Energy Performance	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	On-Site Renewable Energy	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3	Enhanced Commissioning	<input type="checkbox"/>
<input type="checkbox"/>	Credit 4	Enhanced Refrigerant Management	<input type="checkbox"/>
<input type="checkbox"/>	Credit 5	Measurement and Verification	<input type="checkbox"/>
<input type="checkbox"/>	Credit 6	Green Power	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.1	Innovation in Design: Specific Title	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.2	Innovation in Design: Specific Title	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.3	Innovation in Design: Specific Title	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.4	Innovation in Design: Specific Title	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.5	Innovation in Design: Specific Title	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	LEED Accredited Professional	<input type="checkbox"/>
Materials and Resources		Possible Points: 14	Regional Priority Credits
<input type="checkbox"/>	Prereq 1	Storage and Collection of Recyclables	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	<input type="checkbox"/>
<input type="checkbox"/>	Credit 2	Construction Waste Management	<input type="checkbox"/>
<input type="checkbox"/>	Credit 3	Materials Reuse	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.1	Regional Priority: Specific Credit	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.2	Regional Priority: Specific Credit	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.3	Regional Priority: Specific Credit	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.4	Regional Priority: Specific Credit	<input type="checkbox"/>
Total		Possible Points: 110	

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

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How is LEED® related to the synthetic turf industry?:

Turf replacements or field only projects are not eligible for LEED® consideration. There must be a building involved.

In most – but not all – cases many of the points will not be achieved solely as a result of the installation of synthetic turf.

.....but, synthetic turf can contribute and may ultimately help a project achieve certain points.

So, what are those potential points?

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How is LEED® related to the synthetic turf industry?:

Sustainable Sites: 26 Possible Points – 4 with the help of synthetic turf

Credit 5.1: Site Development – Protect or Restore Habitat (1)

Credit 5.2: Maximize Open Space (1)

Credit 6.1: Stormwater Design – Quantity Control (1)

Credit 6.2: Stormwater Design – Quality Control (1)



Battery Park City Sustainable Ballfields

Stantec Consulting

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How is LEED® related to the synthetic turf industry?:

Water Efficiency: 10 Possible Points – 2 – 8 points with the help of synthetic turf

Credit 1: Water Efficient Landscaping (2-4)

Credit 3: Water Use Reduction (2-4)



Residential Lawn: Phoenix, Arizona

Courtesy: TurfDIRECT

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How is LEED® related to the synthetic turf industry?:

Energy and Atmosphere: 35 Possible Points – 0 points for synthetic turf

Credits primarily deal with building systems

....unless the industry learns how to make these fields generate energy.....

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How is LEED® related to the synthetic turf industry?:

Materials & Resources: 14 Possible Points – 1- 8 with the help of synthetic turf

Credit 2: Construction Waste Management (1-2)

Credit 3: Materials Reuse (1-2)

Credit 4: Recycled Content (1-2)

Credit 5: Regional Materials (1-2)



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How is LEED® related to the synthetic turf industry?:

Indoor Environmental Quality: 15 Possible Points – 1- 3 with the help of synthetic turf

Credit 4.1: Low Emitting Materials – Adhesives and Sealants (1)

Credit 4.2: Low Emitting Materials –
Paints and Coatings (1)

Credit 4.3: Low Emitting Materials –
Flooring Systems (1)



Indoor NFL Practice Facility
Activitas

Consultant:

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How is LEED® related to the synthetic turf industry?:

Innovation and Design Process: 6 Possible Points – 1 with the help of synthetic turf

Credit 1.1: Innovation in Design: Specific Title (1)

....a quick note...



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How is LEED® related to the synthetic turf industry?:

Regional Priority Credits: 4 Possible Points – varies by location

Bonus Credits are given (up to 4 of 6 potential points) for achieving points deemed important for the project's region

Example: Northeast (University of Massachusetts)

Sustainable Sites Credit 3.2 – Alternative Transportation

Water Efficiency Credit 1 – Water Use Reduction

Energy & Atmosphere Credit 1.1 – Optimize Energy Performance – Lighting Power

Energy & Atmosphere Credit 1.3 – Optimize Energy Performance – HVAC

Materials & Resources Credit 3.1 – Material Reuse 5%

Materials & Resources Credit 5.1 – Regional Materials 20%

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Resources?:

Contact a LEED® Accredited Professional for Help

Web Resources



US Green Building Council - www.usgbc.org



Canadian Green Building Council – www.cagbc.org



Sustainable Site Initiative – www.sustainablesites.org

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