

EARN LEED POINTS WHEN YOU **BUILD WITH LIGHT**<sup>®</sup>



**THE SUNGUARD<sup>®</sup> GUIDE TO LEED**

We make buildings greener. With Advanced Architectural Glass.

*Updated for LEED Version 3*





## When you're looking at LEED, look to SunGuard from Guardian.

### LEED means leadership in greener buildings.

Building design that enhances the indoor environment while protecting the natural environment – that's the goal of the Leadership in Energy and Environmental Design (LEED) rating system, developed by the U.S. Green Building Council.

The LEED system promotes sustainable buildings, awarding points for reducing energy use, improving indoor environmental quality and promoting a whole-building approach to sustainability.

In most cases, LEED compliance is voluntary, although more and more public- and private-sector clients are making it mandatory. In either case, we believe that ecologically responsible building is simply the right thing to do.

This brochure shows you how SunGuard Advanced Architectural Glass can help you earn credit points in five of the seven LEED categories. If you'd like more details, call Guardian at 00-971-7-205-8080.

### Committed to the environment.

Guardian is proud to be a member of the U.S. Green Building Council, a coalition of building-industry leaders that promotes and creates environmentally responsible structures. Guardian is also part of the federal ENERGY STAR program, aimed at increasing energy efficiency and reducing greenhouse-gas emissions.



HEARST CORPORATION  
NEW YORK, NY USA  
ARCHITECT: Foster and Partners  
GLAZIER: Permasteelisa  
FABRICATOR: Zadra  
GLASS: Guardian SunGuard SuperNeutral Series

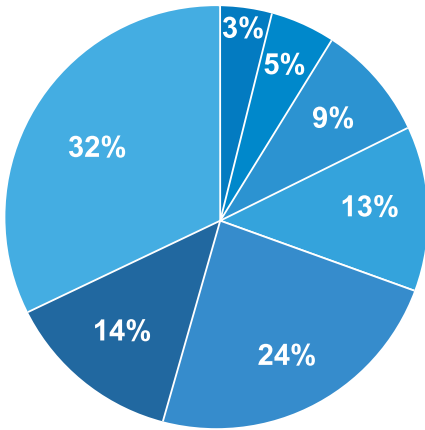
## SunGuard glass improves the environment – inside and out.

Few materials can make a building greener faster than high-performance glass. And as one of the world's leading producers of architectural glass, no one is better qualified to help your project earn LEED points than Guardian. Our SunGuard products offer the largest selection of post-temperable sputter-coated glass in the world, giving you the striking appearance you want, while delivering the comfort, functionality and energy savings you need.

## Earning you LEED points in five categories.

LEED 2009 for New Construction v.3.0 is a voluntary standard for developing high-performance sustainable buildings. Using SunGuard glass can boost your LEED score in up to five categories. Some are very apparent; others you may not think of at first. But all of them can help you maximize your building's appearance without compromising its energy performance.

**Point Distribution by LEED Category**



3% Regional Priority  
5% Innovation and Design Process  
9% Water Efficiency  
13% Materials and Resources  
14% Indoor Environment Quality  
24% Sustainable Sites  
32% Energy and Atmosphere

## The LEED scoring system.

To qualify as LEED-certified, a building must score at least 40 of 110 possible points. Higher levels of compliance are possible, as shown below.

LEVEL OF COMPLIANCE	LEED POINTS
CERTIFIED	40-49
SILVER	50-59
GOLD	60-79
PLATINUM	80-110

Although LEED does not certify a specific product, using SunGuard Advanced Architectural Glass can help your project earn up to 34 LEED points.

LEED CATEGORY	LEED CREDIT	POSSIBLE POINTS
ENERGY AND ATMOSPHERE	Credit 1: Optimize Energy Performance	2-19
MATERIALS AND RESOURCES	Credit 4: Recycled Content  Credit 5: Regional Materials	1-4
INDOOR ENVIRONMENTAL QUALITY	Credits 8.1 and 8.2: Daylight and Views	1-2
INNOVATION AND DESIGN PROCESS	Credit 1: Innovation in Design	1-5
REGIONAL PRIORITY	Credit 1: Regional Priority	1-4
<b>GRAND TOTAL</b>		<b>UP TO 34</b>

The charts on the following pages further illustrate the LEED categories, and credits as well as SunGuard Solutions for complying with LEED standards.

**LEED CATEGORY**

**LEED CREDIT**

**LEED POINTS**

**THE INTENT**

**ENERGY AND  
ATMOSPHERE**

**Credit 1:**  
Optimize Energy Performance.

2-19 LEED points.

To increase energy performance above the prerequisite standard, reducing the environmental impact of excessive energy use.

**MATERIALS AND  
RESOURCES**

**Credit 4:**  
Recycled Content 10% - 20%  
(post-consumer +  
1/2 pre-consumer).

1-2 LEED points.

To increase demand for building products using recycled materials, reducing the need to extract and process new materials.

**Credit 5:**  
Regional Materials: 10% - 20%  
extracted, processed and  
manufactured regionally.

1-2 LEED points.

To increase demand for building materials and products extracted or manufactured regionally, reducing the pollution caused by transporting them.

Here are three ways to comply:

- 1) Reduce energy costs compared to baseline performance rating per ANSI/ASHRAE/IESNA Standard 90.1-2007, as demonstrated by a whole-building simulation using the Building Performance Rating Method in Appendix G of the Standard.
- 2) Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide appropriate to the project scope.
- 3) Comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute.

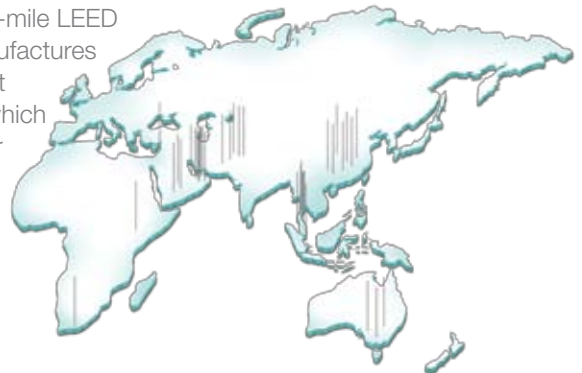
SunGuard's High performance and solar series products offer varying degrees of colour and solar control with twenty-two choices in all. With so many coating options on different substrates, SunGuard advanced architectural glass gives you the flexibility you need for both striking design and optimum LEED performance.

Use materials in such a way that the sum of post-consumer recycled content plus one-half of pre-consumer content constitutes at least 10% or 20%, based on cost, of the total value of materials in the project.

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/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the region value.

In a building with large amounts of architectural glass, using recycled glass can raise your LEED score.

Guardian float glass, including SunGuard advanced architectural glass, may contain recycled glass, some of which is pre-consumer content. Under LEED guidelines, only scrap glass brought in from other manufacturing facilities can qualify as per-consumer, so the percentage varies depending on the location of the factory and available supply. To find the pre-consumer percentage for the Guardian factory nearest you, call 00-971-7-205-8080 or e-mail us at SunGuardRAK@Guardian.com. The primary raw material for architectural glass is silica sand. Most Guardian plants are within 500 miles of their sand supply, which reduces energy spent in transit-and can earn LEED points. Also, with our extensive network of independent SunGuard Select™ Processors, chances are excellent that there's one within 500 miles of your project-which can contribute to the 500-mile LEED credit. Guardian manufactures SunGuard coatings at multiple locations – which could also boost your LEED score. For a SunGuard Select™ Processor near you, call SunGuard at 00-971-7-205-8080 or visit [www.SunGuardGlass.com](http://www.SunGuardGlass.com).



LEED CATEGORY	LEED CREDIT	LEED POINTS	THE INTENT
<b>INDOOR ENVIRONMENTAL QUALITY</b>	<b>Credit 8.1:</b> Daylight and Views: Daylight for 75% of spaces.	1 LEED point.	To provide a building's occupants with a connection between indoor and outdoor spaces, by allowing daylight into, and providing views from, regularly occupied spaces in the building.
	<b>Credit 8.2:</b> Daylight and Views: Views for 90% of spaces.	1 LEED point.	
<b>INNOVATION AND DESIGN PROCESS</b>	<b>Credit 1:</b> Innovation in Design.	1-5 LEED points.	To provide design teams and projects the opportunity to be awarded points for exceptional performance above LEED-NC requirements and/or innovative performance in Green Building categories not specifically addressed by the LEED-NC Green Building Rating System.
<b>REGIONAL PRIORITY</b>	<b>Credit 1:</b> Regional Priority.	1-4 LEED points.	To provide design teams and projects the opportunity to be awarded bonus points for achieving existing credits that USGBC chapters and regional councils have designated as important environmental issues facing the region in which the project is located.



To achieve daylight penetration to 75% of regularly occupied spaces. There are three ways to comply:

- 1) Achieve a minimum of 2% glazing factor by calculation method.
- 2) Computer simulation demonstrating a minimum daylight illumination level of 25 footcandles.
- 3) Records of indoor light measurements indicating a minimum of 25 footcandles.

Some spaces are excluded from these requirements, such as copy rooms, storage areas, mechanical plant rooms, laundry rooms and other low-occupancy support areas. Exceptions can also be made for areas where daylight could actually hinder tasks. Decisions are made based on the merits of each individual case.

Same as above but achieve a direct line of sight to vision glazing for building occupants in 90% of all regularly occupied spaces.

SunGuard advanced architectural glass provides a wide range of thermal and light control, giving you maximum design flexibility. And, of course, SunGuard advanced architectural glass:

- Meets or exceeds local and/or national energy codes.
- Is available on clear or green substrates.
- Meets the U.S. Department of Energy's "spectrally selective" definition.

For more details, call 00-971-7-205-8080.

In writing, identify 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.

SunGuard Advanced Architectural Glass products can provide energy performance that substantially exceeds energy code requirements. Please contact your Guardian Architectural Sales Manager for more information on the right product for your project.

Implement green building strategies that address the important environmental issues facing the region in which the project is located. There are six LEED credits that are prioritized, based on the environmental issues for each region and a project can be awarded as many as four extra points, one point each for achieving up to four of the six priority credits.

SunGuard Advanced Architectural Glass products can provide high transmittance of light with low solar heat gain to achieve priority credits.

The glass and coatings are also manufactured at several locations and distributed through a global network of processors which may facilitate regional sourcing.





## We'll help you build with light. And build LEED points, too.

Nobody offers more post-temperable sputter-coated glass options than Guardian. And our specialists are always available to help you find the best products and techniques to raise your LEED score. To find the Guardian Architectural Sales Manager nearest you, give Guardian a call at 00-971-7-205-8080 or visit [www.SunGuardGlass.com](http://www.SunGuardGlass.com).

## Just some of the LEED-certified buildings using Guardian glass.

SunGuard Advanced Architectural Glass is improving the indoor and outdoor environments at these buildings, which have received or applied for LEED certification.

Azure Tower, Dallas, TX  
Arundel Preserve, Hanover, MD  
BioSquare D, Boston, MA  
Collaboration 3, Greenville, SC  
Cyan/PDX, Portland, OR  
Ebeid Hospice Residence, Sylvania, OH  
Fluor World Headquarters, Irving, TX  
GVSU JC Kennedy Hall of Engineering, Grand Rapids, MI  
Hearst Corporation, New York, NY  
Heifer International, Little Rock, AR  
Linden Grove Middle School, Kalamazoo, MI  
National Business Park Building, Columbia, MD  
Peregrine Financial, Waterloo, IA  
Terrazzo, Nashville, TN  
The Burnham Institute, Orlando, FL  
The Proximity Hotel, Greensboro, NC  
USAA Campus, Phoenix, AZ  
Westminster Center South, New Westminster, BC  
Winrock, Little Rock, AR

HEIFER INTERNATIONAL  
LITTLE ROCK, AR USA

ARCHITECT: WSDS  
GLAZIER: Ace Glass  
FABRICATOR: Wholesale Glass Distributors  
GLASS: Guardian SunGuard SuperNeutral 68

# SUNGUARD®

ADVANCED ARCHITECTURAL GLASS

[www.SunGuardGlass.com](http://www.SunGuardGlass.com)

00-971-7-205-8080



Please file in 088100 Glass.

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 Printed on paper containing recycled fiber.