



LEED 2009 Data Sheet

(See MSDS for additional information)

Product and Company Information

Product Name:	Alpen Windows
Product Use:	Energy-efficient windows
Manufactured by:	Alpen High Performance Products 6121 Clermont Street Commerce City, CO 80022 (303) 834-3600 (303) 834-3541 (fax)

LEED Points: Sustainable Products and Practices

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System provides a suite of standards for environmentally sustainable construction. The LEED rating system addresses six major areas: sustainable site, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design process. Alpen Windows can contribute to four of the six areas.

While products alone are not awarded points by the LEED rating systems, they can contribute to achievement of LEED milestones. Alpen Windows can potentially support and contribute to the following 2009 rating systems:

% Contribution to Certification Points (LEED 2009)	New Construction	Core and Shell	Schools	Commercial Interiors	Existing Buildings	Homes
Certified	17-75%	22-80%	17-35%	15-30%	12-55%	16-100%
Silver	14-60%	18-64%	14-28%	12-24%	10-44%	13-92%
Gold	11-50%	15-53%	11-23%	10-20%	8-36%	10-76%
Platinum	8-37%	11-40%	8-17%	7-15%	6-27%	8-57%

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Table 1: Credits that Alpen Windows Support

Credit Description	New Construction	Core and Shell	Schools	Commercial Interiors	Existing Buildings	Homes
Energy and Atmosphere						
EA Prerequisite 2: Minimum Energy Performance	Required prerequisite					
EA Credit 1: Optimize Energy Performance	1-19	3-21	1-2	-	1-18	2-34
EA Credit 4: Windows	-	-	-	-	-	4
Materials and Resources						
MR Credit 5: Regional Content	1-2	1-2	1-2	1-2	-	-
MR Credit 2.2: Environmentally Preferable Products, Criteria C - Local	-	-	-	-	-	0.5-8
MR Credit 3: Sustainable Purchasing - Facility Alterations & Additions	-	-	-	-	1	-
Indoor Environmental Quality						
IEQ Credit 2: Increased Ventilation	1	1	1	1	-	-
IEQ Credit 1.3: Increased Ventilation	-	-	-	-	1	-
IEQ Credit 6.2: Controllability of Systems - Thermal Comfort	1	1	1	1	-	-
IEQ Credit 8.1: Daylight and Views - Daylight	1	1	1-2	1-2	1	-
EQ Credit 8.2: Daylight and Views - Views	1	1	1	-	-	-
EQ Credit 8.2: Daylight and Views - Views for Seated	-	-	-	1	-	-
EQ Credit 2.4: Option 2 - Views	-	-	-	-	1	-
Innovation in Design						
ID Credit 1: Environmentally Preferable Material	1-5	1-5	1-5	1-5	-	-
Total Possible	7-30	9-32	7-14	6-12	5-22	6.5-46

Energy and Atmosphere Credits

EA Prerequisite 2:

Minimum Energy Performance - Prerequisite 2 calls for establishing the minimum level of energy efficiency for proposed buildings and systems. Building projects should be designed to comply with ASHRAE/IESNA Standard 90.1-2007. LEED 2009 increases this requirement to a 10% improvement in the proposed building performance rating for new buildings, or a 5% improvement in the proposed building performance rating for major renovations to existing buildings, compared with the baseline building performance rating. Potential strategies include designing the building envelope, HVAC, lighting and other systems to maximize energy performance. High performance windows are able to improve the insulative value (which can reduce energy loss) of the building envelope. Low solar heat gain glazings, such as those found in Alpen Windows, reduce direct and indirect solar gain from the sun, thereby reducing air conditioning loads. This effect dominates in buildings above 50,000 square feet and buildings with 4 or more stories where internal loads are a larger component of energy use than exterior loads.

EA Credit 1: **Optimize Energy Performance** - Credit 1 is a performance level above Prerequisite 2 (listed above). It addresses increasing levels of energy performance that surpass the baseline requirements, to reduce environmental and economic impacts associated with excessive energy use. The number of points increases as energy costs decline. High performance windows are able to significantly reduce the energy lost through the building envelope. Not only does a high thermal resistance in windows reduce heating loss, but a low shading coefficient reduces solar heat gain, thereby diminishing cooling loads. A high visible transmittance in windows can help reduce lighting loads by contributing more useful daylight.

EA Credit 4: **High Performance Windows** - EA Credit 4's intent is to maximize the energy performance of windows in the home. Homes that receive points for EAC 1 are not eligible for this credit and vice versa. Alpen High Performance Windows are able to improve the insulative value of the building envelope. This can reduce energy loss and thus energy costs. Alpen Windows' superior performance allows higher window to floor area (WFA) ratios without the thermal losses associated with lower quality fenestration products.

Materials and Resources Credits

MR Credit 5: **Regional Materials** – LEED gives credit for products produced within 500 miles of a building site. One point is awarded to a project that can demonstrate that 10% of its materials are extracted, processed & manufactured within that 500 mile radius. An additional point is awarded to projects that can demonstrate 20% of its materials are extracted, processed & manufactured within the 500 mile radius. Alpen Windows are manufactured in Longmont, Colorado.

MR Credit 2.2: **Regional Materials for Homes** - For LEED for homes only, this credit is for products that were extracted, processed and manufactured within 500 miles of the home. A material must make up 90% of the component, by weight or volume. Alpen Windows are manufactured in Longmont, Colorado.

MR Credit 3: **Sustainable Materials** - MR Credit 3 focuses on reducing the environmental & air quality impacts of materials acquired for building upgrades. Existing buildings must maintain a sustainable purchasing program covering materials for base building renovations, demolitions, retrofits and new construction additions, and achieve sustainable purchases of 50% of total purchases (by cost) during a minimum 3 month performance period. The contribution calculation can be done by taking the cost of Alpen Windows and dividing it by the total addition/alteration cost for the base building materials, which will equal Alpen Windows % contribution to the 50% sustainable materials purchased.

Indoor Environmental Quality Credits

IEQ Credit 2 and 1.3: **Increased Ventilation** - This credit pertains to providing additional air ventilation to improve indoor air quality for improved occupant comfort, well-being and productivity. Credit 2, worth one point, looks at the design of natural ventilation systems in occupied spaces to determine if the natural ventilation is an effective strategy for the project. The design of Alpen High Performance Products operable windows naturally ventilate spaces and contribute to this credit without requiring the typical tradeoffs.

IEQ Credit 6.2: **Multi-occupant Thermal Comfort** - IEQ Credit 1.3 provides individual occupants or groups a high level of thermal comfort controls in multi-occupant spaces (classrooms, conference rooms, etc.) that will promote occupant productivity, comfort and well-being. A minimum of 50% of the building occupants must have comfort controls that adjust to meet individual needs and preferences. Operable windows may be used in lieu of controls for occupants located 20 feet inside and 10 feet to either side of operable windows. Alpen Windows' operable windows allow natural ventilation in interior spaces and contribute to this credit without requiring the typical energy tradeoffs.

IEQ Credit 8.1: **Daylight & Views: Daylight 75% of Spaces** - This credit encourages a connection between indoor spaces and the outdoors through the use of daylighting, and views out of the regularly occupied areas of the building. Note that IEQ Credit 8.1 has 4 options (simulation, prescriptive, measurement or a combination of the first three options), all requiring certain levels of daylight illuminance in a minimum of 75% of all regularly occupied areas. Schools can earn an additional point if 75% of all other regularly occupied non-classroom spaces are day-lit (classroom point must be earned first). Alpen High Performance Products windows allow for more glass in the overall design adding more light to interior spaces without the typical energy tradeoffs from windows with lower insulating values and can contribute to this credit.

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EQ Credit 8.2:

Daylight & Views: Direct Views in 90% of Spaces - This credit requires a direct line of sight to the outdoor environment via vision glazing between 30" and 90" above the finish floor for building occupants in 90% of all regularly occupied areas. Alpen Windows allow for added flexibility in the designing of energy efficient buildings and thereby promotes this LEED credit.

EQ Credit 2.4 - Option 1 or Option 2:

Daylight & Views: Existing Buildings - This credit encourages a connection between indoors spaces and the outdoors through the use of daylighting, and views out of the regularly occupied areas of existing buildings. Existing buildings can either earn one point for the Daylight option or View option, but not both.

Innovation in Design Credits

ID Credit 1:

Environmentally Preferable Material - A project should demonstrate that the environmentally preferable framing, along with other preferred building components, represents 5% or more of a project's materials by value, volume or some other consistent building level metric. Fiberglass framed Alpen Windows exhibit a reduction of environmental impacts from resource processing compared with other code- required windows. Alpen Windows reduce the environmental impact from resource processing better than standard glazing systems (with aluminum frames) and meet the intent of this credit.

All LEED rating point references are suggested applications of Alpen Windows to the LEED rating system. LEED applicants should use their own objective determinations of product attributes for LEED certification purposes. Not all LEED Credits are applicable in Canada and Mexico; refer to the World Green Building Council (www.worldgbc.org)

Important Safety Notices, Disclaimers and Warranties, and Other Information

Please visit our website at www.AlpenHPP.com for important safety notices, disclaimers and product warranties and other important information. Read all product information including safety and installation and handling instructions prior to use. The contents of this document and our website may change without notice so we encourage you to regularly check for updates.

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