


# Sustainable Design



Avonite Surfaces® and the LEED Program





*Does sustainable design have to come at the expense of style? Should clients pay a premium for sustainability? At Avonite Surfaces,<sup>®</sup> we're working diligently to break through these paradigms confronting the architectural community. Our goal is to become catalysts for design transformation, ingraining sustainable design into standard design practices by providing superior Avonite Surfaces products and surfaces.*

*The LEED (Leadership in Energy and Environmental Design) rating system has emerged as an important force in today's building industry, serving as a touchstone for those seeking to build high performance, more sustainable buildings. Our mission is to assist you in understanding all of the program's ramifications and implementation challenges.*

*This white paper is designed to help you understand the impact our products can have on sustainable design and your pursuit of LEED credits. We have outlined and illustrated how our products contribute to the achievement of certain LEED credits.*



## **U.S. Green Building Council**

The U.S. Green Building Council (USGBC) is the nation's foremost nonprofit coalition of over 6,000 companies and organizations from across the building industry promoting high-performance green buildings that are environmentally responsible, profitable, and healthy places to live and work. The USGBC developed LEED as a voluntary, consensus-based national standard to support and validate successful green building design, construction, and operations. Avonite Surfaces/Aristech Acrylics is a current member.

## **LEED Rating System**

The USGBC LEED program offers third-party certification of qualifying buildings and interiors, high-performance design guidelines, and professional training and accreditation services. LEED was created to:

- define "green building" by establishing a common standard of measurement
- promote integrated, whole-building design practices
- recognize environmental leadership in the building industry
- stimulate green competition
- raise consumer awareness of green building benefits
- transform the building market

## **The LEED Rating System evaluates projects over 5 core and 1 bonus credit categories:**

- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality
- Bonus Credits for Process and Design Innovation

**Projects can result in one of four levels of certification through achieving Core Credit Points:**

**LEED Certified** achieve 40% or more of the Core Credits

**LEED Silver** achieve 50% or more of the Core Credits

**LEED Gold** achieve 60% or more of the Core Credits

**LEED Platinum** achieve 80% or more of the Core Credits

## Overview of LEED Programs

The LEED Rating System originated as a program designed to evaluate new construction and major renovations for office buildings. With the success of this initial system the USGBC created several other LEED products to address other project types not covered by the original rating system.

### LEED-NC (New Construction & Major Renovations) Version 2.2 Released 2005

LEED-NC is designed to be applied to Commercial and Institutional buildings that are either new or undergoing major renovations with a focus on office buildings. Practitioners have also applied the system to K-12 schools, multi-unit residential buildings, manufacturing plants, laboratories and many other building types. LEED-NC Version 2.2 was released in late 2005.

### LEED-CI (Commercial Interiors) Released 2004

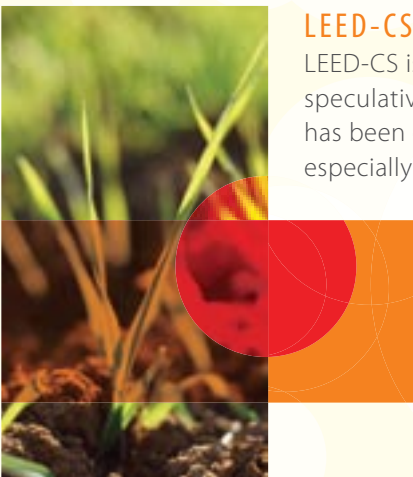
LEED-CI is designed to address the specifics of tenant spaces primarily in office and institutional buildings. LEED-CI provides the opportunity for building tenants to design and certify high performance, healthy, durable, affordable and environmentally sound workplaces.

### LEED-EB (Existing Buildings) Released 2004

LEED-EB is designed to be a set of performance standards for the sustainable operation of existing buildings. It includes building operations and upgrades of systems and/or processes in existing buildings where these upgrades do not significantly change the interior or exterior surfaces of the building.

### LEED-CS (Core & Shell Development) Pilot Project Release 2005

LEED-CS is a set of performance standards for the sustainable design and construction of speculative and core-and-shell buildings. Based on the LEED-NC Rating system, LEED-CS has been developed in recognition of the unique nature of core and shell development, especially the lack of developer control over key aspects such as interior finishes, lighting, and HVAC distribution. LEED-CS is designed to complement the LEED-CI Green Building Rating System so that a LEED-CS certified building that also incorporates a LEED-CI certified interior fit-out will be the equivalent to a LEED-NC certified building.





## How Avonite Surfaces Can Contribute Points

Although LEED is comprised of five core and one bonus category, surfacing products typically only play a role in four core credit categories: Materials & Resources, Indoor Environmental Quality, and Innovative Design. This document will further explain the requirements of the impacted credits and provide a description of how Avonite Surfaces products may contribute to these credits. The Materials and Resource Credits are mainly based on the cost of the material and the relative percentages that those materials contribute to the overall budget of the project.

Projects certifying under the LEED-NC program will typically have budgets that range from \$120/sf to \$400/sf. Solid surfacing materials typically average between \$25.00/sf to \$45.00/sf. On an entire building project, surfacing is only a fraction of the costs associated with materials. Differences in small percentages when calculating recycled content do not necessarily have a significant impact in LEED-NC calculations.

Projects certifying under the LEED-CI program typically have budgets that range from \$30/sf to \$150/sf. Flooring materials typically average between \$25.00/sf - \$45.00/sf. On a commercial interior/tenant improvement project, surfacing may be a major component of the costs associated with materials. It is important to review the impact of varying recycled content percentages and their overall impact on the LEED-CI calculation. LEED-CI considerations are outlined in our LEED-CI White Paper, available online at [www.avonitesurfaces.com/LEED](http://www.avonitesurfaces.com/LEED).

Note: No single product can, by itself, obtain a LEED Credit. Products can, in aggregate, contribute to attaining credits. The only exception is the Indoor Environmental Quality – Low Emitting Materials (Carpet) Credit.

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## LEED-CI Materials & Resources Credits

### Building Reuse

MR Credit 1.2 Building Reuse: Maintain 40% of interior Non-Structural Components **(1 Point)**

MR Credit 1.3 Building Reuse: Maintain 60% of interior Non-Structural Components **(1 Point in addition to MR 1.2)**

#### Intent

Extend the life cycle of the existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impact of new buildings as they relate to materials manufacturing and transport.

#### Requirements

Maintain at least 40% by area of the existing non-shell, non-structure components (walls, flooring, ceilings).

Maintain at least 60% by area of the existing non-shell, non-structure components (walls, flooring, ceilings).

#### Avonite Surfaces Credit Contribution

Utilize existing Avonite Solid Surface assemblies in building reuse non-structural elements design criteria, per LEED NC version 2.2, and LEED CI version 2.0 requirements and calculations.

# Resource Reuse

MR Credit 3.1 Resource Reuse: -5% **(1 Point)**

MR Credit 3.2 Resource Reuse: -10% **(1 Point in addition to MR 3.1)**

MR Credit 3.3 Resource Reuse: Furniture and Furnishings **(1 Point)**

## Intent

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

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## Requirements

Use salvaged, refurbished, or reused materials for at least 5% or 10% of building (construction) materials, excluding furniture and furnishings. Avonite Surfaces Credit Contribution Utilize existing Avonite Solid Surface assemblies in building reuse non-structural elements design criteria, per LEED NC version 2.2, and LEED CI version 2.0 requirements and calculations.

Use salvaged, refurbished, or used furniture and furnishings for 30% of the total furniture and furnishings budget.

## Avonite Surfaces Credit Contribution

Utilize existing Avonite Solid Surface assemblies in materials and resource reuse design criteria, per LEED NC versions 2.1 & 2.2, and LEED CI version 2.0 requirements and calculations by salvaging existing Avonite solid surface materials for use in another project.

# Recycled Content

MR Credit 4.1 Recycled Content: -10% (post-consumer + 1/2 pre-consumer) **(1 Point)**

MR Credit 4.2 Recycled Content: -20% (post-consumer + 1/2 pre-consumer) **(1 Point in addition to MR 4.1)**

## Intent

Increase demand for building products that have incorporated recycled content material, reducing the impacts resulting from extraction and processing of virgin materials.

## Requirements

Use materials, including furniture and furnishings, with recycled content such that the sum of post-consumer recycled content plus 1/2 (one-half) of the pre-consumer content constitutes 10-20% of the total value as appropriate..





# Low Emitting Materials (Adhesives and Sealants)

EQ Credit 4.1 Low Emitting Materials (Adhesives and Sealants) **(1 Point)**

## Intent

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

## Requirements

All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards: SCAQMD Rule # 1168

*Note: See LEED reference guide for corresponding tables*

## Avonite Surfaces Credit Contribution

Adhesives and sealants with a VOC content less than the current VOC content limits of the Southcoast Air Quality Management District (SCAQMD) Rule# 1168 or sealants used as fillers that meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

Multipurpose construction sealants – VOC Limit 30 – [g/L less water] ID Credits 1-4:  
Innovative Design

## Avonite Surfaces Potential Contributions

Designing assemblies from Avonite Solid Surface materials can help reduce waste by custom sheet sizes allowing for less seams, labor and waste. The durable Avonite material also provides great opportunity for modular designs that can easily be deconstructed and relocated and reused.

# ID Credits 1-4: Innovative Design

## Avonite Surfaces Potential Contributions

Designing assemblies from Avonite Solid Surface materials can help reduce waste by custom sheet sizes allowing for less seams, labor and waste. The durable Avonite material also provides great opportunity for modular designs that can easily be deconstructed and relocated and reused.

## Other Potential Contributions

### Resource Credits

Avonite Surfaces products are warranted for 10 years and most installations last well beyond the warranty. Because of the exceptional life cycle of these products, many installations can be removed and reshaped for new locations. This creates the possibility for Materials Reuse credits noted below.

MR Credit 3.1 - NC— Versions 2.1 & 2.2: Materials Reuse - 5% **(1 Point)**

*Note: Also see LEED CI: MR Resource Reuse Credit 3.1 5%; Credit 3.2 10%*

### Intent

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

### Requirements

Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5% based on cost, of the total value of materials on the project.

MR Credit 3.2 NC Versions 2.1 & 2.2: Materials Reuse - 10%

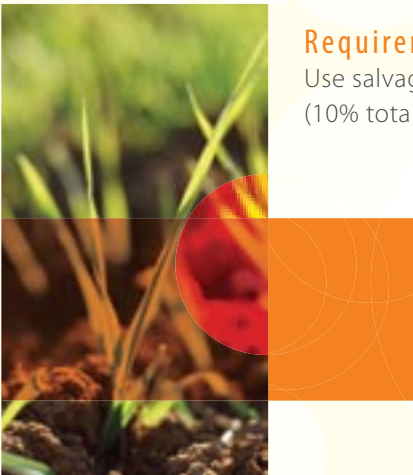
**(1 Point - in addition to MR 3.1)**

### Intent

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

### Requirements

Use salvaged, refurbished or reused materials for an additional 5% beyond MR Credit 3.1 (10% total, based on cost).



*At Avonite Surfaces, we are committed to being a part of the sustainable design community. We recognize that the LEED rating system is evolving, maturing in the context of new markets and project types. As new LEED Rating Systems are released and new LEED Application guides developed, Avonite Surfaces will continue to be a trusted resource to our customers, your clients, and their projects.*

## Additional Information

For more information regarding our products and commitment to the environment please visit [www.avonitesurfaces.com/LEED](http://www.avonitesurfaces.com/LEED).

Member of the USGBC.



### **About Avonite Surfaces®**

Since 1983, Avonite has brought unparalleled beauty to the world's most luxurious hotels, resorts, restaurants, and elite kitchens. Once the secret of professional designers, Avonite Surfaces products are now available to homeowners around the world searching for a unique touch of elegance.

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**[www.avonitesurfaces.com](http://www.avonitesurfaces.com) | (800) 4 AVONITE**

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