



PILKINGTON
NSG Group Flat Glass Business



Pilkington North America USGBC LEED Specification Summary

Pilkington has been proud to be the technological leader in glass manufacturing for many years. Whether it's improved processes such as the float glass manufacturing process; of which produce more than 95% of glass worldwide, advanced coating technologies (pyrolytic or "hard-coat" coatings that require significantly less energy to produce than soft coated glass), or our wide range of solar and thermal control glass products, Pilkington is proud to lead in areas of environmental consciousness, sustainable building, and green building initiatives.

One of the most prominently recognized architectural standards in green or sustainable building design is the **Leadership in Energy and Environmental Design (LEED) Green Building Rating System™** administered by the U.S. Green Building Council (USGBC). The LEED® (Leadership in Energy and Environmental Design) Green Building Rating System provides a set of standards for the design, construction, and operation of high performance green buildings. LEED was developed to define "green building" by establishing a common standard of measurement and recognize environmental leadership in the building industry through a certification process of buildings on a point-system for specific building projects.

While LEED does not certify specific building (glass) products, it does recognize that the selection of products play a significant role in fulfilling LEED point requirements. Pilkington products can help architects achieve LEED certification for their projects in a number of areas noted below.

LEED Category: Energy & Atmosphere

EA Credit 1: Optimize Energy Performance 1-10 points

Intent: Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Requirements: Generate a 10% improvement in the proposed buildings performance rating or a 5% improvement in the proposed building rating for major renovations.

Credit contribution of Pilkington Products: Most Pilkington glass products can provide a substantial energy savings and significantly influence the awarding of points for this category by reducing demand on regulated energy systems. For instance, Pilkington **Eclipse Advantage™** Low-E products provide excellent solar and thermal control while allowing significant visible and natural light into buildings. **Eclipse Advantage™** can help meet load requirements and energy codes. **Eclipse Advantage™** is available in a wide palette of colors to provide design-appropriate aesthetic options.

Other Pilkington glass products to consider for this category include: Pilkington **Solar-E™**, **Energy Advantage™** Low-E and **Energy Advantage™** Low-E, which can be used in conjunction with one of Pilkington's many tinted glass options.

Many Pilkington products are considered "spectrally selective" as defined by the U.S. Department of Energy, achieving a Light to Solar Heat Gain Ratio (LSG) of 1.25 or higher.

EA Credit 2: Onsite renewable Energy 1-7 points

Intent: To encourage and recognize increasing levels of on-site renewable energy self-supply to reduce environmental and economic impacts associated with fossil fuel energy use.

Requirements: Use onsite renewable energy systems (solar, wind, geothermal, low impact hydro). Calculate project performance by expressing the energy produced by the renewable systems as a percentage of the buildings annual energy cost ranging from a renewable energy percentage of 1% for 1 point to as much as 7 points for sites having 13% or greater renewable energy usage.

Pilkington Contribution: Pilkington **Energy Advantage**TM is the Low-E glass of choice for residential and commercial applications that have a heating dominated HVAC load. Pilkington **Energy Advantage**TM Low-E provides high solar heat gain with good insulating properties. It allows direct solar radiation to pass through the glass and then retains it inside the building, thus reducing utility costs and energy usage.

Pilkington's flat glass manufacturing process batch materials contain approximately 20% recycled glass (known as cullet). Of this amount, 100% is considered post-industrial recycled content. Almost all of the unused glass produced is recycled into production as cullet into the batch materials.

LEED Category Materials and Resources

MR Credit 5: Regional Materials 1-2points

Intent: 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.

Requirements: 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% (1 Point) or 20% (2 Points) based on cost of the total materials value. If only a fraction of a product or material is extracted, harvested or recovered and manufactured locally, then only that % (by weight) can contribute to the regional value.

Pilkington Contribution:

Pilkington provides glass products to numerous fabricators with locations throughout North America, capable of providing a manufacturing point within 500 miles of most every project location. Pilkington glass manufacturing plants are located in Lathrop, CA, Ottawa, IL, Rossford, OH and Laurinburg, NC.

LEED Category: Indoor Environmental Quality

Intent: To provide building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

IEQ Credit 8.1 Daylight: 1 point: Achieve daylight luminance levels in 75% or more of all regularly occupied spaces .

IEQ Credit 8.2: 1 point: Achieve direct line of sight to the outdoor environment via vision glazing between 30 inches and 90 inches above the finished floor for building occupants in 90% of all regularly occupied spaces.

Credit contribution of Pilkington Products: Pilkington provides a wide array of clear, tinted, coated glass and **Texture**TM Glass products with varying levels of visible light transmittance combined with solar and thermal control. For example, Pilkington **Optiwhite**TM low iron glass provides 90% or more visible light transmittance for areas requiring daylight transmittance. Project design must be considered to achieve requirements.

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