

Product LEED Guide

*Committed to a
better environment*

LEED™ for New Construction (NC)

LEED NC Credit	Intent/Requirement	Vexcon Product Solutions
ENERGY AND ATMOSPHERE (EA)		
Buildings consume 60-70% of all electricity produced annually in the US. An effective strategy which contributes to the reduction in the amounts of energy used saves resources, and reduces the long term operational costs of a building. The project team must comply with the prerequisite number 2 of this section.		
Optimize Energy Performance Credit: 1-10 point based on energy cost savings, 2 points minimum required	<p>Intent: Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excess energy use.</p> <p>Requirement: Option 1–Whole Building Energy Simulation-Demonstrate a percentage improvement in the buildings performance rating compared to the baseline building performance rating standard. The minimum energy cost savings is 14% for which 2 LEED points are earned.</p> <p>Efficient use of energy is a requirement for new construction, under LEED Energy Optimization Credit EA 1, and Certi-Shine polished concrete can contribute to this end by reducing the amount of energy needed to light, heat and cool buildings.</p>	<ul style="list-style-type: none"> • CERTI-SHINE • STARSEAL PS <p>Certi-Shine and StarSeal PS can contribute to the reduction of energy consumption by increasing the amount of natural light entering an interior space due to its high light reflectivity thereby reducing the internal loads of interior “regulated (non-process)” lighting.</p> <p>It will also contribute to the reduction of the amount of heating and cooling a building requires due to the thermal properties of concrete while maintaining an aesthetically pleasing floor which can increase building occupants comfort levels. (See related discussion at EQ 7.1 and 7.2 below, Thermal Comfort).</p>

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LEED NC Credit

Intent/Requirement

Vexcon Product Solutions

MATERIALS AND RESOURCES (MR)

In the United States alone, buildings consume 30% of all raw materials produced and contribute 30% of total waste output. An effective strategy incorporates minimizing the environmental impacts of material use and to reuse existing buildings.

Building Reuse

Credit: 1.1 and 1.2
(1-2 Points)

Intent: Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduces environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement: Maintain at least 75% & 95%, based on surface area, of existing building structure, and envelope, including structural floor and roof decking. By considering the reuse of an existing building verses building new structures, project teams can earn LEED points when the surface area to be retained is at least 75% concrete or more during a major renovation.

- CERTI-SHINE
- STARSEAL PS

Certi-Shine and StarSeal PS concrete floors will greatly extend the life cycle of a building's concrete floor due to the nature of the concrete resurfacing and hardening process.

Certi-Shine and StarSeal PS will reduce the long-term life cycle costs of maintaining the floor and on a long-term basis, is a less expensive alternative compared to other flooring materials. (See related discuss below, Life Cycle Analysis).

Certi-Shine and StarSeal PS will also reduce the amount of construction waste during a major renovation because the concrete floor structure can be renewed without demolishing the existing floor therefore reducing waste deposits in landfills. (Note: Project teams that do not qualify for this credit may qualify for points under MR credit 2.1 or 2.2).

Interior concrete floor can benefit the project team by contributing to the retention of the overall total existing elements of the project. Concrete floors can make up a large portion of the total square footage of a building's interior. A Certi-Shine or StarSeal PS floor can contribute a significant portion of the total percentage of all reused elements.

Building Reuse

Credit: 1.3
(1 Point)

Intent: Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduces environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement: Use existing interior non-structural elements, such as flooring in at least 50% of the completed building.

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MATERIALS AND RESOURCES (MR)

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Construction Waste Management

Credit: 2.1 and 2.2
(1-2 Points)

Intent: Divert construction and demolition debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

Requirement: Recycle and/or salvage at least 50%/75% of non hazardous 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 co-mingled. Calculations can be done by weight or volume, but must be consistent throughout.

- CERTI-SHINE
- STARSEAL PS
- MOISTUREBLOC
- STARSEAL EF

These products are supplied in 5-gallon plastic containers which can be diverted from landfill disposal by recycling. The 5-gallon pail is a Type 2 high-density polyethylene (HDPE) pail. This type of container is a preferred plastic for recycling. The recycle code is molded into the container bottom, and the symbol is easily visible for sorting purposes. The metal handle is also recyclable.

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Materials Reuse

Credit: 3.1 and 3.2
(1-2 Points)

Intent: Reuse materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

Requirement: Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5% and 10% respectively, based on cost, of the total value of materials on the project. (You can only include permanently installed materials).

A project team needs to calculate the total cost of all materials used on the project and determine the material “replacement value” of comparable concrete material. The total cost of these materials and other salvaged, refurbished or reused materials must be a minimum of 5% to earn one point and 10% to earn an additional point. (Note: Project teams that do not qualify for this credit may qualify for points under MR credit 2.1 or 2.2)

- CERTI-SHINE
- STARSEAL PS

Because an existing concrete floor, which is a finished material found on site, is a permanently installed component of the building, and can be re-furbished (re-surfaced), a Certi-Shine or StarSeal floor will contribute to the reduction in demand for new virgin materials by re-using the existing concrete floor.

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LEED NC Credit

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MATERIALS AND RESOURCES (MR)

In the United States alone, buildings consume 30% of all raw materials produced and contribute 30% of total waste output. An effective strategy incorporates minimizing the environmental impacts of material use and to reuse existing buildings.

Recycled Content Credit: 4.1 and 4.2 (1-2 Points)

Intent: Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

Requirement: 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% (based on cost) of the total value of the materials in the project.

The recycled content value of a material assembly shall be 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 shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3-7.

Recycled content shall be defined in accordance with the International Organization for Standardization 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.

Pre-consumer Material is defined as material diverted from the waste stream during the manufacture process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

- CERTI-SHINE
- STARSEAL PS

When project teams specify a Certi-Shine or StarSeal concrete floor and the use of Fly Ash in the concrete mix design addition LEED points can be earned in this category.

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Regional Materials

Credit: 5.1 and 5.2
(1-2 Points)

Intent: Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environment impacts resulting from transportation.

Requirement: 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% (based on cost) of the total material 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.

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3-7.

- CERTI-SHINE
- STARSEAL PS
- MOISTUREBLOC
- STARSEAL EF

Location:

7240 State Road
Philadelphia, PA 19135

LEED™ for New Construction (NC)

LEED NC Credit

Intent/Requirement

Vexcon Product Solutions

INDOOR ENVIRONMENTAL QUALITY (EQ)

Materials used in buildings can emit harmful air pollutants potentially reducing the health, well being and productivity of building occupants. Project teams can improve indoor environmental quality and provide optimal air quality by incorporating the usage of materials that have zero or low Volatile Organic Compounds (VOC'S)

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

Intent: Reduce the quality of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well being of installers and building occupants.

Requirement: All adhesives and sealants used on the interior of the building shall comply with the requirements of the referenced standard.

Water and Stain Repellents: Products that provide protection from staining and the damaging affects of weather and salts while leaving the natural appearance of the protect surface intact.

- StarSeal EF Weather Seal
- StarSeal EF Weather Seal Plus
- StarSeal EF Weather Seal 100
- StarSeal EF Weather Repel
- StarSeal EF Weather and Stain Guard

Liquid Floor Hardeners: Product systems that permanently harden and seal the concrete surface, providing long term protection from wear and staining, have low maintenance requirements and a long life cycle.

- StarSeal PS Systems (LEED guide available at Vexcon.com/green)

Polished Concrete: Product systems that impart a high gloss finish without the use of a coating. Provides long term protection from wear and staining, have low maintenance requirements and a long life cycle. Installed by a nation wide factory trained network of certified contractors.

- Certi-Shine Systems (LEED guide available at Vexcon.com/green)

Moisture Control: Products that protect floor covering materials from the damaging affects of moisture. (LEED guide available at Vexcon.com/green)

- MoistureBloc Universal
- MoistureBloc One Step
- MoistureBloc Emulsion Step System

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**Low Emitting Materials:
Paint and Coatings**
Credit: 4.2
(1 Point)

Intent: Reduce the quality of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well being of installers and building occupants.

Requirement: All adhesives and sealants used on the interior of the building shall comply with the requirements of the referenced standard.

Cure and Seal Coatings: Products that will cure and seal new and existing concrete surfaces. These products will impact an attractive protective coating while providing protecting from water and other staining.

- StarSeal EF Low Gloss
- StarSeal EF Medium Gloss
- StarSeal EF High Gloss
- StarSeal EF UV Gloss
- StarSeal EF UV High Gloss
- StarSeal EF UV Super Gloss
- StarSeal EF UV Flat
- StarSeal EF Stain

Epoxy Coatings: Products that are engineered to deliver superior performance and value for a wide range of environments in one easy system. This protective and decorative coating is extremely tough, providing excellent resistance to damage from wear, abrasion, impact and chemical attack. This seamless epoxy system is easy to clean with low maintenance requirements and features Vexcon's breathability technology.

- StarSeal EF Primer
- StarSeal EF Epoxy

Vertical High Build Coatings: Advanced products that provide excellent adhesion, weathering and waterproofing protection against moisture penetration.

- StarSeal EF Super Coat HBV

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INDOOR ENVIRONMENTAL QUALITY (EQ)

Materials used in buildings can emit harmful air pollutants potentially reducing the health, well being and productivity of building occupants. Project teams can improve indoor environmental quality and provide optimal air quality by incorporating the usage of materials that have zero or low Volatile Organic Compounds (VOC'S)

Thermal Comfort Design

Credit: 7.1
(1 point)

Intent: Provide a comfortable thermal environment that supports the productivity and well being of building occupants.

Requirement: Design HVAC systems and the buildings envelop to meet the requirements of the referenced standard.

The ANSI/ASHRAE Standard 55-2004, *Thermal Environmental Conditions for Human Occupancy*, addresses several facets of temperatures inside buildings. This standard addresses temperature, thermal radiation, humidity and air speed, along with personal factors such as activity and clothing. Specifications include combinations of indoor thermal environmental factors and personal factors that will produce thermal environmental conditions acceptable to a majority of the occupants within the space.

- CERTI-SHINE
- STARSEAL PS
- MOISTUREBLOC

A Certi-Shine or StarSeal concrete floor is an attractive flooring alternative. The thermal mass of concrete provides heating and cooling benefits along with the highly attractive and pleasing nature of the finished floor. The finished floor can yield a comfortable and pleasing work environment for a majority of building occupants.

A MoistureBloc applied floor will reduce moisture vapor transmission through the concrete flooring. Improvement in building occupants comfort level can be achieved by contributing to the reduction of humidity levels, the potential for mold growth and odor development.

Thermal Comfort

Credit: 7.2
(1 point)

Intent: Prove an assessment of a buildings thermal comfort within a period of six to 18 months after occupancy.

Requirement: Implement a thermal comfort survey of building occupants. The survey should collect anonymous responses about thermal comfort in the building including an assessment of overall satisfaction with thermal performance and identification of thermal comfort related problems. Building owners must agree to develop a corrective plan of action if survey results indicate that more than 20% of occupants are dissatisfied with the thermal comfort of the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with the referenced standard.

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ID INNOVATIONS IN DESIGN

ID Innovations in Design:
(1-4 points)

Intent: To provide teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the LEED for New Construction Green Building Rating System and/or innovative performance in Green building categories not specifically addressed by this Rating System.

Requirement: In writing, identifying the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach (strategies) that might be used to meet the requirements.

- CERTI-SHINE
- STARSEAL PS
- MOISTUREBLOC

Project teams may earn additional points as a Certi-Shine or StarSeal concrete floor has a low environmental impact vis-à-vis a long life cycle due to the sustainable and renewable nature of concrete and the Certi-Shine or StarSeal process. A Certi-Shine or StarSeal concrete floor outlasts and out performs most other types of floors and has the ability to be refurbished “re-cycled” many times. Contact Vexcon for additional life cycle cost information

MoistureBloc meets ASTM C 309, Standard Test Method for Curing Concrete. With the added benefit of curing freshly placed concrete MoistureBloc;

- Saves time and cost.
- Complements fast track construction schedules while avoiding potential excess moisture vapor.
- Promotes concrete reaching its maximum long term performance and life expediency.
- A single product system insures complete product compatibility and performance.
- Reduces consumption and removal of other curing materials.

LEED is a registered trademark of the US Green Building Council.

Product LEED Guide

As the awareness of the long term benefits of green sustainable building become more popular the demand for high performing building material that have minimal impact on the environment will continue to grow exponentially. Vexcon is committed to producing products that are safe for all users, building occupants and the environment. We welcome your suggestions and comments.

For questions contact us at:

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