

photo: Peter Aaron | OTTO

KALWALL®

high performance translucent building systems

LEED® v4 Reference Guide

For New Construction and Major Renovation

Selected LEED Reference Projects

Available LEED v4 Credits

LEED v4 Checklist

800 258 9777 | KALWALL.COM | +1 603 627 3861

SUSTAINABLE SITES



CREDIT 5 | HEAT ISLAND EFFECT (2 points)

"Use roofing materials with a solar reflectance index (SRI) equal to or greater than the values in the table"

Steep-sloped roof > 2:12	39 Initial SRI
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Depending on design configurations, the Kalwall panel meets SRI requirements listed in ASTM E1980, ASTM E408 and ASTM E903 to reduce Heat Island Effect for roofs.

ENERGY & ATMOSPHERE



PREREQUISITE 2 | MINIMUM ENERGY PERFORMANCE (required)

"Establish an energy performance target no later than the schematic design phase. The target must be established as kBtu ft²/yr (kW m²/yr) of the source energy use"

Kalwall is the most highly insulating, diffuse-light transmitting system available. With insulating values up to R-20 (.05 U), conductive winter heat loss is kept to a minimum. Additionally, Kalwall's low solar heat gain coefficient (SHGC), as low as .04, significantly reduces unwanted summer heat gain, greatly reducing tonnage requirements for air conditioning systems, while lowering utility bills.



CREDIT 2 | OPTIMIZE ENERGY PERFORMANCE (18 points)

"Demonstrate a percentage improvement in the proposed building performance rating compared to the baseline building performance rating... according to Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2010..."

Kalwall provides superior winter and summer energy efficiency, with R values as high as 20 and Solar Heat Gain coefficients as low as .04. No other light transmitting material can surpass this overall performance.



CREDIT 5 | RENEWABLE ENERGY PROTECTION (3 points)

"Use on-site renewable energy systems to offset building energy costs. Calculate project performance... as a percentage of the building's annual energy cost (1%, 3%, 5%, 7%, 9%, 11% or 13%)..."

For over 60 years, Kalwall has been involved with both passive and active solar technologies. Kalwall's window systems and skylights from Structures Unlimited, Inc. can accept BIPV panels.

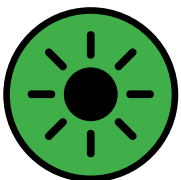
INDOOR ENVIRONMENTAL QUALITY



CREDIT 5 | THERMAL COMFORT (1 point)

"For naturally ventilated... determine the minimum outdoor air opening and space configuration requirements using natural ventilation procedure ASHRAE Standard 62.1-2010 or a local equivalent, whichever is more stringent"

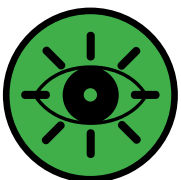
Kalwall wall and window systems have project-in and project-out windows for natural ventilation, for both new construction and window replacement projects.



CREDIT 7 | DAYLIGHT (3 points)

"Demonstrate through annual computer simulations that spatial daylight autonomy 300/50% (sDA 300/50%) of at least 55%, 75% or 90% is achieved. Use regularly occupied floor area. Healthcare projects should use the perimeter area determined under EQ Credit Quality Views. Points are awarded according to Table 1"

Demonstrate through annual computer simulations that the annual sunlight exposure 1000, 250 (ASE_{1000, 250}) of no more than 10% is achieved. Use the regularly occupied floor area that is daylight per the sDA 300/50% simulations. Kalwall offers a computer simulated daylight modeling service to assist in achieving proper daylight levels within a building. The daylight simulation (RADIANCE) shows compliance with LEED daylighting requirements.



CREDIT 8 | QUALITY VIEWS (1 point)

"Achieve a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area. View glazing in the contributing area must provide a clear image of the exterior, not obstructed by frits, fibers, patterned glazing, or added tints that distort color balance"

Kalwall panels, unitized curtain wall and window replacement systems can easily accommodate fixed and operable glazing allowing for visual connection to the outdoors.

LEED Reference Projects



photo: Peter A. Sellar

CANMET Materials Lab

Hamilton, Ontario

Diamond Schmitt Architects

LEED Platinum | AIA COTE Top Ten

Wall System



photo: Joseph Romeo

Dunbar High School

Washington, DC

Perkins Eastman + Moody Nolan

LEED Platinum

Clearspan™ System



American Honda Parts Center

Portland, Oregon

Group Mackenzie

LEED Gold

Skylights



photo: Peter Aaron | OTTO

Yale Sculpture Building

New Haven, Connecticut

Kieran Timberlake

LEED Platinum | AIA COTE Top Ten

Wall System with SCHUCO®

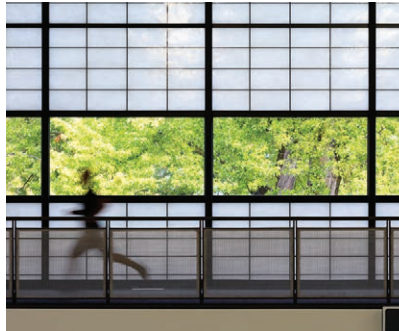


photo: Tim Griffith

Chico Wildcat Recreation Center

Chico, California

Sasaki Associates

LEED Silver

Unitized Curtain Wall



photo: Hester + Hardaway

Livestrong Foundation

Austin, Texas

Lake | Flato Architects

LEED Gold | AIA COTE Top Ten

Canopy



photo: Paul Warchol

Cornell School of Human Ecology

Ithaca, New York

Gruzen Samton IBI Group

LEED Silver

Wall System



photo: Christian Columbres

Camp Withycombe

Clackamas, Oregon

BBL Architects

LEED Silver

Custom Skyroof®



photo: Bruce Damonte

Wolfe Center for the Arts

Bowling Green State University, Ohio

Snohetta

LEED Silver

Wall System



LEED® v4 Green Building Rating System Project Checklist for New Construction and Major Renovations

LEED v4 point contributions available from Kalwall & Structures Unlimited, Inc. product lines

Location and Transportation		16 Points
Credit 1	LEED for Neighborhood Development Location	16
Credit 2	Sensitive Priority Site	1
Credit 3	High Priority Site	2
Credit 4	Surrounding Density and Diverse Users	5
Credit 5	Access to Quality Transit	5
Credit 6	Bicycle Facilities	1
Credit 7	Reduced Parking Footprint	1
Credit 8	Green Vehicles	1

Sustainable Sites		10 Points
Prereq 1	Construction Activity Pollution Prevention	Required
Credit 1	Site Assessment	1
Credit 2	Site Development - Protect or Restore Habitat	2
Credit 3	Open Space	1
Credit 4	Rainwater Management	3
X Credit 5	Heat Island Reduction	2
Credit 6	Light Pollution Reduction	1

Water Efficiency		11 Points
Prereq 1	Outdoor Water Use Reduction	Required
Prereq 2	Indoor Water Use Reduction	Required
Prereq 3	Building-Level Water Metering	Required
Credit 1	Outdoor Water Use Reduction	2
Credit 2	Indoor Water Use Reduction	6
Credit 3	Cooling Tower Water Use	2
Credit 4	Water Metering	1

Energy and Atmosphere		33 Points
Prereq 1	Fundamental Commissioning and Verification	Required
X Prereq 2	Minimum Energy Performance	Required
Prereq 3	Building-Level Energy Metering	Required
Prereq 4	Fundamental Refrigerant Management	Required
Credit 1	Enhanced Commissioning	6
X Credit 2	Optimize Energy Performance	18
Credit 3	Advanced Energy Metering	1
Credit 4	Demand Response	2
X Credit 5	Renewable Energy Production	3
Credit 6	Enhanced Refrigerant Management	1
Credit 7	Green Power and Carbon Offsets	2

Materials and Resources		13 Points
Prereq 1	Storage and Collection of Recyclables	Required
Prereq 2	Construction and Demolition Waste Mgmt Planning	Required
Credit 1	Building Life-Cycle Impact Reduction	5
Credit 2	Bldg Product Disclosure and Optimization - EPDs	2
Credit 3	Bldg Product Disclosure and Optimization - Raw Materials	2
Credit 4	Bldg Product Disclosure and Optimization - HPDs	2
Credit 5	Construction and Demolition Waste Mgmt	2

Indoor Environmental Quality		16 Points
Prereq 1	Minimum Indoor Air Quality Performance	Required
Prereq 2	Environmental Tobacco Smoke Control	Required
Credit 1	Enhanced Indoor Air Quality Strategies	2
Credit 2	Low-Emitting Interiors	3
Credit 3	Construction Indoor Air Quality Management Plan	1
Credit 4	Indoor Air Quality Assessment	2
X Credit 5	Thermal Comfort	1
Credit 6	Interior Lighting	2
X Credit 7	Daylight	3
X Credit 8	Quality Views	1
Credit 9	Acoustic Performance	1

Innovation		6 Points
Credit 1	Innovation	5
Credit 2	LEED Accredited Professional	1

Regional Priority		4 Points
Credit 1	Regional Priority: Specific Credit	1
Credit 2	Regional Priority: Specific Credit	1
Credit 3	Regional Priority: Specific Credit	1
Credit 4	Regional Priority: Specific Credit	1

Total	110 Possible Points
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Point Requirements for LEED v4 Projects

Certified:	40 to 49 points
Silver:	50 to 59 points
Gold:	60 to 79 points
Platinum:	80 to 110 points



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