
USGBC LEED™ v.4 Specification Solutions

The Leadership in Energy and Environmental Design (LEED™) Green Building Rating System represents the U.S. Green Buildings Council's effort to provide a national standard for what constitutes a "green building". Through its use as a design guideline and third-party certification tool, it aims to improve occupant well-being, environmental performance and economic returns of buildings using established and innovative practices, standards and technologies.

USGBC or LEED does not certify building products, rather they provide a standard by which a building can be rated and certified as a green building.

This document is a tool for architects, specifiers, designers, building owners and other professionals who need an overview of ICD products and how they may help contribute to a building attaining LEED certification as a green building.

Although there are some categories that fall outside of the area by which ICD products could contribute, the overall effort in the green buildings can be greatly impacted by ICD products.

USGBC LEED™ v.4 – BD&C

LEED™ Category: Indoor Environmental Quality (EQ)

ER Credit: Low-Emitting Materials

POINTS: Option 1. Product Category Calculations (1 – 3 Points)

INTENT: To reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment.

REQUIREMENTS:

NC, CS, SCHOOLS, RETAIL, DATA CENTERS, WAREHOUSES & DISTRIBUTION CENTERS, HOSPITALITY, HEALTHCARE

This credit includes requirements for product manufacturing as well as project teams. It covers volatile organic compound (VOC) emissions in the indoor air and the VOC content of materials, as well as the testing methods by which indoor VOC emissions are determined. Different materials must meet different requirements to be considered compliant for this credit. The building interior and exterior are organized in seven categories, each with different thresholds of compliance. The building interior is defined as everything within the waterproofing membrane. The building exterior is defined as everything outside and inclusive of the primary and secondary weatherproofing system, such as waterproofing membranes and air- and water-resistive barrier materials.

Option 1. Product Category Calculations

Achieve the threshold level of compliance with emissions and content standards for the number of product categories listed in Table 2 (below).

Emissions and Content Requirements

To demonstrate compliance, a product or layer must meet all of the following requirements, as applicable.

POTENTIAL ICD PRODUCT SOLUTION:

- OPACI-COAT-300® Water Based Silicone Coating

OPACI-COAT-300® is a near-zero VOC coating and is fully cured on glass at the fabricator level. Additionally, no VOCs will be emitted in the building during installation or when installed.

ICD High Performance Coatings selected a sample representative of its OPACI-COAT-300 White #0-1060 silicone glass paint product and submitted it on 8/8/2017 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.2-2017. The results of the test are presented in Berkeley Analytical report, 979-001-01A-Sep0117.



Table 2. Points for number of compliant categories of product

Compliant categories	Points
New Construction, Core Shell, Retail, Data Centers, Warehouse and Distribution Centers, Hospitality projects <u>without</u> furniture	
2	1
4	2
5	3
New Construction, Core Shell, Retail, Data Centers, Warehouse and Distribution Centers, Hospitality projects <u>with</u> furniture	
3	1
5	2
6	3
Schools, Healthcare <u>without</u> furniture	
3	1
5	2
6	3
Schools, Healthcare <u>with</u> furniture	
4	1
6	2
7	3

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LEED™ Category: Materials and Resources (MR)

MR Credit: Building Product Disclosure and Optimization – Material Ingredients

POINTS: Option 1. Material Ingredient Reporting (1 Point)

INTENT: To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

REQUIREMENTS:

NC, CS, SCHOOLS, RETAIL NC, DATA CENTERS, WAREHOUSES & DISTRIBUTION CENTERS, HOSPITALITY NC, HEALTHCARE

Option 1. Material Ingredient Reporting

Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate chemical inventory of the product to at least 0.1% (1,000 ppm). [The specific program identified ICD's product utilizes is the Health Product Declaration]

- Health Product Declaration
 - The end use product has a published, complete Health Product Declaration with full disclosure of known hazards in compliance with the Health Product Declaration open Standard.

POTENTIAL ICD PRODUCT SOLUTION:

- OPACI-COAT-300® Water Based Silicone Coating

ICD has published a Health Product Declaration v.2.1.1 for OPACI-COAT-300®. This Health Product Declaration (HPD) was completed in accordance with the HPD Standard version 2.1.1, and discloses hazards associated with all substances present at or above 100 parts per million (ppm) in the finished product, along with the role and percent weight. Therefore, this HPD is consistent with the LEED v4 MR credit Building Product Disclosure and Optimization: Material Ingredient Reporting (Option 1)

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LEED™ Category: Materials and Resources (MR)

MR Credit: Construction and Demolition Waste Management

POINTS: Option 1. Diversion (1 – 2 Points)

INTENT: To reduce construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials.

REQUIREMENTS:

NC, CS, SCHOOLS, RETAIL NC, DATA CENTERS, WAREHOUSES & DISTRIBUTION CENTERS, HOSPITALITY NC, HEALTHCARE

Recycle and/or salvage nonhazardous construction and demolition materials. Calculations can be by weight or volume but must be consistent throughout.

Exclude excavated soil, land-clearing debris from calculations. Include materials destined for alternative daily cover (ADC) in the calculations as waste (not diversion). Include wood waste converted to fuel (biofuel) in the calculations; other types of waste-to-energy are not considered diversion for this credit.

However, for projects that cannot meet credit requirements using reuse and recycling methods, waste-to-energy systems may be considered waste diversion if the European Commission Waste Framework Directive

2008/98/EC and Waste Incineration. Directive 2000/76/EC are followed and Waste to Energy facilities meet applicable European Committee for Standardization (CEN) EN 303 standards.

Option 1. Diversion

Path 1. Divert 50% and Three Material Streams (1 point) Divert at least 50% of the total construction and demolition material; diverted materials must include at least three material streams. OR

Path 2. Divert 75% and Four Material Streams (2 points) Divert at least 75% of the total construction and demolition material; diverted materials must include at least four material streams.

POTENTIAL ICD PRODUCT SOLUTION:

- OPACI-COAT-300® Water Based Silicone Coating

OPACI-COAT-300® does not contain any heavy metals or hazardous substances. Coating in the spandrel area on glass can be used as clean fill on-site or off-site if a building containing them is to be demolished. Please verify with individual municipalities.

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LEED™ Category: Materials and Resources (MR)

MR Credit: PBT Source Reduction – Lead, Cadmium, and Copper

POINTS: (2 Points)

INTENT: To reduce the release of persistent, bioaccumulative, and toxic (PBT) chemicals associated with the life cycle of building materials.

REQUIREMENTS:

HEALTHCARE

Specify substitutes for materials manufactured with lead and cadmium, as follows

[Specific items under each metal substance listed apply to ICD's product]

Lead

- Specify no use of interior or exterior paints containing lead.

Cadmium

- Specify no use of interior or exterior paints containing intentionally added cadmium

POTENTIAL ICD PRODUCT SOLUTION:

- OPACI-COAT-300® Water Based Silicone Coating

OPACI-COAT-300® contains no lead or cadmium.

OPACI-COAT-300® is used on the interior of a building in wall cladding glass (decorative or privacy) applications, and other glass applications such as backsplashes, countertops, flooring, ceiling and doors. OPACI-COAT-300® is used on the exterior of a building in spandrel glass applications.