



ICYNENE™

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**ICYNENE LD-R-50™ and LEED® for New Construction (NC):
Potential applicable credits using
ICYNENE LD-R-50™**

This is a general guide as to ways in which the installation of ICYNENE LD-R-50™ can contribute to LEED NC prerequisites and credits, either directly or through assisting strategies that are complementary.

It is based on the LEED® NC – Version 2.2– October, 2005* Green Building Rating System for New Construction and Major Renovations .



* Revised “EA” section for projects registered after June 26, 2007
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ICYNENE LD-R-50™

Potential Credit Summary

Resource Category	Maximum Credits
Energy and Atmosphere (EA)	10
Materials and Resources (MR)	3
Indoor Environmental Quality (EQ)	1
Innovation and Design Process (ID)	4

Total Potential Credits	18 (!)
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*(!) Two-thirds of the way to Certified
(!) Over half-way to Silver*

LEED Credit Thresholds

Certified (26-32)
Silver (33-38)
Gold (39-51)
Platinum (52-69)

Resource Category

Critical Area / Path

Credits

Energy and Atmosphere

Prerequisites

EA Prerequisite 1: Fundamental Commissioning of Building Energy Systems

Prerequisite

Basic Requirements:

a. The commissioning process activities, in accordance with the LEED for New Construction 2.2 Reference Guide, shall be completed by the commissioning team. Owners are encouraged to include building envelope systems in the scope of the commissioning plan, as these systems impact energy consumption, occupant comfort and indoor air quality.

EA Prerequisite 2: Minimum Energy Performance

Prerequisite

Basic Requirements:

a. LEED for New Construction projects registered after June 26, 2007, must exceed the minimum energy performance requirements (Section 11) of ASHRAE/IESNA 90.1-2004

Credits: 2 to 10(*)

EA Credit 1: Optimize Energy Performance

(*) Achievement of 2 Points Mandatory for projects registered after June 26, 2007
(*) see below for point allocations to various compliance paths

Basic Requirements:

Achievement with any one of the three permissible compliance paths must be documented. The three alternate paths are:

- Whole Building Energy Simulation – software methods such as DOE-2, BLAST and EnergyPlus

Credits: 1 to 10

- ASHRAE Advanced Energy Design Guide for Small Buildings (AEDG) – prescriptive measures,

Credits: 4

- Basic criteria and prescriptive measures of the Advanced Buildings Benchmark™ v.1.1 (with exceptions)

Credit: 1

Significance: Meeting the minimum energy performance of ASHRAE/IESNA 90.1-2004 is a prerequisite in “EA”. Building envelope air sealing to minimize air leakage is a mandatory provision of that standard. ICYNENE LD-R-50™ is an ASTM-tested air barrier material. In addition, all insulation installed per ASHRAE/IESNA 90.1 requirements must be installed in a permanent manner in substantial contact with the inside surface. ICYNENE LD-R-50™ insulates and air seals while providing the required continuity, permanent attachment and uninterrupted encapsulation of services.

Materials and Resources

Credits

MR 2.1:

Credit: 1

Construction Waste Management – Divert 50% from Disposal

Basic Requirements:

Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris.

MR 2.2:

Credit: 1 (additional)

Construction Waste Management – Divert 75% from Disposal

Basic Requirements:

Recycle and/or salvage an additional 25% beyond MR Credit 2.1 (75% total) of non-hazardous construction and demolition debris.

MR 5.1:

Credit: 1

Regional Materials – 10% Extracted Processed and Manufactured Locally

Significance:
ICYNENE LD-R-50™, installed in the building envelope and building cavities, is manufactured on-site to precisely fit the intended application. Waste is minimized.

ICYNENE LD-R-50™ is light in weight and predominantly composed of air. Any waste is easily compacted, resulting in optimization of waste credits as calculated by weight or by volume. Site-manufactured ICYNENE LD-R-50™ is an inert, non-hazardous solid.

Basic Requirements:

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value.

MR 5.2:

Credit: 1 (additional)

Regional Materials – 20% Extracted Processed and Manufactured Locally

Basic Requirements:

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value.

Significance:
ICYNENE LD-R-50™ is produced on-site by certified installers. The final ICYNENE LD-R-50™ spray-in-place product will have been expanded to approximately 100 times its liquid volume.

MR 6:

Credit: 1

Rapidly Renewable Materials

Basic Requirements:

Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.

Significance:

ICYNENE LD-R-50™ contributes to the achievement of this credit. ICYNENE LD-R-50™ is responsibly made using castor oil and exceeds the United States Department of Agriculture (USDA) BioPreferredSM and International Code Council (ICC-ES/SAVE) requirements for rapidly renewable content.

Indoor Environmental Quality

Credits

EQ 7.1:

Credit: 1

Thermal Comfort: Design

Basic Requirements:

Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004.

Significance:

Energy-efficient HVAC design can be said to be “right-sized”. Optimized design is facilitated by an effectively sealed building envelope, such as is realized with the installation of ICYNENE LD-R-50™.

Innovation and Design Process

Credits

ID 1.1 to ID 1.4:

Credits: 1 to 4

Basic Requirements:

Substantially exceed a LEED for new Construction performance credit (up to 4 permitted). Identify, in writing the: intent, proposed requirement, verification submittals and the design strategies. Apply a strategy (strategies) that demonstrate a comprehensive approach with quantifiable benefits in the Credit Area(s).

Significance:

ICYNENE LD-R-50™ can contribute to exceeding performance credits in such core LEED NC resource categories such as Energy and Atmosphere and Indoor Environmental Quality.

Guidance for Users

This document is presented in good faith as a general guide as to where the installation of ICYNENE LD-R-50™ can contribute to prerequisite or optional credits in the LEED NC rating system. The impact of the installation of ICYNENE LD-R-50™ may depend on several factors, including but not limited to:

- technical or administrative changes to the LEED NC rating system,
- other design considerations/details of the building,
- the extent of strategies employed that are complementary to insulation and air sealing,
- the successful acceptance by USGBC, of any Credit Interpretation Requests (C.I.R.'s) that may be submitted by the LEED provider.

Disclaimer:

Icynene expects that all contractors/installers adhere to the local building code requirements and the Icynene Installers Manual.

ICYNENE INC.

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