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Consolideck® LSGuard® LEED and Code Conformance Information

Consolideck® LSGuard® is a water-carried, high gloss hardener and densifier for concrete and decorative concrete substrates.

LEED Credit Contributing Categories: The Consolideck® floor hardening and decorative polishing system contributes to a number of LEED categories. See the attached *Consolideck® LEED Guide* for additional information.

LEED EQ IAQ Credit Conformance

LEED NC 2.2 EQ Credit 4.2 and LEED 2009 IEQ Credit 4.3: The New Construction & Major Renovation Reference Guide Low-Emitting Materials section incorporates by reference the South Coast Air Quality Management District (SCAQMD) Rule 1113 in effect on January 1, 2004. Consolideck® LSGuard® is classified as a Waterproofing Concrete/Masonry Sealer (limit of 100 g/L).

PROSOCO certifies that Consolideck® LSGuard® has a maximum VOC content of 100 g/L and complies with Rule 1113.

LEED for Schools EQ Credit 4: Low-Emitting Materials: Option 2 references testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers*.

PROSOCO certifies that Consolideck® LSGuard® has successfully passed the referenced test method. Further, conformance has been verified through a third-party certifier, Scientific Certification Systems, and it is certified as an Indoor Advantage Gold product.

Consolideck® LSGuard® is NSF registered in the Nonfood Compounds program (Category Code: R2; Registration No. 142261).



CALGreen and IgCC Conformance

This product complies with the CARB 2007 SCM 100 g/L category limit for Concrete/Masonry Sealers and conforms to CALGreen and IgCC indoor environmental quality standards.



Manufacturing Location

Lawrence, Kansas

Recycled Content

Consolideck® LSGuard® is manufactured with no post-consumer materials content.

Date of Generation: February 28, 2012

Certification by:

Dwayne Fuhlhage, CHMM
Regulatory Affairs Director



"LEED" is a trademark of the U.S. Green Building Council

PROSOCO is a proud member and supporter of ACA's Coatings Care product stewardship initiative.

Consolideck® LEED Guide

by
Paul Grahovac, LEED AP
PROSOCO, Inc.

LEED New Construction & Major Renovation 2.2 Credits with Consolideck® products

Requirements are listed in **Bold**, and they are followed by corresponding Consolideck® features.

1. Sustainable Sites Prerequisite 1: Construction Activity Pollution Prevention

The Consolideck® lithium silicate densification products facilitate compliance with LEED-referenced EPA pollution prevention requirements, because unlike other silicate densifiers, they do not require generation of large amounts of wastewater.

2. Energy & Atmosphere Prerequisite 2: Minimum Energy Performance Required

Design the building envelope, HVAC, lighting, and other systems to maximize energy performance.

Consolideck® floors reflect light, and reduce lighting requirements.

Energy from solar rays streaming in from under roof overhangs during the heating season is absorbed into the floor's thermal mass when the reflected light is trapped by windows and converted to heat energy and also through direct absorption into the floor.

3. Energy & Atmosphere Credit 1: Optimize Energy Performance

Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

Consolideck® floors reflect light, and reduce lighting requirements.

Energy from solar rays streaming in from under roof overhangs during the heating season is absorbed into the floor's thermal mass when the reflected light is trapped by windows and converted to heat energy and also through direct absorption into the floor.

4. Materials & Resources Credits 5.1 and 5.2: Regional Materials: 10%, 20% Extracted, Processed & Manufactured Regionally

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.

This calculation requires dividing the cost of the less-than-500-mile materials by the cost of the more-than-500-mile materials to determine the less-than-500-mile percentage. Floor-covering materials coming from more than 500 miles away decrease the less-than-500-mile percentage. Consolideck® floors keep such floor-covering materials out of the equation and increase the less-than-500-mile percentage.

5. Environmental Quality Credit 3.1: Construction Indoor Air Quality Management Plan: During Construction

Sequence the installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile and gypsum wallboard.

Consolideck® floors avoid contamination, because unlike carpet, they are not absorptive.

6. Environmental Quality Credit 3.2: Construction IAQ Management Plan: Before Occupancy

**Demonstrate that the contaminant maximum concentrations listed below are not exceeded.
[Formaldehyde, particulates, VOC, 4-Phenylcyclohexene]**

Consolideck® floors do not contribute to these contamination levels.

7. Environmental Quality Credit 4.1: Low-Emitting Materials: Adhesives & Sealants

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**Indoor Carpet Adhesives
Carpet Pad Adhesives
Wood Flooring Adhesives
Rubber Floor Adhesives
Subfloor Adhesives
Ceramic Tile Adhesives
VCT & Asphalt Adhesives**

Consolideck® floors eliminate the need for all these adhesives.

8. Environmental Quality Credit 4.2: Low-Emitting Materials: Paints & Coatings

Clear wood finishes, floor coatings, stains, and shellacs applied to interior elements: Do not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.

Consolideck® floor products comply with SCAQMD requirements.

9. Innovation & Design Process Credit 1–1.4: Innovation in Design

Concrete floors without floor coverings have been the subject of a Credit Ruling by the US Green Building Council. Excerpts are below. Although the credit was not awarded in the specific case, it is clear that if the environmental benefits are adequately quantified, the credit is available. Contact PROSOCO for quantification of environmental benefits.

Innovative Design Credit Ruling Request 6-16-06 (excerpts).

“Avoid floor coverings. Over 95% of the floor area will be either durable concrete or terrazzo masonry floors sealed and protected by low or non-VOC coatings. ... ‘naked architecture’ design approach will reduce the cost of cleaning the building and the cost of periodic refurbishing interior surfaces and finishes.”

Innovative Design Credit Ruling 7-10-06 (excerpts).

While some of the resultant impacts are commendable, the approach needs refinement. To warrant an innovation credit, quantifiable environmental benefit must be demonstrated through a comprehensive effort.

The overall design approach and the list of 9 design elements (of which only 6 are cited as being the target) represents design strategies but do not necessarily lead to quantifiable environmental benefits beyond what is already awarded in existing LEED credits. Though the cost saving strategies are applauded, they do not necessarily represent environmental achievement. The strategy of minimizing the use of construction materials may qualify for an innovation point if the reduction can be quantified and the applicant can demonstrate that an intentional, comprehensive effort was made throughout the project design to reduce construction materials.

SCS Global Services does hereby certify that an independent assessment has been conducted on behalf of:

PROSOCO, Inc.

3741 Greenway Circle, Lawrence, KS, United States

For the following product(s):

Concrete Finish:

Consolideck GemTone™ Stain, Consolideck® LS/CS®, Consolideck® ColorHard, Consolideck® Concrete Protector, Consolideck® Grind-N-Fill, Consolideck® GuardEXT, Consolideck® LS®, Consolideck® LSGuard®, Consolideck® PolishGuard

This product meets all of the necessary qualifications to be certified for the following claim:

Indoor Advantage™ Gold

Indoor Air Quality Certified to SCS-EC10.3-2014

Conforms to the CDPH/EHLB Standard Method v1.1-2010 (effective January 1, 2012) for the school classroom, private office, and single-family residence parameters when modeled as flooring. Also, conforms to the SCAQMD Rule 1113 – Paints & Coatings (June 2011); European Decopaint Directive (2004/42/EC); Canadian VOC Concentration Limits for Architectural Coatings; Hong Kong Air Pollution Control (VOC) Regulation.

Average Product Application Amount: 191.4 g/m²

Measured Concentration of Total Volatile Organic Compounds (TVOC): Between 0.5 – 5.0 mg/m³ (in compliance with CDPH/EHLB Standard Method v1.1-2010)

Methylene Chloride and Perchloroethylene are not intentionally added to certified products.

Registration # SCS-IAQ-01606

Valid from: January 1, 2015 to December 31, 2015



INDOOR ADVANTAGE GOLD
BUILDING MATERIALS



ANSI ACCREDITED PROGRAM
PRODUCT CERTIFICATION
#0821



A handwritten signature in blue ink that reads "Robert J. Hrubes".

Robert J. Hrubes, Ph.D., Executive Vice President
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