

## **Earning LEED® Credits with CPI Daylighting, Inc.**

Rv 3/2010

The U.S. Green Building Council (USGBC) was founded in 1993 by a community of leaders from every sector of the building industry working together to make a common standard for sustainable building construction. Their goal and intent was to promote building designs that are environmentally responsible, profitable and healthy places to work and live. Such building environments have been proven to boost worker productivity, reduce absenteeism, help students learn and increase worker satisfaction. The LEED point concept was developed by the USGBC to establish a numeric point system that would present an objective method of grading architectural projects as to their adherence to sustainability.

LEED™ (Leadership in Energy and Environmental Design) has become a cornerstone of sustainable design among building owners, architects, engineers and contractors. Many municipalities across the country have mandated that all new public buildings, if not actually submitted for LEED certification, must at least be designed and built with the goal of achieving certification.

One of the easiest ways to gather LEED points involves designs that deliver natural daylight into the building envelope. CPI Daylighting translucent skylight and wall systems provide optimal glare free daylighting and are uniquely suited to achieve the desired results.

### **POSSIBLE LEED CREDIT CONTRIBUTIONS FOR INCORPORATING CPI DAYLIGHTING INTO YOUR DESIGN:**

#### **SUSTAINABLE SITES:**

##### **SS Credit 7.1 Heat Island Effect- Nonroof**

**1 point**

*Use devices or structures with a solar reflective index (SRI) of at least 29.*

CPI Translucent Canopies and Walkway covers used in hardscape areas and parking lots can help meet this SRI requirement.

##### **SS Credit 7.2 Heat Island Effect - Roof**

**1 point**

*Reduce the impact of heat islands on the local environment.*

CPI panels have an emissivity rating in accordance with ASTM E408-71 can help meet this SRI requirement.

##### **SS Credit 8 Light Pollution Reduction**

**1 point**

*Minimize light pollution; reduce glare and light effects on the local environment.*

CPI's light diffusing characteristics prevent direct-beam illumination from leaving the interior of the building.

#### **ENERGY & ATMOSPHERE:**

##### **EA Prerequisite 2 Minimum Energy Performance Required for LEED certification**

*Improve a buildings performance using ANSI/ASHRAE/IESNA Standard 90.1-2007 by 10% for new buildings and schools and 5% for Core & Shell projects.*

Quadwall, Pentaglas 16, Pentaglas 12, and IntelaSun are the most highly insulated, diffused light transmitting systems available. With insulating values up to and exceeding .10 U, conductive winter heat loss is minimized and the low solar heat gain coefficient (SHGC) of CPI glazing significantly reduces summer heat gain which helps a project meet this fundamental LEED requirement.

##### **EA Credit 1 Optimize Energy Performance**

**1-19 points**

*Increase energy efficiency for the entire building project beyond the ANSI/ASHARE/IENSA Standard 90.1-2007, Appendix G baseline.*

CPI IntelaSun dynamic/active daylighting systems present the greatest advantage to the green designer. The IntelaSun daylighting system delivers up-front savings due to reduced HVAC system requirements. IntelaSun also provides complete control over lighting and shading levels which will help predict energy consumption.

#### **MATERIALS & RESOURCES:**

##### **MR Credit 1.1 Building Reuse – Maintain Existing Walls, Floors & Roof**

**1-3 points**

*Save and reuse existing materials while cutting the impact of new buildings on the environment.*

CPI's Retrofit glazing systems allow reuse of existing framing. CPI panel systems can also be placed over existing glazing to provide increased energy performance, aesthetics and weather tightness.

**MR Credit 4 Recycled Content****1-2 points**

*Use materials with recycled content. **10% or 20% post-consumer + ½ pre-consumer.***

**CPI glazing systems help satisfy this requirement in that the glazing includes 10% post industrial recycled content and the aluminum framing includes 49% post industrial recycled content as well as 6% post consumer recycled content.**

**MR Credit 5 Regional Materials****1-2 points**

*Reduce the environmental effects from transporting building materials from manufacturers to building sites.*

**CPI Manufactures all of its products in Lake Forest, IL. All project locations within a 500 mile radius of our plant are eligible for this credit, including: Arkansas, Illinois, Indiana, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Virginia, and Wisconsin.**

**INDOOR ENVIRONMENTAL QUALITY:****IEQ Credit 2 Increased Ventilation****1 point**

*Provide additional ventilation beyond minimum outdoor air delivery requirements for improved air quality and comfort.*

**The CPI Litewall product and CPI skylights at the gable ends can be designed with integrated awnings, hoppers, and casement windows for ventilation to help achieve this credit.**

**IEQ Credit 4.1 Low-Emitting Materials Adhesives & Sealants****1 point**

*Reduce the presence of harmful and ill-scented air contaminants. VOC must meet SCAQMD Rule 1168 for new construction or CA Dept. of Health Services Standard Practice for Testing of Volatile Organic Emissions from Various Sources Using Small Scale Environmental Chambers, Including 2004 Addenda for schools.*

**CPI Translucent Systems are dry glazed, eliminating the need for primary sealants with VOC emissions to be used for Weatherability, which will help achieve this credit.**

**IEQ Credit 6.1 Controllability of Systems – Lighting****1 point**

*Provide lighting levels that can be adjusted by individuals for 50% of the occupants.*

*Supply lighting that works at two levels: Audio-visual and Normal (Schools Only)*

**The Intelasun daylighting system provides both automated and self-adjustable light transmission to the occupants of the building. It allows for variable light levels from 3-60% light transmission.**

**IEQ Credit 6.2 Controllability of Systems – Thermal Comfort****1 point**

*Provide internal temperature controls or operable windows for at least 50% of the occupants.*

**CPI Litewall systems can be designed with awnings, hoppers, and casement windows for fresh air ventilation.**

**IEQ Credit 7.1 Thermal Comfort - Design****1 point**

*Provide thermal comfort for all occupants.*

**Designs incorporating CPI's advanced Pentaglas and Intelasun daylighting technology will provide the highest light transmission while maintaining the best possible U-Values for true thermal comfort.**

**IEQ Credit 8.1 Daylight and Views – Daylight****1-3 points**

*Provide daylighting to 75% of regularly occupied spaces. Receive extra point for providing daylighting to 90% of regularly occupied spaces. (25-500 foot candles of daylight)*

**CPI's Pentaglas, Quadwall, and Intelasun translucent systems provide the highest diffusing properties, transmitting diffused daylight in a range of 180° from the horizontal glazing surface.**

**IEQ Credit 8.2 Daylight and Views – Views****1 point**

*Allow 90% of people in regularly occupied spaces to look outside using vision glazing.*

**CPI Wall Light systems can be designed with integrated vision glazing.**

**INNOVATION IN DESIGN:****ID Credit 1 Innovation in Design****1-5 points**

*Reward project teams for exemplary performance by exceeding the requirements of specific credits.*

*Reward project teams for innovation in designs for categories not specifically addressed in the rating system*

**Use of CPI systems can help a project achieve exemplary performance for extra LEED points.**

**An Intelasun dynamic daylighting and shading system design may help achieve Innovation in Design credits.**