REPORT ON

Garnica product´s contribution to earning LEED credits

garnica

Challenge the ordinary

WHAT IS IT?

LEED System

Leadership in Energy and Environmental Design (LEED) is the most-used sustainable building classification system in the world. Available for practically all types of buildings, LEED provides a framework for healthy, highly efficient, and cost-saving ecological buildings. LEED certification is a voluntary and consensual program as well as a global symbol of leadership and achievement in sustainability.

The US Green Building Council (USGBC) is the American non-for-profit association whose mission is to evolve the way in which buildings are designed, constructed, and operated. The proposed motto is: "Better buildings are our legacy." The LEED program is its primary tool for carrying out its mission. This certification recognizes excellence in the design, construction, operation, and maintenance of buildings and installations from an environmental perspective.

This document describes what the LEED program consists of, the transparency in its operation, and how to obtain LEED certification. It must be taken into account that LEED certification is intended for buildings and not materials; however, in the case of Garnica products, they can make your project distinct. Always being at the cutting edge allows our clients to put total trust in our products in order to obtain LEED certification.

HOW LEED WORKS

LEED consists of a scoring system in which buildings obtain LEED points by satisfying specific sustainable building criteria.

In each category, projects must satisfy certain prerequisites and earn LEED points or credits. The number of points the project obtains determines the level of LEED certification that the project receives. LEED certification is available in four progressive levels , according to the following scale:

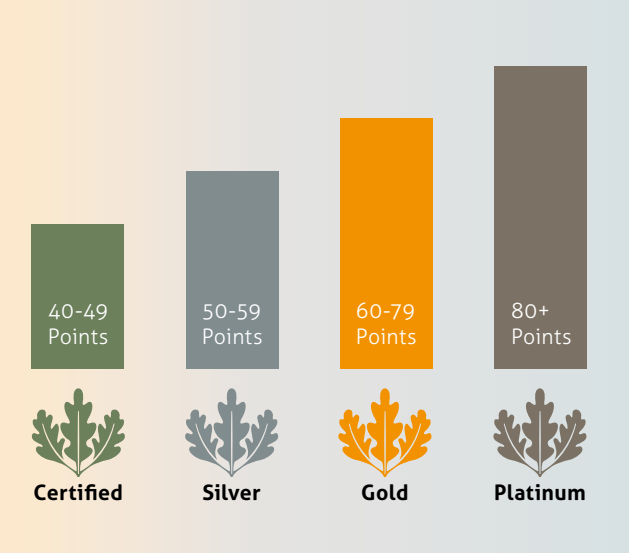

Illustration 1 - LEED certification levels

LEED certification incentivizes specializations to implement joint efficiency strategies. This integration, focused on the design and sustainable development of green buildings, allows us to better articulate the goals or objectives posed and thus obtain a better level of certification. The certification process takes place in consultancy offices that assess the projects. The only organization with the power to grant the LEED certification is the USGBC in the United States. The certification process can be done online via the organization's website.

There are five evaluation systems that cover different types of projects, which are comprised of a combination of credit categories.

BUILDING DESIGN AND CONSTRUCTION (BD+C)

- New construction (NC)
- Core and surroundings (CS)
- Data center (DC)
- Healthcare (HC)
- Hotels (H)
- Ret (R)
- Schools (S)
- Warehouses and distribution centers (W)

INTERIOR DESIGN AND CONSTRUCTION (ID+C)

- Commercial interiors (CI)
- Retail
- Hotels

BUILDING OPERATIONS AND MAINTENANCE (O+M)

- Existing buildings (EB)
- Existing interiors (EI)

NEIGHBORHOOD DEVELOPMENT (ND)

- Plan
- Building project

HOUSING (H)

- Housing
- Multi-family, low height
- Multi-family, medium height

Illustration 2 - LEED evaluation systems available

The following illustration shows the different LEED certification credits that currently exist. Within each one of these categories, prerequisites are established with which the projects must comply:

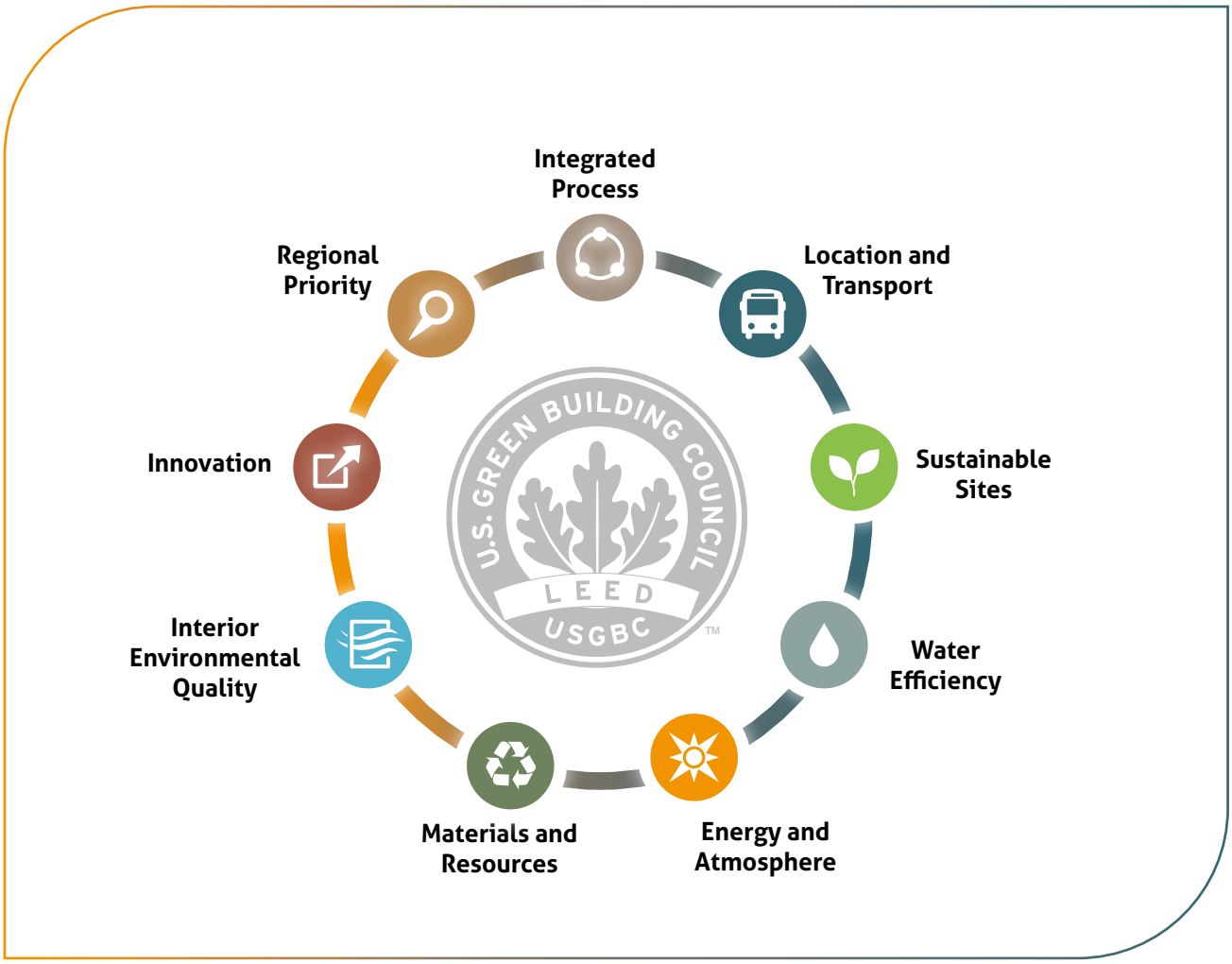

Illustration 3 - LEED certification credits

Millions of people are living, working and learning in LEED-certified buildings around the world

HEALTH & ECONOMIC BENEFITS

Why use it?

ECONOMIC BENEFITS: SAVE MONEY WITH LEED

Obtain a competitive advantage. 61% of corporate leaders believe that sustainability leads to standing out from the rest of the market and improves financial performance.

Attract tenants. Buildings with an LEED certification have the highest rents, as rental rates tend to range between the average and 20% above the average. The vacancy rates for ecological buildings are approximately 4% lower than those of non-ecological properties.

Manage performance. LEED is the leading ecological performance and construction project management system in the world. It offers a comprehensive framework for the design, construction, operation and performance of ecological buildings.

HEALTH BENEFITS: STAY HEALTHY WITH LEED

Happier employees, happier occupants. Employers in spaces with the LEED certification report higher rates of hiring and retention and greater employee productivity.

Bring in the good, and avoid the bad. LEED creates healthier spaces with cleaner air and access to sunlight and that are free of harmful chemicals that are in paint and finishes.

Indoor air quality. Employers have reported that improving indoor air quality can reduce absenteeism and working hours that are affected by asthma, respiratory allergies, depression, and stress, and it leads to improvements in productivity.

Reduced pollution. Energy-efficient buildings help to reduce pollution and improve exterior air quality in main industrialized areas, which makes LEED an essential tool for reducing smog.

ENVIRONMENTAL BENEFITS: help the enviroment and reduce carbon

A study by UC Berkeley from 2014 found that buildings constructed according to LEED standards contributed 50% less GHG than conventionally constructed buildings due to water consumption, 48% less GHG due to solid waste, and 5% less GHG due to transportation.

- **Conserving water.** The expected water savings from LEED commercial buildings is more than 7% of the entire non-residential water use.
- **Reduce waste.** By 2030, LEED projects will have averted over 540 million tons of waste from being dumped in landfills.
- **Fewer cars, fewer distance traveled.** Occupants of LEED buildings have precluded nearly 4 billion miles from being traveled in vehicles, thanks to efficient locations and alternative transportation options.
- **Green materials.** It is estimated that certified projects have cumulatively accounted for over $100 billion in ecological materials.

GARNICA PRODUCTS & LEED

Requirements complied with and information available on Garnica products

GARNICA PRODUCTS	MATERIAL AND RESOURCES DAP/EPD	MATERIAL AND RESOURCES CERTIFIED WOOD	INTERIOR ENVIRONMENTAL QUALITY. LOW-EMISSIONS MATERIALS	REGIONAL MATERIALS
Efficiency Poplar	X	X	(2, 3, 4)	X
Efficiency HDF		X	(2, 4)	X
Performance Poplar		X	(2, 3, 4)	X
Performance Poplar HPL		X	2, 4)	X
Performance Ultra-Smooth		X	(2)	X
Reinforced		X	(2, 3, 4)	X
Infinity		X	(2)	X
Elegance		X	(2, 3, 4)	X
Fireshield	X	X	(1, 4)	X
Duraply	X	X	(1, 4)	X
Duraprime	X	X	(1)	X
Ultralight		X	(2, 3, 4)	X
G-Brick		X	(1, 3, 4)	X
Laudio LVL		X	(4)	X
Laudio Pine, Laudio Deco	X	X	(2, 4)	X
Laudio Form, Laudio Wire	X	X	(2, 4)	X
Laudio Form Plus, Laudio Wire Plus	X	X	(2, 4)	X

NOTES: Notes: 1. CARB / US EPA TSCA Title VI ULEF certified; 2. ULEF; 3. NAF; 4. <0.05ppm EN 717-1

GARNICA PRODUCTS

Material and resources

The conclusions of this study only apply to the products mentioned in this report and are subject to the sameness of the technical conditions of the product, and the sameness of the requirements addressed by the environmental certification systems that are the subject of the study.

SCORING SYSTEM	BD + C								ID + C		
	NC	CS	DC	HC	H	R	S	W	CI	R	H
POSSIBLE POINTS	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
CREDIT CATEGORY	Materials and resources										
CREDIT	Environmental product declaration										
OBJECTIVE	To promote the use of products and materials for which there is information about their life cycle and that have impacts on the preferable life cycles from the environmental, economic, and social perspective. To compensate design teams for selecting products from manufacturers who have verified improved environmental impacts in the life cycle.										
EVALUATION PROCEDURE	Option 1. Environmental product declaration (EPD) (1 point) Option 2. Optimization of carbon incorporation / LCA (1 point)										
COMPLIANCE WITH REQUIREMENTS	Products from the Efficiency Poplar, Duraply, Duraprime, Fireshield, and Laudio lines have a verified DAP, complying with option 1 of the credit (calculation: 100%) and can contribute to obtaining the credit.										

SCORING SYSTEM	BD + C								ID + C		
	NC	CS	DC	HC	H	R	S	W	CI	R	H
POSSIBLE POINTS	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
CREDIT CATEGORY	**Materials and resources**										
CREDIT	Responsible supply of raw materials										
OBJECTIVE	To promote the use of products and materials for which there is information about their life cycle and that have impacts on the preferable life cycles from the environmental, economic, and social perspective. To compensate design teams for selecting products from manufacturers who have verified improved environmental impacts in the life cycle.										
EVALUATION PROCEDURE	Use products from at least five different manufacturers that comply with at least one of the following criteria of responsible extraction and supply for at least 30% of the total cost of the construction products permanently installed in the project (2 points). • Expanded responsibility of the producer • Biological base materials • Wood products • Reusing materials • Recycled content										
COMPLIANCE WITH REQUIREMENTS	Products from the Efficiency Poplar, Duraply, Duraprime, Fireshield, and Laudio lines have a verified DAP, complying with option 1 of the credit (calculation: 100%) and can contribute to obtaining the credit.										
Note	To calculate the achievement of the credit, the obtained products (extracted, fabricated, and purchased) within 100 miles (160 km) of the project site are valued at double their base contribution cost, up to a maximum of 200% of the cost.										

SCORING SYSTEM	BD + C								ID + C		
	NC	CS	DC	HC	H	R	S	W	CI	R	H
POSSIBLE POINTS	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
CREDIT CATEGORY	**Interior environmental quality**										
CREDIT	Low-emissions materials										
OBJECTIVE	To reduce the concentrations of chemical pollutants that could hurt air quality and the environment, and protect health, productivity, and comfort of building installers and occupants.										
EVALUATION PROCEDURE	Use materials inside the building that comply with the low-emissions criteria that are indicated below: • Inherently non-emitting sources • Recovered and reused materials • Evaluation of VOC emissions • Evaluation of VOC content • Evaluation of formaldehyde emissions • Evaluation of furniture emissions										
COMPLIANCE WITH REQUIREMENTS	Garnica products come from wood and have CARB / US EPA TSCA Title VI ULEF certified (consult the modality according to the product). These products comply with the evaluation criteria of formaldehyde emissions and VOC emissions.										

References & notes

References

LEED rating system

LEED v4 BD+C:
Diseño y Construcción de Edificios (D+CE)

Introducción al estándar LEED
Charla en la Universidad Ricardo Palma

Notes

1. *The information contained in this document represents an approach to potentially comply with the credits corresponding to the category of the LEED environmental certification system based on the information that the company provides. To ensure the possibility of complying with these credits, the company must always verify the information and data it provides and conduct the pertinent specific study (even if the company has already done a previous study). This document does not constitute a certification of the product, nor does it guarantee compliance with local regulations in force.*
2. *Obtaining the % reduction of impact or the points obtained in the certification depends on the measures of the entirety of all materials and products used to construct the building to be certified*
3. *The conclusions of this study only apply to the products mentioned in this report and are subject to the sameness of the technical conditions of the product, and the sameness of the requirements addressed by the environmental certification systems that are the subject of the study.*

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U.S. GREEN BUILDING COUNCIL
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