



## Contribution of Prelco™ glazing to obtain points in LEED® Canada-NC Green Building Rating System

Prelco™ offers a full range of energy efficient glass having a significant impact on the energy performance levels of a building. In addition to helping cut energy costs, this glass also helps maintain the comfort level of occupants and prevent the formation of condensation.

Prelco™ glass helps obtain points in the following categories: Energy & Atmosphere, Materials & Resources and Indoor Environmental Quality. To get complete information about the LEED™ Canada-NC Green Building Rating System visit the web site of the Canada Green Building Council at: [www.cagbc.ca](http://www.cagbc.ca)

### LEED™ CATEGORY: Energy & Atmosphere (1 to 17 points)

- **Prerequisite 2: Minimum Energy Performance**

**Intent:** Establish the minimum level of energy efficiency for the base building and systems.

- **Credit 1: Optimize Energy Performance**

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

**Contribution of PRELCO™:**

The energy efficiency performances of glass vary according to the climatic zone it is installed in. Prelco offers a wide range of glass suitable for the different climates found in North America.

**Northern Zones (primarily heating):**

The U value measures the capacity of glass to prevent heat loss. The U value of insulating glass is generally from 0.20 to 1.20. The lower the U value, the more the glass is effective against heat loss.

Glass types:

- U value  $\leq 0.35^*$ : Guardian Sun-Guard LE-40, LE-50, LE-63, NP-61, Pilkington Energy Advantage and Eclipse Advantage
- U value  $\leq 0.30^*$ : Guardian Sun-Guard SN-68, RLE-7138, AG-43, Cardinal LoE<sup>2</sup>172, Cardinal LoE<sup>3</sup> 366

\* Sealed unit made up of a 6 mm glass coating surface #2 / 12.7 mm air / 6 mm Clear

**Southern Zones (primarily air conditioning):**

The Solar Heat Gain Coefficient (SHGC) measures the capacity of glass to block solar heat gain. The SHGC value of glazing is generally from 0 to 1. The lower the SHGC, the more effectively the glazing blocks heat gain.



Glass types:

- CGSC ≤0.30\*: Pilkington Eclipse Advantage serie (EverGreen, Arctic Blue), Cardinal LoE<sup>2</sup>140, Cardinal LoE<sup>3</sup> 366, Guardian Sun-Guard AG43
- CGSC ≤0.40\*: Pilkington Eclipse Advantage serie (Grey, Bronze, Blue-Green), Cardinal LoE<sup>2</sup>172, LoE156, LoE170, Guardian Sun-Guard LE-40, LE-50, NP-61, SN-68, RLE-7138

\* Sealed unit made up of a 6 mm glass coating surface #2 / 12.7 mm air / 6 mm Clear

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## LEED™ CATEGORY: Materials & Resources (1 to 14 points)

- **Credit 2.1: Construction Waste Management: Divert 50 % From Landfill**
- **Credit 2.2: Construction Waste Management: Divert 75 % From Landfill**

**Intent:** Divert construction, demolition and land clearing debris from landfill disposal. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

### Contribution of PRELCO™:

Prelco uses wholly recyclable materials such as wood, cardboard and paper to package its glass. In addition, these materials contain no chemical coatings or bleaching agents. Prelco also uses reusable metal supports when shipping its glass.

- **Credit 4.1: Recycled Content: 7.5 % (Post-Consumer + ½ Post-Industrial)**
- **Crédit 4.2: Recycled Content: 15 % (Post-Consumer + ½ Post-Industrial)**

**Intent:** Increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials and by-passing energy and green house gas-intensive industrial and manufacturing processes.

### Contribution of PRELCO™:

- Glass: The float glass used by Prelco contain about 20% post-industrial recycled glass. Prelco recycles about 90% of the clear, tinted, reflective and low-e glass waste produced during processing. This glass is returned to float glass manufacturers and to glass bead producers.
- Polyvinylbutyral (PVB): The PVB used by Prelco has 30 to 40% post-industrial recycled content. Prelco recycles 95% of the PVB waste produced during the manufacture of laminated glass. This waste is returned to PVB manufacturers.
- Spacers: Prelco recycles 90% of the clear aluminum waste produced during the assembly of sealed units.
- Wood: Prelco recycles 99% of the scrap wood used in its packaging. These scraps are used to build new shipping crates or as heating material in private homes.



- **Credit 5.1: Regional Materials: 10 % Extracted and Manufactured Regionally**
- **Credit 5.2: Regional Materials: 20 % Extracted and Manufactured Regionally**

**Intent:** 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.

**Contribution of PRELCO™:**

- Prelco™ operates five production plants in Eastern Canada: in Québec, New Brunswick and Ontario. The geographic location of these plants minimizes delivery distances for glass products.

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## **LEED™ CATEGORY: Indoor Environmental Quality (1 to 15 points)**

- **Credit 4.1: Low-Emitting Materials: Adhesives & Sealants**

**Intent:** Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants.

**Contribution of PRELCO™:**

- The level of volatile organic compounds (VOC) of an adhesive or sealant is calculated in g/L. The lower the level, the less VOCs that could be emitted into the surrounding air the product contains. For example, regulation 1168, “*Adhesive and Sealant Applications*” of the *South Coast Air Quality Management District (SCAQMD)* calls for a VOC level in architectural sealants below 250 g/L.

Prelco uses urethane or silicone as exterior sealants in its sealed units. The urethane and silicone used by Prelco have a VOC level of 0 g/L and 27 g/L respectively. The polyisobutylene used as an interior sealant has a VOC level of 0 g/L.

- **Credit 7.1: Thermal Comfort: Compliance**

**Intent:** Provide a thermally comfortable environment that supports the productivity and well-being of building occupants.

**Contribution of PRELCO™:**

- Prelco offers a wide range of glass that blocks solar heat gain and prevents heat loss to help maintain a comfortable temperature for building occupants. See the Energy & Atmosphere category for details.



- **Credit 8.1: Daylight and Views: Daylight 75 % of Spaces**
- **Crédit 8.2: Daylight and Views: Views for 90 % of Space**

**Intent:** Provide for the 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.

**Contribution of PRELCO™:**

The capacity of glass to allow daylight to enter is expressed by the percentage of visible light transmission. This value is generally between 15 and 83 %. The higher the percentage, the greater the light transmission.

**Glass types:**

- Visible light transmission  $\leq 75\%^*$ : Pilkington Energy Advantage and Eclipse Advantage clear, Cardinal LoE<sup>2</sup>172, Cardinal LoE<sup>3</sup> 366, Guardian Sun-Guard LE-63, NP-61 and SN-68.

\* Sealed unit made up of a 6 mm glass coating surface #2 / 12.7 mm air / 6 mm Clear

Translucent glass can also bring natural light into buildings. These kinds of glass give soft, glare-free light. Use of this glass also cuts the need for artificial light sources.

**Glass types:**

- Sandblasted glass, acid etched glass, Prel-Coat ceramic frit coated glass, Prel-Design silkscreened glass, Prel-Lam laminated glass with translucent PVB, etc.

**Conclusion:**

The information contained in this document is general in nature. Because each project is unique, contact us with specific requirements for your green building. We will help you determine the kind of glass best suited to your needs. Prelco also provides all the documents and receipts needed to establish a rating for your project. Contact us at 1-800-463-1325 (CAN) or 1-888-277-3526 (USA).

**Trademarks**

LEED® is a registered trademark of the U.S. Green Building Council.

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94, boulevard Cartier  
Rivière-du-Loup (Québec)  
Canada G5R 2M9

☎ (418) 862-2274

☎ (418) 862-8181

✉ [sales@prelco.ca](mailto:sales@prelco.ca)

🌐 [www.prelco.ca](http://www.prelco.ca)

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