



SaniGLAZE

LEED

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Handbook

Version 2.0

# WHAT IS LEED

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The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on the performance of their buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

LEED provides a roadmap for measuring and documenting success for every building type and for every phase of a building lifecycle. Currently, the USGBC administers seven different LEED programs. These include:

- **LEED for New Construction and Major Renovations**

This is the original LEED version and it is designed primarily for new commercial office buildings that are four or more stories tall. It can also be applied to major renovation projects involving existing buildings. As a rule of thumb, a major renovation includes the elements of major HVAC replacement, significant building envelope modifications and major interior rehabilitation.

- **LEED for Existing Buildings – Operations & Maintenance**

Recently revised and expanded, LEED-EB deals with the sustainability issues in operating and maintaining existing buildings. Unlike most other LEED versions, this one involves facility alterations and additions as well as operational issues and procedures for utilizing existing HVAC, lighting and other systems.

- **LEED for Commercial Interiors**

This LEED version deals specifically with the build-out of tenant spaces in government as well as private sector commercial buildings. In general terms, this initiative covers the areas of responsibility that a tenant of leased space normally has control of, such as interior floor and wall covering, maintenance and lighting.

- **LEED for Core and Shell Construction**

This is the opposite of the Commercial Interior version, structured specifically for the developer. It addresses the details of the building envelope in general, including the HVAC system, roof system and other components that are traditionally handled by the landlord in a tenant-landlord relationship.

- **LEED for Homes**

As the name implies, this is the residential version of LEED. It deals with both single-family and multifamily structures as well as multi-unit developments. Functions just like LEED-NC only on a residential basis.

- **LEED for Schools**

This version covers the construction and major renovations of K thru 12 educational facilities. It addresses the unique qualities of school spaces and children's health issues.

Additional LEED programs are also currently in development to address Retail Businesses, Healthcare, Community Development and other categories.

The LEED Rating System was created to transform the built environment to a higher degree of sustainability by providing the building industry with consistent, credible standards for what constitutes a green building. The rating system is developed and continuously refined via an open, consensus-based process that has made LEED the green building standard of choice for Federal agencies, as well as state and local governments nationwide.

The first step to LEED certification is to register a specific building project into one of the above-defined programs. A project is a viable candidate for LEED certification if it can meet all prerequisites and achieve the minimum number of points to earn the basic level of LEED project certification. The number of points needed to earn certification differs from program to program. To earn certification, a building project must meet certain prerequisites and performance benchmarks (“credits”) within each category. Projects are awarded Certified, Silver, Gold, or Platinum designations, depending on the number of credits they achieve. This comprehensive approach is the reason LEED-certified buildings have reduced operating costs, have healthier and more productive occupants, and conserve our natural resources.

It is important to understand that LEED rates projects, not products. LEED credits are earned when a product or a series of products are combined to achieve a specific end result (lower energy use, collective recycled content, etc.). It is rare when a single product can be utilized to earn credit points. The total number of available credits varies in each of the above categories. In addition to available credits, each of the above categories also contains one or more prerequisites which **MUST** be met in order for the project to achieve LEED certification. Examples of these prerequisites include minimum energy performance standards, the collection of recyclables, and requirements for smoking within the building.

LEED points are awarded in six basic categories:

1. Sustainable Sites (SS)
2. Water Efficiency (WE)
3. Energy & Atmosphere (EA)
4. Materials & Resources (MR)
5. Indoor Environmental Quality (IEQ)
6. Innovation & Design (ID)

## **THE SUSTAINABILITY ATTRIBUTES OF SANIGLAZE RESTORATIVE BONDING**

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A fundamental aspect of any Green building initiative, whether it is LEED, Green Globes or any other similar program, involves utilizing and/or preserving a structure’s existing resources as opposed to replacement, which calls for hauling everything off to the landfill and starting over.

The unique SaniGLAZE Restorative Bonding Process allows for the total refurbishing of existing ceramic tile floor and wall surfaces to brand-new condition through a process that involves minimal environmental impact. Restorative Bonding is a combined chemical and mechanical process that cleans, re-bonds and seals grouted ceramic tile surfaces; restoring and, if desired, re-coloring the grout to standards that are substantially better than the original installation. This process not only eliminates existing mold growth, dirt, grease and stains, but also creates a new surface that can be maintained in a manner that is less costly and less time consuming than traditional tile maintenance procedures.

More importantly, the recommended EverGLAZE maintenance formulation is water based and low in VOC emissions. The process does not harm the Interior Environmental Quality (IEQ) standards and keeps the surface in mold-free, like-new condition for the life of the building, as long as the prescribed maintenance procedures are followed.

SaniGLAZE International and its innovative Restorative Bonding Process are in the forefront of sustainability initiatives like LEED because they allow architects, specifiers and builders to achieve their sustainability objectives with a proven, effective process and at a reasonable cost.

Understand that the USGBC does not certify, promote, or endorse specific products and services from individual companies. However, products and services, such as the SaniGLAZE Restorative Bonding Process, do play a significant role because they help projects achieve the points needed for certification. It is important to remember that products and services do not earn individual credits, but rather help contribute to the project's overall total credits.

It is unrealistic to think a project's LEED Accredited Professional will submit all possible SaniGLAZE points for consideration. There are precise mathematical formulas and other calculations necessary to justify specific credits. Additionally, the total area of the floor or wall surface to which the process has been applied plays a role in determining the number of credits allowed or whether any will be allowed at all. The purpose of this guide is to list all possible options and allow the LEED AP to determine which categories work best for using the SaniGLAZE System to achieve LEED points.

The following pages offer a specific guide to the potential contributions the SaniGLAZE Restorative Bonding Process and the related EverGLAZE maintenance program can make to projects registered under the U.S. Green Building Council's various LEED Rating Systems.

## LEED for New Construction (& Major Renovations) Version 2.2

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The LEED-NC Rating System is applicable to new commercial construction and major renovation projects. This was the original LEED program and still remains the one used most often. In LEED-NC there are a total of 69 available points. LEED Certification can be achieved as follows:

- Basic Certification 26–32 points
- Silver 33–38 points
- Gold 39–51 points
- Platinum 52–69 points

SaniGLAZE may contribute possible credits in four specific categories as part of the LEED NC program. Here is a breakdown, detailing the rationale for the various credit assignments:

### EA Credit 1 – Optimized Energy Performance 1-10 Points

A concrete floor covered with ceramic tile and enhanced by the SaniGLAZE System can be part of a whole building approach to maximize a building's energy efficient design because of the thermal mass of the ceramic covered concrete floor. The combined thermal properties of ceramic and concrete, in addition to the sealing properties contributed by SaniGLAZE, mean that floors could reduce the cooling and heating loads within a building envelope. The clean, bright SaniGLAZE floor finish can also ease the energy requirement for lighting because of its reflective properties. This strategy is of particular importance to building teams seeking a design to maximize the natural light entering the building or the design and implementation of a day-lighting strategy, because it also can contribute to a whole building approach to energy reduction.

The number of LEED points available in this section of the Green Building Rating System for a SaniGLAZE enhanced ceramic over concrete floor will depend on the area of the building where this flooring exists. For example, if the building team can document that the SaniGLAZE protected ceramic tile floor has increased the energy efficiency of a building by 10.5 percent over the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004, then LEED-NC awards 1 point.

Theoretically, up to 10 points could be awarded for a 42 percent increase in energy efficiency and some of that increase is potentially due to the thermal mass of a ceramic tiled concrete floor assembly.

## MR Credits 1.1, 1.2 & 1.3 – Building Reuse 1-3 Points

The SaniGLAZE contributions to MR Credit 1.1, 1.2, & 1.3 are numerous, as a ceramic floor or wall surface protected by the SaniGLAZE System will last the lifetime of a building, when properly maintained, and accommodate a variety of future occupant requirements. In projects where ceramic tiled surfaces comprise between 75 percent and 95 percent of the materials in the original building, the SaniGLAZE process may assist a building team with points toward LEED-NC certification of a major renovation. These projects can include buildings with large expanses of concrete floor that can be reused such as in warehouses or retail showrooms.

Depending on the square footage of the surfaces involved, this process may also contribute to maintaining 50 percent of the interior non-structural elements and therefore extend the life cycle of the building's existing floor and wall materials, thus earning an additional credit.

## MR Credits 2.1 & 2.2 - Construction Waste Management 1-2 Points

Potentially, these are the most significant credits to which the SaniGLAZE System can contribute. The alternative to SaniGLAZE is surface replacement, which creates a significant disposal problem. The use of the SaniGLAZE System to refurbish existing tile surfaces, as opposed to replacement, will reduce impacts from construction or demolition, because the process involves resurfacing existing ceramic tile floors and/or walls, thus diverting existing floor materials from the landfill.

## MR Credits 3.1 & 3.2 - Material Reuse 1-2 Points

The SaniGLAZE System satisfies the requirements for this credit because it refurbishes existing ceramic surfaces to like-new condition, thus eliminating replacement. The sum of these refurbished surfaces should constitute at least 5%, based on cost, of the total value of the materials on the project. The calculation for this credit can include SaniGLAZE because this process is permanently installed in the project.

## MR Credits 5.1 & 5.2 - Regional Materials 1-2 Points

The intent of this credit is to increase demand for building materials and products that are extracted and manufactured within a 500-mile radius from the job site, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation. SaniGLAZE products are shipped from the company's headquarters in Jacksonville, Florida. Therefore only building projects within 500 miles of this area could potentially qualify for this credit.

## IEQ Credit 4.1 – Low Emitting Adhesives & Sealants 1 Point

The SaniGLAZE System can reduce the quantity of indoor air contaminants that are odorous, irritating and harmful to the comfort and well-being of installers and occupants of a building, as required by the USGBC. The chemical cleaners and coatings used in the SaniGLAZE System comply with SCAQMD Rule #1168 and do not exceed the VOC content limits established in SCAQMD Rule #1113, Architectural Coatings.

## ID - Innovation in Design

### 1 Point

The various environmentally friendly attributes of the SaniGLAZE System offer the further potential for Innovation in Design credits, which provide design teams and projects the opportunity for LEED points for innovative performance in areas not specifically addressed by the Green Building Rating System.

The SaniGLAZE System can potentially contribute points in this category of LEED because of its unique installation method as well as the recommended on-going maintenance regimen. This installation process causes minimal dust and waste when compared with full surface replacement. A case can also be made for the recommended on-going maintenance procedures, which cause no caustic odors or waste material. The process maintains the surface in new condition, adding significantly to its sustainable properties.

## LEED EB: OPERATIONS & MAINTENANCE (Formerly LEED for Existing Buildings)

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The old LEED-EB (Existing Buildings) has been radically changed and is now called: LEED EB: Operations & Maintenance. This is a significant change because this new program is quickly becoming the de facto blueprint for municipal governments, non-profit organizations and hundreds of private commercial building owners who want to go green. The opportunities here for SaniGLAZE significantly outweigh those for all other LEED versions combined! First, consider the market. It is conservatively estimated that there are 4.5 million commercial properties here in the United States, many of which were erected decades ago before sustainable, or green designs were even talked about. This vast number of existing older buildings presents a much bigger opportunity to cut down on energy consumption and carbon emissions that contribute to the warming of the planet.

Unlike all other LEED versions, LEED EB: O&M is based on actual building operating performance, not design expectations. Among other categories, it specifically addresses site maintenance, the purchase and use of environmentally friendly products, waste stream management and ongoing indoor environmental quality. These are all areas where the SaniGLAZE process fits in. The new LEED EB provides sustainable guidelines for whole-building cleaning and maintenance, recycling programs and upgrades that help improve indoor environmental quality.

To achieve certification under LEED-EM O&M, the building must earn a minimum of 34 points out of a total available 92 points. The award ratings break down as follows:

- Basic Certification 34-42 points
- Silver 43-50 points
- Gold 51-67 points
- Platinum 68-92 points

Basic criteria for consideration of certification include:

- Building must be fully occupied (based on average occupancy) for the 12 months prior to registration. A standard vacancy rate of 25 percent is acceptable.
- Good news for us, 100 percent of the floor area must be included in the scope of the project. There is an exemption of 10 percent if floor maintenance is under separate management control, but that's the only exception.
- The building must be in compliance with all federal, state and local statutes regarding issues such as lead paint, asbestos and other hazardous material concerns.

SaniGLAZE may contribute possible credits in five specific categories, including one pre-requisite, as part of the LEED EB: O&M program. Here is a breakdown, detailing the rationale for the various credit assignments:

## EA Credit 1 - Optimized Energy Efficiency Performance 2-15 Points

This is a bit complicated, but basically between 2 and 15 points can be earned based on reducing the day-today energy use of a building. One suggested strategy involves installing floor maintenance regimens, such as SaniGLAZE, which result in the reduced use of mechanical scrubbing machines, buffers and polishers to save energy and earn more points.

As specifically described in the LEED NC section, a concrete floor covered with ceramic tile and enhanced by the SaniGLAZE System can be part of a whole building approach to maximize a building's energy efficient design because of the combined thermal properties of ceramic and concrete. See LEED NC for more details.

## EA Credit 6 - Emissions Reduction Reporting 1 Point

This credit involves the implementation of a program that, among other factors, limits the potential release of Volatile Organic Compounds as well as large and small particulate matter. A strategy to refurbish existing ceramic tile floor and wall surfaces with SaniGLAZE, as opposed to replacement, could help qualify for this point. The important thing here is for the decision maker to understand that he doesn't have to refurbish the floors immediately, just devise a written plan that includes using SaniGLAZE instead of planning a replacement, when the time comes. In this case, just having the plan to use SaniGLAZE helps earn the point.

## MR Credit 3 - Sustainable Purchasing: Facility Alterations and Addition 1 Point

This credit specifically addresses products and services used to expand or remodel a building. The point is based on total dollars spent for the project, but there are two areas of interest that involve SaniGLAZE. In one scenario, the point can be earned based on salvaging on-site resources, like the floor. So the use of SaniGLAZE, instead of replacement, could help earn the point. Also, dollars spent on low-VOC sealers and cleaners, like EverGLAZE, also count toward achieving this point.

## MR Credit 9 - Solid Waste Management - Facility Alterations and Additions 1 Point

This credit point is extremely suited to SaniGLAZE. This is one point available for diverting at least 70 percent of waste, measured by volume, of components such as ceiling tiles, drywall and flooring material. Use of SaniGLAZE, as opposed to tile replacement, can be a major contributor to help earn this point.

## IEQ Pre-Requisite 3 - Green Cleaning Policy No Points

Pre-requisite means every building must comply. This required mandate involves the development of a Green Cleaning Policy. Specifically mentioned in the criteria is establishment of operating procedures for the cleaning and maintenance of hard-surface floors. The installation of the SaniGLAZE system with periodic on-going maintenance with EverGLAZE helps meet these required criteria.

## IEQ Credit 1.5 - Best Management Practices: Management for Facilities Alterations and Additions

### 1 Point

This category awards one point for reducing or eliminating air pollutants during tenant remodeling and renovation. This is very similar to EA Credit number 6, where you get credit for the plan and not the action. Writing SaniGLAZE into plans for future remodeling will help earn the point.

## IEQ Credit 2.1 - Occupant Comfort: Occupant Survey

### 1 Point

This credit awards one point based on the responses to a survey of building occupants about issues that include building cleanliness, odors and other comfort issues. Common area restrooms tend to generate significant comments and the use of the SaniGLAZE process could help alleviate complaints and earn the point.

## IEQ Credit 3.1 -Green Cleaning: High Performance Cleaning Program

### 1 Point

Criteria to earn the point include the use of environmentally friendly cleaning compounds and, most importantly, on-going training programs to teach the maintenance staff how to efficiently clean hard surface floor areas. The training and low-VOC formulation of EverGLAZE help earn this point.

## IEQ Credits 3.2 & 3.3 - Green Cleaning: Custodial Effectiveness Assessment

### 2 Points

As the name implies, up to 2 points are awarded based on the training and effectiveness of the building maintenance crew. A designated team does a periodic walkthrough of all common areas and restroom and evaluates the cleanliness. Installation of the SaniGLAZE process and regular use of the SaniGLAZE maintenance program will help earn these points.

## IEQ Credits 3.4, 3.5 & 3.6 - Green Cleaning: Purchase of Sustainable Cleaning Products and Materials.

### 2 Points

These points are awarded for the total dollar amount spent to buy these cleaners. You get 1 point for every 30 percent (based on the total dollar volume) spent for all green cleaning materials. The purchase of EverGLAZE can help earn the points.

## ID Credit 1 - Innovation in Upgrades, Operations and Maintenance

### 1-4 Points

There are also points available in the Innovation category, based on the creative application or extraordinary effective of an application. SaniGLAZE may in fact be used here in some way, but such applications should not be suggested and are best left to the building's architectural consultants and LEED AP to develop.

# LEED FOR COMMERCIAL INTERIORS

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The LEED-CI Rating System is applicable to tenant improvements of new or existing office space. Under LEED-CI, a minimum of 21 points are required to achieve certification with a total of 57 possible points available. The breakdown of the various certification levels is as follows:

- Basic Certification 21 – 26 Points
- Silver 27 – 31 Points
- Gold 32 – 41 Points
- Platinum 42 – 57 Points

SaniGLAZE may contribute possible credits in two categories as part of the LEED-CI program. Here is a breakdown, detailing the rationale for the various credit assignments:

**MR Credit 1.2 & 1.3 – Building Reuse**  
**Maintain 40% of Interior Non-Structural Components**  
**1 Point**  
**Maintain 60% of Interior Non-Structural Components**  
**1 Additional Point**

Refurbishing existing ceramic tile wall and floor surfaces with the SaniGLAZE process eliminates the need to remove and replace the tile. Keeping existing tile in place by utilizing SaniGLAZE technology helps qualify for up to 2 points.

**MR Credit 3.1 & 3.2 – Resource Reuse**  
**Reuse 5%**  
**1 Point**  
**Reuse 10%**  
**1 Additional Point**

This is without a doubt the most significant area where SaniGLAZE can earn points for a project. The use of the SaniGLAZE System to preserve existing ceramic tile surfaces, as opposed to replacement, conforms to the specific intent of this credit.

**MR Credits 5.1 & 5.2 – Regional Materials**  
**1 - 2 Points**

Points are awarded for building materials and products that are extracted and/or manufactured within a 500-mile radius of the job site, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

SaniGLAZE products are shipped from the company's headquarters in Jacksonville, Florida. Therefore only building projects within 500 miles of this area could potentially qualify for this credit.

## IEQ Credit 4.1 – Low-Emitting Materials – Adhesives and Sealants

### 1 Point

The chemical compounds used in the SaniGLAZE sealing process emit low VOCs and are considerably safer and easier to use than most of the current chemicals used to maintain ceramic tile surfaces. The use of these products during the installation and ongoing maintenance could help qualify for this credit.

## IEQ Credit 5 – Indoor Chemical and Pollutant Source Control

### 1 Point

Because common restroom facilities, kitchens and other rooms that traditionally utilize ceramic tiled surfaces are frequented regularly by building occupants, this credit could also be available when the SaniGLAZE maintenance routine is adopted. As with the previous credit, the low VOCs emitted by the maintenance products help qualify for this credit.

## OTHER LEED VERSIONS

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Currently, there are two additional LEED initiatives in which SaniGLAZE can assist in generating credit points. These programs, LEED for Core & Shell and LEED for Schools are substantially similar in scope to the previously explained LEED programs.

The rationale for SaniGLAZE contributions would be essentially the same as those outlined in LEED-NC, LEED-EB and LEED-CI. Here is an outline summary of each of these programs.

## LEED FOR CORE & SHELL

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LEED-CS is a market specific application that recognizes the unique nature of core and shell development; and acknowledges the limited sphere of influence over which a developer can exert control in specifying the implementation of green design and construction practices. Some key building areas, interior space layout, interior finishes, lighting, mechanical distribution, and other tenant related systems are often outside the direct control of the developer. Thus, the scope of a LEED-CS project is limited to those aspects of the project over which the developer has direct control. LEED for Core & Shell is designed to be complementary to the LEED for Commercial Interiors Green Building Rating System (LEED-CI).

Under LEED-CS, a minimum of 23 points are required to achieve certification with a total of 61 possible points available. The breakdown of the various certification levels is as follows:

- Basic Certification 23 - 27 points
- Silver 28 - 33 points
- Gold 34 - 44 points
- Platinum 45 - 61 points

SaniGLAZE can potentially contribute toward the achievement of 17 credit points in the following areas (specific details can be found in the prior LEED-NC section):

- EA Credit 1 – Optimize Energy Performance 1-8 Points
- MR Credits 1.1, 1.2 & 1.3 – Building Reuse 1-3 Points
- MR Credits 2.1 & 2.2 – Construction Waste Management 1-2 Points
- MR Credits 3 – Material Reuse 1 Point
- MR Credits 5.1 & 5.2 – Regional Materials 1-2 Points
- IEQ Credit 4.1 – Low Emitting Adhesives & Sealants 1 Point

## LEED FOR SCHOOLS

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The LEED for Schools Rating System recognizes the unique nature of the design and construction of K-12 schools. Based on LEED-NC, it addresses issues such as classroom acoustics, master planning, mold prevention, and environmental site assessment; issues that are especially pertinent to school spaces and children’s health issues.

Under LEED for Schools, a minimum of 29 points are required to achieve certification with a total of 79 possible points available. The breakdown of the various certification levels is as follows:

- Basic Certification 29 - 36 points
- Silver 37 - 43 points
- Gold 44 - 57 points
- Platinum 58 - 79 points

SaniGLAZE is in an excellent position to help contribute significant points in any registered LEED for Schools program by virtue of the fact that the SaniGLAZE System eliminates mold growth and can keep ceramic tile kitchen, locker room and restroom floor and wall surfaces mold free with the use of the on-going EverGLAZE maintenance program.

Specifically, SaniGLAZE can potentially contribute 18 points in the following areas:

- EA Credit 1 – Optimize Energy Performance 1-8 Points
- MR Credits 1.1, 1.2 & 1.3 – Building Reuse 1-3 Points
- MR Credits 2.1 & 2.2 – Construction Waste Management 1-2 Points
- MR Credits 3 – Material Reuse 1 Point
- MR Credits 5.1 & 5.2 – Regional Materials 1-2 Points
- IEQ Credit 4.1 – Low Emitting Adhesives & Sealants 1 Point
- IEQ Credit 10 – Mold Prevention 1 Point

This credit is unique to LEED for Schools because it reduces the potential presence of mold in schools through preventive design and construction measures. Installation of the SaniGLAZE System has been documented as an effective mold preventive remedy and should help contribute toward earning this point.

## GREEN GLOBES INITIATIVE

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Although the most popular, LEED is not the only sustainability initiative in use. At last count, there were more than a dozen similar programs, some specific to a particular state or region and others specific to a certain industry. Any attempted list would become incomplete in a matter of weeks.

However, one program that warrants recognition is Green Globes. This concept is offered in the form of a revolutionary green management tool that includes assessment protocol, a rating system and guide for integrating environmentally friendly design into commercial buildings. Once complete, it also facilitates recognition of the project through third-party verification. It's an interactive, flexible and affordable approach to environmental design.

Developed in Canada in partnership with BOMA, Green Globes was introduced into the United States in 2004. It is supported and endorsed by interests from such sectors as financial services, retail, wholesalers, various manufacturers and other building material providers. Unlike LEED, which deals with the "here and now," Green Globes takes a more life cycle view of products and projects, beginning with the extraction of raw materials and ending with the installation of the finished product or system.

The Green Globes Rating System (v.1) encompasses seven categories:

1. Project Management – Policies and Practices
2. Site
3. Energy
4. Water
5. Resources, Building Materials and Solid Waste
6. Emissions and Effluents
7. Indoor Environment

Like LEED, the program rates projects, not products, and awards one, two, three or four green globes to a registered project upon third-party verification.

Under the current version of Green Globes, the SaniGLAZE process can help earn points in three Green Globes categories – Number 3 - Energy; Number 5 - Resources, Building Materials and Solid Waste; and Number 7 - Indoor Environment.

A breakdown of these opportunities is as follows:

## **ENERGY**

### **360 Total Points Available**

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#### **ENERGY CONSUMPTION**

Up to 100 points

Like the LEED Energy Optimization credits, this category awards between 10 and 100 points for achieving different levels of EPA Target Finder energy savings. The use of a floor or wall system that consists of a concrete or multi-layer gypsum substrate and covered with ceramic tile, with its documented thermal mass characteristics, would assist in this area.

The availability of ceramic tile as a design option can assist in the decision to select concrete as the material of choice for the floor and/or walls.

#### **ENERGY DEMAND MINIMIZATION**

Up to 135 points

This credit also involves the thermal mass of the concrete and ceramic tile combination and can earn points utilizing the same strategy as explained above. These points also factor in daylighting, which can be enhanced through the use of a brightly colored tile.

## RESOURCES, BUILDING MATERIALS & SOLID WASTE

### 100 Total Points Available

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#### MATERIALS WITH LOW ENVIRONMENTAL IMPACT

Up to 40 points

This credit offers 10 points specifically for “Foundation and Floor Assembly Materials.” The criteria for this credit are environmentally preferable products and materials with the lowest life cycle environmental burden and embodied energy.

Data available through the Portland Cement Association verifies both the low embodied energy and the low life cycle burden of the concrete substrate.

Additional data available from SaniGLAZE International can justify the benefits of installing the SaniGLAZE System either during new construction or as a floor rehabilitation option in a major remodeling project. The use of the SaniGLAZE System enhances the value and sustainability of the floor.

#### MINIMIZED CONSUMPTION & DEPLETION OF MATERIAL RESOURCES

Up to 30 points

The objective of this category is to conserve resources and minimize the energy and environmental impact of extracting and processing non-renewable materials. The use of the SaniGLAZE System as an alternative to tile replacement should satisfy this criteria since the embodied energy necessary to apply the SaniGLAZE System to the existing floor or wall surface is significantly less than the energy involved in manufacturing shipping and installing new tile and then removing and disposing of the existing material.

#### RE-USE OF EXISTING STRUCTURE

Up to 10 Points

The use of the building’s existing floor is specifically cited as criteria in earning these points. Use of the SaniGLAZE System on an existing floor offers specific sustainable advantages both in terms of eliminating the harmful effects of replacement as well as in terms of less intensive on-going maintenance.

## INDOOR ENVIRONMENT

### 200 Total Points Available

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#### EFFECTIVE VENTILATION SYSTEM

Up to 60 points

This is a broad category, designed to encompass the performance and effectiveness of the building’s HVAC system. However, the category does offer 23 points for use of a Construction/Renovation Indoor Air Quality Management Plan. According to these criteria, a case can be made for the SaniGLAZE System since it releases no airborne particulates during installation as opposed to the dust created when attempting to remove old tile.

#### SOURCE CONTROL OF INDOOR POLLUTANTS

Up to 45 points

This category includes 2 points for the use of third-party environmentally certified low-VOC emitting sealants. The EverGLAZE compound used to maintain the SaniGLAZE System process meets industry standards set by the South Coast Air Quality Management District (SCAQMD) Rule #1168.

## FINAL CONCLUSIONS

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Sustainable or “green” construction products and procedures are here to stay. The LEED Rating System will evolve and expand, Green Globes will do likewise. New initiatives will be born, others will be abandoned. But the fundamentals will always be constant:

- Energy performance
- Environmental responsibility through Life Cycle Analysis
- Healthier workplace conditions

Whether building owners seek LEED certification, just want to do a small part to help the environment; or would simply like to improve comfort and safety for their tenants, the SaniGLAZE System effectively embraces all of these initiatives.

