



## Building Sustainability

For decades commercial building financial performance criteria influenced architects and engineers to focus on lowering the cost of construction. The trade-off for lower first cost was higher energy consumption and poor indoor air quality. In recent years with the advent of exploding fossil fuel costs and record litigation settlements related to poor indoor air quality, many designers have responded by adopting a new more balanced design approach recognizing that designing with a long term, sustainable perspective emphasizing first cost, life cycle cost, as well as the impact the development has on the environment will increase the building's value.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) and the U.S. Green Building Council (USGBC) have been instrumental in developing and documenting voluntary best practice standards that provide the construction industry an all encompassing balanced approach for developing sustainable "green" buildings.



The U.S. Green Building Council (USGBC) has developed holistic design standards for developing new and retrofitting existing buildings known as LEED® – Leadership in Energy and Environmental Design. The LEED Green Building Rating System is a voluntary, consensus-based program for developing high-performance, sustainable buildings. Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water and energy conservation as well as a guide for selecting construction materials that are easily renewable and manufactured to promote indoor environmental quality.

**Table 1 LEED Green Building Certification Designations**

LEED 2009 Rating System	New Construction, Core & Shell, and Schools <sup>1</sup>	Existing Buildings Operations and Maintenance <sup>2</sup>	Commercial Interiors
<b>Certified</b>	40-49 credits	40-49 credits	40-49 credits
<b>Silver</b>	50-59 credits	50-59 credits	50-59 credits
<b>Gold</b>	60-79 credits	60-79 credits	60-79 credits
<b>Platinum</b>	80 credits and above	80 credits and above	80 credits and above

Reference

1. LEED Reference Guide for Green Building Design and Construction - 2009 Edition
  2. LEED Reference Guide for Green Building Operations and Maintenance – 2009 Edition
  3. LEED Reference Guide for Green Interior Design and Construction – 2009 Edition
- LEED® is a registered trademark of the U.S. Green Building Council.

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## USGBC - LEED Green Building Rating System

*Products developed for the LEED® generation.™*

The Multi V variable refrigerant flow air conditioning system delivers state of the art energy efficient performance making it easier for the design team to earn LEED Certification. Choosing LG Multi V in lieu of traditional technologies, such as chillers and gas boilers, to heat and cool the building may assist the design team's pursuit of the LEED credits listed in Table 2.



**Table 2 Potential LEED Credits available using Multi V**

Category	Credit ID	Certification Paths					Credit Description
		NC	CS	INT	SCH	O&M	
WE	CR-4	0	0	0	1	1-2	Process Water Reduction.
EA	PR-1	0	0	0	0	0	Basic Building Commissioning
EA	PR-3	0	0	0	0	0	Refrigerant has no CFC's (R-410a)
EA	CR-1	1-19	3-21	5-10	1-19	1-18	Optimize Energy Performance
EQ	CR-2.1	0	0	0	0	2	Exist Bldg Commissioning Analysis
EA	CR-4	2	2	0	1	1	Enhanced Refrigerant Management
EA	CR-5.2	0	3	2-5	0		Tenant Sub-metering
MR	CR-1.1	1-3	1-5	1-2	0	0	Maintain perimeter walls, floor, roof
MR	CR-1.2	1	0	1-2	1	0	Maintain interior walls & elements
IEQ	PR-2	0	0	0	0	0	Minimum Acoustical Performance
IEQ	CR-6.2	1	1	1	1	0	Controllability - Thermal Comfort
IEQ	CR-7.1	1	1	1	1	0	Thermal Comfort Design
IEQ	CR-9	0	0	0	1	0	Enhanced Acoustical Performance
IEQ	CR 10	0	0	0	1	0	Mold Prevention
ID	All	1-5	1-5	1-5	1-4	1-4	Innovations in Design or Operations
RP	Various	1-4	1-4	1-4	1-4	0	Regional Priority

No credits are offered on Prerequisite requirements. However, before any credits can be earned, prerequisite requirements must be met.

**Definitions:** PR=Prerequisite; CR=Credit; WE=Water Efficiency; EA=Energy and Atmosphere; MR=Materials and Resources; IEQ= Indoor Air Quality; ID= Innovations in Design; RP= Regional Priority; NC= New Construction; CS= Core and Shell; INT= Commercial Interiors; SCH= Schools; O&M = Existing Building Operations and Maintenance

**Disclaimer:** Each LEED credit typically relates to numerous building design variables and building system parameters that as a whole allows the credit to be earned and no one product including LG can guarantee credits.

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