

LEED® V4

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# [North America] How can glass contribute to LEED® certification v4

# How advanced glazing can help your project earn LEED® points

Environmental certification for new and existing buildings can be obtained through various recognized environmental and sustainable certification assessment methods. One of the most widely recognized environmental certification assessment methods is the Leadership in Energy and Environmental Design (LEED®) rating system, developed by the U.S. Green Building Council.

The LEED® system promotes sustainable buildings by awarding points in various categories.

To qualify as LEED®-certified, a building must score at least 40 of 110 possible points. Higher levels of compliance are possible, indicating higher levels of energy efficiency and environmental sustainability.

LEVEL OF CERTIFICATION	LEED® POINTS
CERTIFIED	40-49
SILVER	50-59
GOLD	60-79
PLATINUM	80+

Advanced glazing solutions can help achieve high levels of energy performance, helping building projects earn **up to 43 LEED® points**.

A modern building with a blue glass facade and a white panel overlay. The building has a unique, angular design with a prominent white panel on the left side. The glass reflects the sky and surrounding environment. The white panel contains the text for the summary.

# Summary

**Energy and Atmosphere** p.4 >

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**Indoor Environmental Quality** p.5 >

---

**Materials and Resources** p.6 >

---

**Innovation** p.7 >

---

**Integrative Process** p.7 >

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**Sustainable Sites** p.8 >

# Categories in which to earn points under LEED® v4

Guardian Glass' wide range of glass products can contribute within a project to earn LEED® points in various categories



## Energy and Atmosphere (EA)

### LEED® Credits

#### Optimize Energy Performance (EAc2)

Up to 20 points

### The intent\*

To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.

#### The Guardian Glass solution

Guardian Glass portfolio offers a wide spectrum of low-E coated glass products that can contribute to energy savings based on:

- varying degrees of light transmission and reflectivity.
- light-to-solar gain (LSG) ratios that can approach or exceed 2.0.
- many aesthetic possibilities, from neutral to colored or slightly to highly reflective.



## Indoor Environmental Quality (EQ)

### LEED® Credits

### The intent\*

#### Daylight (EQc7)

Up to 3 points

To connect building occupants with the outdoors, reinforce circadian rhythms and reduce the use of electrical lighting by introducing daylight into the space.

#### Thermal Comfort (EQc5)

1 point

To promote occupants' productivity, comfort and well-being by providing quality thermal comfort.

#### Quality Views (EQc8)

1 point

To give building occupants a connection to the natural outdoor environment by providing quality views.

#### Acoustic Performances (EQc9)

1 point

To provide workspaces and classrooms that promote occupants' well-being, productivity and communications through effective acoustic design.

### The Guardian Glass solution

- Guardian low-E coated glass products help optimize the solar heat gain, reduce glare and improve thermal comfort, while allowing a high proportion of the natural light in.
- Acoustic laminated glass helps reduce the sound transmitted through the glazing.



## Materials and Resources (MR)

### LEED® Credits

### The intent\*

#### **Environmental Product Declarations (MRC2)**

**Up to 2 points**

To encourage the use of products and materials from manufacturers who have verified improved environmental, economic and socially preferable life-cycle impacts.

#### **Sourcing Raw Material (MRC3)**

**Up to 2 points**

To encourage the use of products and materials for which life-cycle information is available and are verified to have been extracted or sourced in a responsible manner.

#### **Material Ingredients (MRC4)**

**Up to 2 points**

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically and socially preferable life-cycle impacts; and are verified to minimize the use and generation of harmful substances.

#### **Regional Materials (MRC5)**

**Up to 2 points**

To 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 environmental impacts resulting from transportation.



## Materials and Resources (MR)

### The Guardian Glass solution

- Guardian Glass coated flat glass products are covered by [Environmental Product Declarations \(EPD\)](#), providing information about their life-cycle environmental impact.
- Guardian glass products may contain pre-consumer and/or post-consumer recycled glass, depending on the location of the factory and available supply.



- Guardian Glass offers three Health Product Declarations (HPDs) covering the following product categories globally: uncoated float glass, sputter (vacuum) coated glass (including Commercial SunGuard™ and residential ClimaGuard™ products), and UltraMirror™ products. HPDs provide third-party certified data for our glass products, helping architects and designers meet the strict requirements of green building programs.
- The [Guardian Sustainability Calculator](#) allows you to generate project-specific LEED® statements summarizing the potential contribution of a selected Guardian glass product to LEED Credits, including the percentage of recycled content and the manufacturing location.



## Innovation (IN)

### LEED® Credits

### The intent\*

#### Innovation (INc1)

Up to 5 points

To encourage projects to achieve exceptional or innovative performance.

#### The Guardian Glass solution

- Guardian low-E coated glass has the ability to meet or exceed local and/or national energy code requirements.
- Guardian Glass has also tested product makeups for bird collision deterrence, which is pilot credit 55.

For more information about Bird Friendly glass see the category [Sustainable Sites](#)



## Integrative Process (IP)

### LEED® Credits

### The intent\*

#### Integrative Process (IPc1)

Up to 1 point

To support high-performance, cost-effective project outcome through an early analysis of the interrelationships among systems.

#### The Guardian Glass solution

The Building Energy Calculator, a part of Guardian's comprehensive Glass Analytics suite of online tools, allows you to compare annual energy costs for a variety of exterior envelope scenarios.

It uses customized make-ups created in the Performance Calculator to compare energy cost, consumption and financial payback information based on hourly simulations of different glazing options, building parameters and project location.





## Sustainable Sites (SS)

### LEED® Credits

### The intent\*

#### **Bird Friendly Deterrence** (SSpc55)

Reduce bird injury and mortality from in-flight collisions with buildings.

**Up to 1 points**

#### **Heat Island Reduction** (SSc5)

To encourage projects to achieve exceptional or innovative performance.

**Up to 2 points**

#### **The Guardian Glass solution**

- Guardian [Bird1st™ glass](#) products have been tested by the American Bird Conservancy to deter bird collisions and help meet the requirements for this pilot credit.
- Guardian [SunGuard coated glass](#) can be used to reflect solar energy and reduce the heat island effect.

\* Source : U.S. Green Building Council, [www.usgbc.org](http://www.usgbc.org)



*Any data presented here, including the number of points, is for information purposes only and is not intended to be a comprehensive guidance. Guardian Glass does not provide any warranty with respect to the content of this document or feasibility of certification as there are many factors to be considered in a building certification process, and Guardian does not assume any liability for the accuracy or completeness hereof.*



Guardian Glass supports architects and designers who strive to enhance the sustainability profiles of buildings. While LEED® does not certify specific products, using advanced architectural glazing solutions can contribute within a project to earn LEED® points. Experts at Guardian Glass can help you choose the glazing solutions that can contribute towards achieving LEED® certification or other green building rating system certification.

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