

SageGlass®

LEED v4 GREEN BUILDING STANDARDS

LEED has become the international standard for the design, construction and operation of high-performance structures. Designers and specifiers are looking for building products which contribute to their LEED v4 project goals while delivering optimal performance.

The pioneer of the world's smartest electrochromic glass, SageGlass® is the ultimate connector between the built and natural environments. SageGlass contributes to many of the requirements while offering benefits such the ability to optimize daylight, reduce glare and manage heat - all while maintaining unobstructed views of the outdoors.



BuildingGreen, Inc., the most trusted source of guidance on green building since 1992, has reviewed and approved this LEED v4 information.

INTEGRATIVE PROCESS

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Potential Points: 1

To ensure high-performance and cost-effective project outcomes, an early collaboration with the entire project team is necessary. SageGlass has a dedicated team that can join the project from its beginning to work together and create synergies from each other's knowledge and creativity. They can support you throughout the project, from incorporating SageGlass into an early "simple box" energy model for the Integrative Process credit, up to a complex energy and daylighting analysis that accounts for envelope features and lighting.

In addition, fully aware that Building Information Modeling (BIM) is a major breakthrough to improve construction and maintenance process, SageGlass has also developed BIM objects. These offer detail and precision at a graphic design level. This will help architecture, engineering, and construction service providers in model development to assess energy consumption, lighting, insulation values, thermal comfort ranges, as well as anticipated operations and maintenance.

ENERGY & ATMOSPHERE

MINIMUM ENERGY PERFORMANCE

Pre Requisite

SageGlass glazing, when properly integrated into a building design, can generate substantial energy savings thanks to its dynamic properties.

By controlling the amount of solar energy entering the building, it reduces air conditioning electricity demand during the hottest times of the day. With this solution, buildings use less energy and cost less to operate. In many cases, they also cost less to build because smaller HVAC (heating, ventilation and air conditioning) systems are required, and the mechanical solar control features such as blinds and sunshades are not needed.

OPTIMIZE ENERGY PERFORMANCE

Potential Points: Up to 18

When properly integrated into the design, SageGlass can adapt to external climatic conditions and occupants' needs. It helps minimize the energy required to operate a building, harnessing the sun's energy in the winter and deflecting it during summer.

More than 30% of a building's energy goes out the window, literally. Not with SageGlass glazing. By adapting to the external climatic conditions and occupants' needs, SageGlass can minimize energy use by reducing heating loads in winter, air conditioning in summer and electrical lighting all year long. SageGlass has a dedicated team that can join the project from its beginning, helping ensure proper design to achieve energy performance targets.



THIS DOCUMENT IS BASED ON THE "LEED BD+C: NEW CONSTRUCTION AND MAJOR RENOVATION", EXCEPT WHERE NOTED.

MATERIAL RESOURCES

BUILDING LIFE-CYCLE IMPACT REDUCTION (OPTION 4-WHOLE BUILDING LCA)

Potential Points: 3

Option 4: To follow the stringent environment engagement of its holding company Saint-Gobain, SageGlass has gone through a Life Cycle Assessment process, for which results are available under an Environmental Product Declaration (EPD) verified by an independent third party. Experienced practitioners can use information from this EPD in place of default data in a whole-building life-cycle assessment model.

BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - ENVIRONMENTAL PRODUCT DECLARATIONS

Potential Points: 1

Sharing the goals of the Saint-Gobain Group regarding Environmental, Health & Safety topics, SageGlass has gone through a Life Cycle Assessment process, the results of which are available under an Environmental Product Declaration compliant with international standards as required by LEED and verified by an independent third party.

ADDITIONAL INFORMATION TO SUPPORT YOUR DOCUMENTATION

BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - SOURCING OF RAW MATERIALS

Every year, Saint-Gobain publishes its Corporate Social Responsibility report, which is based on the GRI (Global Reporting Initiative) framework. In this report, Saint-Gobain details its environmental policy, including supply chain subjects. Note that CSRs like these are not currently applicable within LEED.

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

The products used for protection purposes during delivery are mostly made of cardboard, cork, plastic or wood and are recyclable in many areas.

DID YOU KNOW?

Daylight is the source of life and essential to our **well-being, development and health**. A recent study by neuroscientists suggested that office workers with windows received 173% more white light exposure during work hours, and **spent an average of 46 minutes more** per night.

SOURCE: WORLD GREEN BUILDING COUNCIL: HEALTH, WELLBEING & PRODUCTIVITY IN OFFICES, THE NEXT CHAPTER FOR GREEN BUILDING

INDOOR ENVIRONMENT & QUALITY

DAYLIGHT

Potential Points: Up to 3

SageGlass offers the possibility of designing with more glass to meet the daylight autonomy targets, while ensuring that the space also meets the targets for minimizing over-lighting and glare control. USGBC issued a [LEED Interpretation addendum](#) stating that spaces with an automated dynamic facade system are exempt from

the ASE requirement. Automated dynamic facade systems are defined to include dynamic glazing. Demonstrating ASE compliance can be very challenging, so by removing this requirement SageGlass offers great value to LEED projects.



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INDOOR ENVIRONMENT & QUALITY

THERMAL COMFORT

Potential Points: 1

Through its efficient insulation and dynamic solar control properties, SageGlass contributes to creating thermally comfortable environments both in winter and summer. SageGlass can particularly help to regulate the radiant

heat in the space. Note that SageGlass should be mounted in a high performance airtight framing system with good insulation properties. Triple pane configuration options are also available for higher insulation performance.

ADDITIONAL INFORMATION TO SUPPORT YOUR DOCUMENTATION

QUALITY VIEWS

SageGlass enables the use of more glass to help achieve a direct line of sight to the outdoors from the occupied spaces.

LOW-EMITTING MATERIALS

Glass is inherently a nonemitting source of Volatile Organic Compounds (VOCs). Note that any sealants used inside the weather barrier during installation must be accounted for in the Low-Emitting Materials credit.

ACOUSTIC PERFORMANCE

SageGlass can help reduce exterior noise and brings comfort by combining two panes of glass of different thicknesses, or by adding a special acoustic laminate specifically designed to enhance sound insulation. SageGlass can provide Sound Transmission Class ratings that help the project comply with Schools and Healthcare Acoustic Performance credits. Note that the glass should be mounted in a high-performance, airtight framing system with good acoustic properties.

THE GLOBAL DYNAMIC GLASS TECHNOLOGY LEADER

SageGlass tints automatically to optimize daylight, reduce glare and manage heat – all while maintaining unobstructed views of the outdoors. With SageGlass, architects and building owners can improve occupant comfort and reduce energy demand in buildings. As a wholly-owned subsidiary of Saint-Gobain, SageGlass is backed by more than 350 years of building science expertise.

Learn more about how SageGlass helps customers achieve their project goals at sageglass.com. To find a local product expert in your area, visit sageglass.com/contact.

DISCLAIMER

This document only provides an indication on the possible credits which SageGlass could contribute to in relation to a LEED rating system. It is intended as a guide in the choice of appropriate glazing in relation to the LEED credit rating system and has no binding value. The LEED credit rating of a project is influenced by a variety of factors, such as the type of building, configuration of all the other elements of the building in addition to the glass, final configuration of the glazing itself, etc. The final rating is subject to the performance of a LEED assessment as per the LEED methods and procedures available on their site. It is the user's responsibility to choose the appropriate building environmental assessments methods destined to ensure that the building meets regulatory requirements at national, local or regional level.

