

Centaur

Floor Systems

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LEED GUIDE

How Centaur Flooring Can
Contribute to Obtaining
LEED® v4 Credits.



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Supersedes all previous
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updates.

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Overview

Recycled rubber is a growing category for flooring within the industry and continues to increase in popularity as a practical solution for fitness applications. The easy installation, durability, and vast variety of color options available in Centaur Flooring Systems are ideal for recreation, fitness centers, and more.

The popularity of recycled rubber flooring is also on the rise because of its positive environmental attributes. Benefits, such as high-recycled content, low-VOC emissions, and low life-cycle costs, make it an environmentally preferable flooring solution for a number of applications. These benefits also enable it to potentially contribute to a number of points under the Leadership in Energy & Environmental Design (LEED®) rating system. This educational guide is designed to assist specifiers in understanding how our products apply to the LEED v4 rating system.

What Is LEED?

LEED has driven the green building market by creating a demand for environmentally preferable building products. This helped to transform the way we think about how our buildings and communities are designed, constructed, maintained, and operated.

LEED addresses the entire building lifecycle. Building projects must satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each of the four rating systems. A project team must determine which rating system and category is the best fit for their project.

Rating Systems

Building Design & Construction (BD+C)

This rating system is appropriate for new construction and major renovation of these categories: New Construction, Core and Shell, Schools, Retail, Hospitality, Data Centers, Warehouses and Distribution Centers, Healthcare, Homes, and Multifamily Midrise.

Interior Design & Construction (ID+C)

This rating system is appropriate for interior spaces that are a complete interior fit-out of these categories: Commercial Interiors, Retail, and Hospitality.

Building Operations & Maintenance (O+M)

This rating system is appropriate for buildings that are undergoing improvement work with little to no construction. This system applies to these categories: Existing Buildings, Schools, Retail, Hospitality, Data Centers, and Warehouses and Distribution Centers.

Neighborhood Development (ND)

This rating system is appropriate for new land development projects or redevelopment projects containing residential uses, nonresidential uses, or a mix. This system includes these categories: Neighborhood Development Plan and Built Project.

The Benefits of LEED

Why is obtaining LEED certification beneficial? In addition to the obvious environmental benefits, certification proves to the market that a building is efficient and incorporates responsible building practices. LEED certification showcases environmental commitment and leadership to both the community and employees. As a result, positive publicity and exposure could be generated.

Green buildings have also been proven to be more economically efficient as a result of these factors:

- Increased health and safety benefits for employees or students
- Increased employee productivity and lower turnover and absenteeism
- Increased sales in retail establishments
- Reduced operating costs
- Increased building evaluation and return on investment
- Qualification for money-saving incentives, like tax rebates and zoning allowances

How Centaur products can apply to LEED

Many products have the potential to contribute points to LEED; but, since credits are based on the performance of all the products involved in a particular project, there is not one stand-alone product that can guarantee LEED credits. It is the combination and the weight of each that is critical.

Centaur flooring products, which are manufactured by Ecore, are designed to meet the stringent criteria required to help earn points under 2 of the 5 categories of LEED—Materials and Resources and Indoor Environmental Quality. The Materials and Resources category deals with the conservation, purchasing, and waste management of physical products. Indoor Environmental Quality includes the conditions inside a building, such as air quality, lighting, thermal conditions, ergonomics, acoustics, and their effect on occupants. Based on these criteria, Centaur products can, potentially, contribute up to 5 LEED points in BD+C and ID+C, 4 LEED points in BD+C: Homes/Midrise, and 4 LEED points in O+M.

BD+C, ID+C: —LEED Credit Areas

Category	Credit Title	B+C Points Attainable	ID+C Points Attainable
Materials & Resources	Building Product Disclosure and Optimization-Sourcing of Raw Materials	1	1
	Construction and Demolition Waste Management	2	2
Indoor Environmental Quality	Acoustic Performance	1-2 (Except Core & Shell, Retail)	2 (except Retail)

O+M —LEED Credit Areas

Category	Credit Title	Points Attainable
Materials and Resources	Purchasing-Facility Maintenance and Renovation	1
	Solid Waste Management-Facility Maintenance and Renovation	2
Indoor Environmental Quality	Green Cleaning-Products and Materials	1

BD+C: Homes —LEED Credit Areas

Category	Credit Title	Points Attainable
Materials & Resources	Environmentally Preferable Products	1
	Construction Waste Management	3

Definition of BD+C, ID+C Credits — Materials and Resources:

Building Product Disclosure and Optimization — Sourcing of Raw Materials (possible 2 points)

Option 1: Raw Material Source and Extraction Reporting (1 point)

Use at least 20 different permanently installed products, sourced from at least five different manufacturers, that have publically released a report from their raw material suppliers, which include, raw material supplier extraction locations, a commitment to long-term ecologically responsible land use, a commitment to reducing environmental harms from extraction and/or manufacturing processes, and a commitment to meeting applicable standards or programs voluntarily that address responsible sourcing criteria. Reports from manufacturers may be self-declared (0.5 points) or a third-party verified corporate sustainability report (1 point).

AND/OR

Option 2: Leadership Extraction Practices (1 point)

Use permanently installed building products that meet at least one responsible extraction criteria:

- Extended producer responsibility
- Bio-based materials
- Certified wood products
- Materials reuse
- Recycled content

How Centaur can contribute:

Centaur Floor products are comprised of shredded and cleaned recycled tire rubber and colorful EPDM flecks. The result is a polymerically bound floor with very high recycled content. Recycled content is defined in accordance with the International Organization for Standardization® document, ISO 14021 – Environmental labels and declarations:

- Postconsumer material – waste materials diverted from the waste stream after consumer or commercial use.
- Preconsumer material – material diverted from the waste stream during the manufacturing process. Excluded is rework, regrind, or scrap materials capable of being reclaimed within the same process that generated them.

Recycled content is the sum of postconsumer recycled content plus one-half the preconsumer recycled content, based on cost. Products meeting recycled content criteria are valued at 100 percent of their cost for the purposes of credit achievement calculation.

Recycled content depends largely on the color patterns of the flooring. Please consult the recycled content chart on page 6 for more information.

Centaur Flooring Recycled Content

Product	Total Recycled Content	Pre-Consumer	Post-Consumer
Speckled S and Puzzle Tile			
CS00	90%	0%	90%
CS01, CS02, CS04, CS05, CS06, CS07, CS09, CS21, CS23, CS32A	84%	2%	82%
CS97A	78%	4%	74%
Elite Tile			
CS00	92%	0%	92%
CS100A, CS101, CS102, CS103, CS104, CS105, CS106, CS107A	91%	1%	90%
CS15A, CS43A, CS500, CS502	86%	2%	84%
Fastrack			
CS00	90%	8%	82%
CS100A, CS101, CS102, CS103, CS104, CS105, CS106, CS107A	86%	9%	77%
CS15A, CS43A, CS500, CS502	78%	11%	67%
xrTurf	67%	7%	60%
Triple Threat	65%	0%	65%
Sportweave Interlock	77%	0%	77%
Sound Reducer	94%	0%	94%
Tuftrack	93%	0%	93%

Definition of BD+C, ID+C Credits — Materials and Resources:

Construction and Demolition Waste Management

Option 1: Diversion (1-2 Points)

Path 1 (1 point): Divert at least 50 percent of the total construction and demolition from at least three material streams.

OR

Path 2 (2 points): Divert at least 75 percent of the total construction and demolition material from at least four material streams.

OR

Option 2: Reduction of Total Waste (2 points)

Do not generate more than 2.5 pounds of construction waste per square foot of the building's floor area.

How Centaur can contribute:

- Salvages and overages can be packaged and shipped back at the owner's expense to Ecore's Redeux Reclamation Program in Lancaster, PA.
- Old materials may be packaged and shipped back at the owner's expense to Ecore's Redeux Reclamation Program in Lancaster, PA.

Customers must first submit an application to have their material accepted into the program. Both product scrap and old materials must be free of excessive adhesive and foreign contaminants, including stones, wood, concrete, asphalt, etc. Materials accepted into the Redeux program will be sorted, shredded, cleaned, and ground for the next generation of flooring, underlayment, and industrial products. For more information on Ecore's Redeux program, including an application and requirements, please email redeux@ecoreintl.com or visit <http://ecoreintl.com/redeux.php>.



Definition of BD+C, ID+C Credits — Indoor Environmental Quality:

Acoustic Performance (possible 1 point — except Core & Shell, Retail) (possible 2 points in BD+C: Healthcare, ID+C: Hospitality, Commercial Interiors)

For all occupied spaces, meet the requirements, as applicable, for HVAC background noise, sound isolation, reverberation time, and sound reinforcement and masking.

HVAC Background Noise

Achieve maximum background noise levels from heating, ventilating, and air conditioning (HVAC) systems per 2011 ASHRAE Handbook, HVAC Applications, Chapter 48, Table 1; AHRI Standard 885-2008, Table 15; or a local equivalent. Calculate or measure sound levels.

Sound Isolation

Meet the composite sound transmission class (STCC) ratings, depending on adjacency combinations or local building code, whichever is more stringent.

Reverberation Time

Meet the reverberation time requirements based on room type.

Sound Reinforcement and Masking Systems

Sound Reinforcement

For all large conference rooms and auditoriums seating more than 50 persons, evaluate whether sound reinforcement and AV playback capabilities are needed. If needed, the sound reinforcement systems must meet these criteria:

- Achieve a speech transmission index (STI) of at least 0.60 or common intelligibility scale (CIS) rating of at least 0.77 at representative points within the area of coverage to provide acceptable intelligibility.
- Have a minimum sound level of 70 dBA and must maintain sound-level coverage within ± 3 dB at the 2000 Hz octave band throughout the space.

Masking Systems

For projects that use masking systems, the design levels must not exceed 48 dBA. Ensure that loudspeaker coverage provides uniformity of ± 2 dBA and that speech spectra are effectively masked.

How Centaur can contribute:

Acoustic performance of a space is the combination of all the elements in the room, including flooring. Rubber is inherently better at sound absorption and transmission than other types of surfacing. Due to these properties, Centaur rubber flooring can help contribute to lowering the reverberation time in a variety of room types.

Definition of O+M— Materials and Resources:

Purchasing - Facility Maintenance and Renovation (possible 2 points)

Option 1: Products and Materials (1 point)

Purchase at least 50 percent, by cost, of the total maintenance and renovation materials that meet at least one of these criteria:

- Recycled content
- Wood products
- Bio-based materials
- Materials reuse
- Extended producer responsibility
- GreenScreen v1.2 Benchmark
- Cradle to Cradle Certified
- REACH Optimization
- Product Manufacturer Supply Chain Optimization
- Low emissions of VOCs
- VOC content requirements for wet-applied products
- Low emissions of formaldehyde

AND/OR

Option 2: Furniture (1 point)

Purchase at least 75%, by cost, of total furniture and furnishings that meet one or more of these criteria:

- Recycled content
- Wood products
- Bio-based materials
- Materials reuse
- Extended producer responsibility
- GreenScreen v1.2 Benchmark
- Cradle to Cradle Certified
- REACH Optimization
- Product Manufacturer Supply Chain Optimization
- Low emissions of VOCs

OR Option 3: No Alterations or Furniture Purchasing (1 point)

Make no alterations to the project space and do not purchase any furniture.

How Centaur can contribute:

Centaur can potentially contribute to two of the criterion in option 1: recycled content and extended producer responsibility. Centaur products are comprised of shredded and cleaned recycled tire rubber and colorful EPDM flecks, resulting in high recycled content. For more information about recycled content, please refer to pages 5 and 6 of this guide.

Ecore's extended producer responsibility program is called Redeux, under which Ecore can take back scrap and old material. For more information about the Redeux program, please see page 7.

Definition of O+M — Materials and Resources:

Solid Waste Management - Facility Maintenance and Renovation (possible 2 points)

Divert at least 70 percent of the waste (by weight or volume) generated by facility maintenance and renovation activities from disposal in landfills and incinerators. Include materials and products permanently and semi-permanently installed in the project (flooring, wall coverings, etc.).

Exclude furniture and furnishings that pose human health concerns, as well as components not considered base building elements; mechanical, electrical, and plumbing components; and specialty items (such as elevators).

How Centaur can contribute:

Salvages, overages, and old material can be packaged and shipped back, at the owner's expense, to Ecore's Redeux Reclamation Program in Lancaster, PA. For more information about the Redeux program, please see page 7 of this guide.



Definition of O+M — Indoor Environmental Quality:

Green Cleaning - Products and Materials (possible 1 point)

Purchase green cleaning materials and products, such as floor finishes and strippers, disposable janitorial paper products, and trash bags. Include items used by in-house staff or outsourced service providers. At least 75 percent, by cost, of the total annual purchases of these products must meet at least one of the standards.

How Centaur can contribute:

Centaur recommends Ecore's E-Cleaner for use on our products, which falls under the cleaning products standards. E-Cleaner, a highly concentrated low foam floor cleaner, is effective for all routine cleaning jobs. E-Cleaner is Green Seal™ GS-37 certified, meaning it complies with rigorous requirements designed to reduce its environmental impacts. Use E-Cleaner for damp mopping, scrubbing, spray and wipe cleaning, or with a hand bucket and cloth. E-Cleaner revitalizes any washable surface without damage. Please consult Centaur's online maintenance manuals, which can serve as the basis for your cleaning policy. These manuals outline initial, daily, and restorative cleaning recommendations for the flooring.

For maintenance manuals, please visit: <http://www.centaurfloors.com/Resources/Installation-Maintenance-and-Warranty-Manuals>.

For physical data properties of Ecore's E-Cleaner, please visit: <http://www.centaurfloors.com/Resources/Guide-Specifications>.



Definition of BD+C: Homes and Midrise — Materials and Resources:

Environmentally Preferable Products (BD+C: Homes — possible 4 points, BD+C: Midrise — possible 5 points)

Use building component materials that meet one or more of these criteria:

Option 1: Local Production

Use products that were extracted, processed, and manufactured locally (100 miles) for these components:

- Framing (0.5 point)
- Aggregate for concrete and foundation (0.5 point)
- Drywall or interior sheathing (0.5 point)

AND/OR

Option 2: Environmentally Preferable Products

Use products that meet one or more of the following criteria (0.5 points each). At least 90 percent of each compliant building component, by weight or volume, must meet one of the following requirements. A single component that meets more than one criterion does not earn additional credit.

- The product contains at least 25 percent reclaimed material, including salvaged, refurbished, or reused materials.
- The product contains at least 25 percent postconsumer or 50% preconsumer recycled content.
- Wood products must be Forest Stewardship Council (FSC) Certified.
- Bio-based products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard.
- Concrete that consists of at least 30 percent fly ash or slag used as a cement substitute and 50 percent recycled content or reclaimed aggregate OR 90 percent recycled content or reclaimed aggregate.
- Products purchased from a manufacturer that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.

How Centaur can contribute:

All Centaur flooring products are made with recycled materials, resulting in a high recycled content. The amount of recycled content varies by color pattern. The majority of the color patterns exceed 25 percent postconsumer recycled content. To see which colors meet the environmentally preferable product criteria, please consult the recycled content chart on page 6.

Definition of BD+C: Homes and Midrise — Materials and Resources:

Construction Waste Management (possible 3 points)

Reduce total construction waste or divert from landfills and incinerators a large proportion of the waste generated from new construction. Excavated soil, land-clearing debris, and alternative daily cover (ADC) do not qualify for this credit. Any waste-to-energy is not considered recycling for this credit.

Percentage reduction	Points
10%	0.5
20%	1.0
30%	1.5
40%	2.0
50%	2.5
60%	3.0

How Centaur can contribute:

Salvages, overages, and old material can be packaged and shipped back, at the owner's expense, to Ecore's Redeux Reclamation Program in Lancaster, PA. For more information about the Redeux program, please see page 7 of this guide.



Locally Sourced Materials

Centaur products are manufactured in Lancaster, PA. For credit achievement calculation, products sourced (extracted, manufactured, purchased) within 100 miles of the project site are valued at 200 percent of their base contributing cost for these credit categories:

- BD+C, ID+C: Building Product Disclosure and Optimization - Environmental Product Declarations
- BD+C, ID+C: Building Product Disclosure and Optimization - Sourcing of Raw Materials
- BD+C, ID+C: Building Product Disclosure and Optimization - Material Ingredients (option 2 or 3)
- O+M: Purchasing - Facility Maintenance and Renovation



Centaur

Centaur Floor Systems has been selling recreational, fitness, and athletic floor coverings for more than 25 years. We represent high quality, competitively priced floor covering options to provide our customers with application-specific products that are both functional and aesthetic. Our goal is to become your floor covering partner by offering you the best products, best service, and competitive pricing.

Centaur **Floor Systems**

For more information on Centaur,
Call **800-536-9007** or visit www.centaurfloors.com

Manufactured in the
U.S.A. by Ecore