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QT™
SOUND INSULATION

Tested. Proven. Guaranteed.

& LEED

How QT Sound Insulation
Can Contribute To
Obtaining LEED® Credits

Revised on 7/18/11
Supersedes all previous versions. Check website for updates.

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Recycled rubber underlayment is a growing category for sound insulation within the construction industry and continues to increase in popularity as a practical solution for construction applications. The easy installation, durability, and quality of QT Sound Insulation is ideal for a wide variety of sound control applications.

The demand for recycled sound insulation products is increasing due to its many positive environmental attributes. The high recycled content and low-VOC emissions and life cycle costs make it an environmentally sensitive choice for a variety of applications. These benefits also enable it to potentially contribute points towards LEED certification. QT Sound Insulation is designed to meet the stringent criteria required to help earn points in 2 of the 6 categories of LEED. Based on these criteria, QT products can assist specifiers by potentially contributing towards up to 7 LEED-NC/CI and 9 LEED-EB points.

What is LEED?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System represents the U.S. Green Building Council's effort to provide a national standard for what constitutes a "green" building. It is utilized as a design guideline and certification tool for architects and designers seeking to develop high-performance, sustainable buildings.

There are currently 5 versions of LEED available:

- LEED for New Construction and Major Renovations (LEED-NC) is designed to guide and distinguish high-performance commercial and institutional projects.
- LEED for Existing Buildings: Operations & Maintenance (LEED-EB) provides a benchmark for building owners and operators to measure operations, improvements, and maintenance.
- LEED for Commercial Interiors (LEED-CI) is a benchmark for the tenant improvement market that gives the power to make sustainable choices to tenants and designers.
- LEED for Core & Shell aids designers, builders, developers, and new building owners in implementing sustainable design for new core and shell construction.
- LEED for Schools recognizes the unique nature of the design and construction of K-12 schools. Based on the LEED for New Construction rating system, it addresses issues such as classroom acoustics, master planning, mold prevention, and environmental site assessment.

The LEED rating system defines the requirements, by category (listed above), needed to achieve points under each area. Projects earn one or more points toward certification by meeting or exceeding each credit's technical requirements. Points compute to a final score that relates to one of four possible levels of certification: LEED Certified, LEED Silver, LEED Gold, or LEED Platinum.

In the past nine years, over 1,753 projects have attained LEED certification and over 14,390 projects are registered and undergoing the LEED certification process. By 2010, approximately 10% of commercial construction starts were green. The green building products market is worth $30-$40 billion annually. Every business day, $464 million worth of construction registers with LEED, clearly illustrating the increasing popularity of environmentally sustainable building practices.

This document outlines the specific LEED credit areas impacted by flooring materials and systems, with a comparison of the key similarities and differences of all current rating systems.

How QT Can Apply to LEED

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 your 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 the following factors:

- Increased health and safety benefits of 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

How QT 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 you will obtain LEED credits. It is the combination and the weight of each that is critical.

QT Sound Insulation is designed to meet the stringent criteria required to help earn points under 2 of the 6 categories of LEED. Based on these criteria, QT products can assist specifiers by potentially contributing toward earning up to 7 LEED points in new construction and commercial interiors, and 9 LEED points in existing buildings.

LEED Credit areas Impacted by Flooring – NC 2.2 and CI 2.0

*Note: The following chart is from LEED NC 2.2 and CI 2.0. This will be updated accordingly for LEED 2012.

Category	Credit Title	Credit Number	Points Attainable
Materials & Resources	Construction Waste Management – 50-75%	MR 2.1-2.2	1-2
	Recycled Content – 10-20%	MR 4.1-4.2	1-2
	Local/Regional Materials – 50-75%	MR 5.1-5.2	1-2
Indoor Environmental Quality	Low-Emitting Materials - Adhesive	EQ 4.1	1

NC

LEED for New Construction and Major Renovations is designed to guide and distinguish high performance commercial and institutional projects.

LEED Credit areas Impacted by Flooring – Existing Buildings 2.0

*Note: The following chart is from LEED EB 2.0. This will be updated accordingly for LEED 2012.

Category	Credit Title	Credit Number	Points Attainable
Materials & Resources	Construction, Demolition and Renovation Waste Management – 50-75%	MR 1.1-1.2	1-2
	Optimized Use of Alternative Materials - 10-50%	MR 2.1-2.2	5
	Optimized Use of IAQ Compliant Products – 45-90%	MR 3.1-3.2	1-2

CI

LEED for Commercial Interiors is a benchmark for the tenant improvement market that gives the power to make sustainable choices to tenants and designers.

LEED Credit areas Impacted by Flooring – Schools 2009

*Note: The following chart is from LEED Schools 2009. This will be updated accordingly for LEED 2012.

Category	Credit Title	Credit Number	Points Attainable
Materials & Resources	Construction Waste Management – 50-75%	MR 2	1-2
	Recycled Content	MR 4	1-2
	Low-Emitting Materials – Adhesives and Sealants	IEQ 4.1	1
	Enhanced Acoustical Performance	IEQ 9	1

EB

LEED for Existing Buildings: Operations & Maintenance provides a benchmark for building owners and operators to measure operations, improvements, and maintenance.

Schools

LEED for Schools recognizes the unique nature of the design and construction of K-12 schools. Based on the LEED for New Construction rating system, it addresses issues such as classroom acoustics, master planning, mold prevention, and environmental site assessment.

Definition of LEED-NC Credits MR 2.1 & MR 2.2:

MR 2.1 … (1 point)
- Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or commingled. Calculations can be done by weight or volume, but must be consistent throughout.

MR 2.2 … (1 point in addition to MR 2.1)
- Recycle and salvage an additional 25% beyond MR 2.1 (75% total) of non-hazardous construction and demolition debris.

Definition of LEED-EB Credits MR 1.1 & MR1.2:

MR 1.1 … (1 point)
- Divert at least 50% of construction, demolition, and land-clearing waste from landfill and incineration disposal.

MR 1.2 … (1 point in addition to MR 2.1)
- Divert at least 75% of construction, demolition, and land-clearing waste from landfill and incineration disposal.

How QT can contribute:

- All QT selvages and overages can be packaged and shipped back at the owner's expense to ECORE's Redeux Reclamation Program in Lancaster, PA.

- All old QT 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 contaminates, including stones, wood, concrete, asphalt, etc. Materials accepted into the Redeux program will be sorted, shredded, cleaned and ground for the next generation of recycled rubber flooring, underlayment and industrial products.

For more information on ECORE's Redeux program, including application and requirements, please email redeux@ecoreintl.com or visit our website at www.ecoreintl.com.

Potential Strategies:

Establish goals of diversion from disposal in landfills, incineration facilities, and adopt a construction waste management plan to achieve these goals.

Consider recycling cardboard, metal, brick, rubber, mineral fiber panel, concrete, plastic, clean wood, glass, gypsum wallboard, carpet, and insulation. Designate a specific area on the construction site for segregated or commingled collection of recyclable materials, and track recycling efforts through the construction process.

Definition of LEED-NC Credits MR 4.1 & MR 4.2:

MR 4.1 … (1 point)
- Use materials with recycled content such that the sum of post-consumer recycled content plus one half (the value of) the pre-consumer content constitutes at least 10% of the total value of the materials in the project.

- The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total value of the item.

MR 4.2 … (1 point in addition to MR 4.1)
- Use materials with recycled content such that the sum of post-consumer recycled content plus one half (the value of) the pre-consumer content constitutes at least 20% of the total value of the materials in the project.

Definition of LEED-EB Credits MR 2.1 - MR 2.5:

Maintain a sustainable purchasing program covering at least office paper, office equipment, furniture, furnishings, and building materials for use in the building and on the site. A template calculator will be provided for LEED for Existing Buildings MR Credit 2.1–2.5. One point (up to a maximum of five) will be awarded for each 10% of total purchases over the performance period (on a dollar basis) that achieves at least one of the following sustainability criteria:

- Contains at least 70% salvaged material from off site or outside the organization.
- Contains at least 70% salvaged from on site through an internal organization materials & equipment reuse program.
- Contains at least 10% post-consumer or 20% post-industrial material.
- Contains at least 50% rapidly renewable materials.
- Is Forest Stewardship Council (FSC) certified wood.
- Contains at least 50% materials harvested and processed or extracted and processed within 500 miles of the project.

Note: In calculating the percentage of purchases over the performance period conforming to the requirements, each purchase can only receive credit against a single requirement (i.e., a purchase that contains both 10% post-consumer recycled content and is harvested within 500 miles of the project counts only once in this calculation).

How QT can contribute:

QT is comprised of shredded and cleaned SBR tire rubber (post-consumer waste) and EPDM flecks. The result is a polymerically bound insulation with very high-recycled content.

Recycled content is defined in accordance with the International Organization for Standardization® document, ISO 14021 – Environmental labels and declarations:

- Post-consumer material – waste materials diverted from the waste stream after consumer or commercial use.

- Pre-consumer material – materials diverted from the waste stream during the manufacturing process. Excluded is regrind, rework, or scrap.

Potential Strategies:

Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed and quantify the total percentage of recycled content materials installed.

QT Recycled Content

	Product	Thickness	Post-Consumer Content
Rolls	QTscu	5mm	94%
		10mm	94%
	QTrbm	6mm	92%
		10mm	92%
		17mm	92%
		25mm	92%

Definition of LEED-NC Credits MR 5.1 & MR 5.2:

MR 5.1 … (1 point)

- 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 material value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

MR 5.2 … (1 point in addition to MR 5.1)

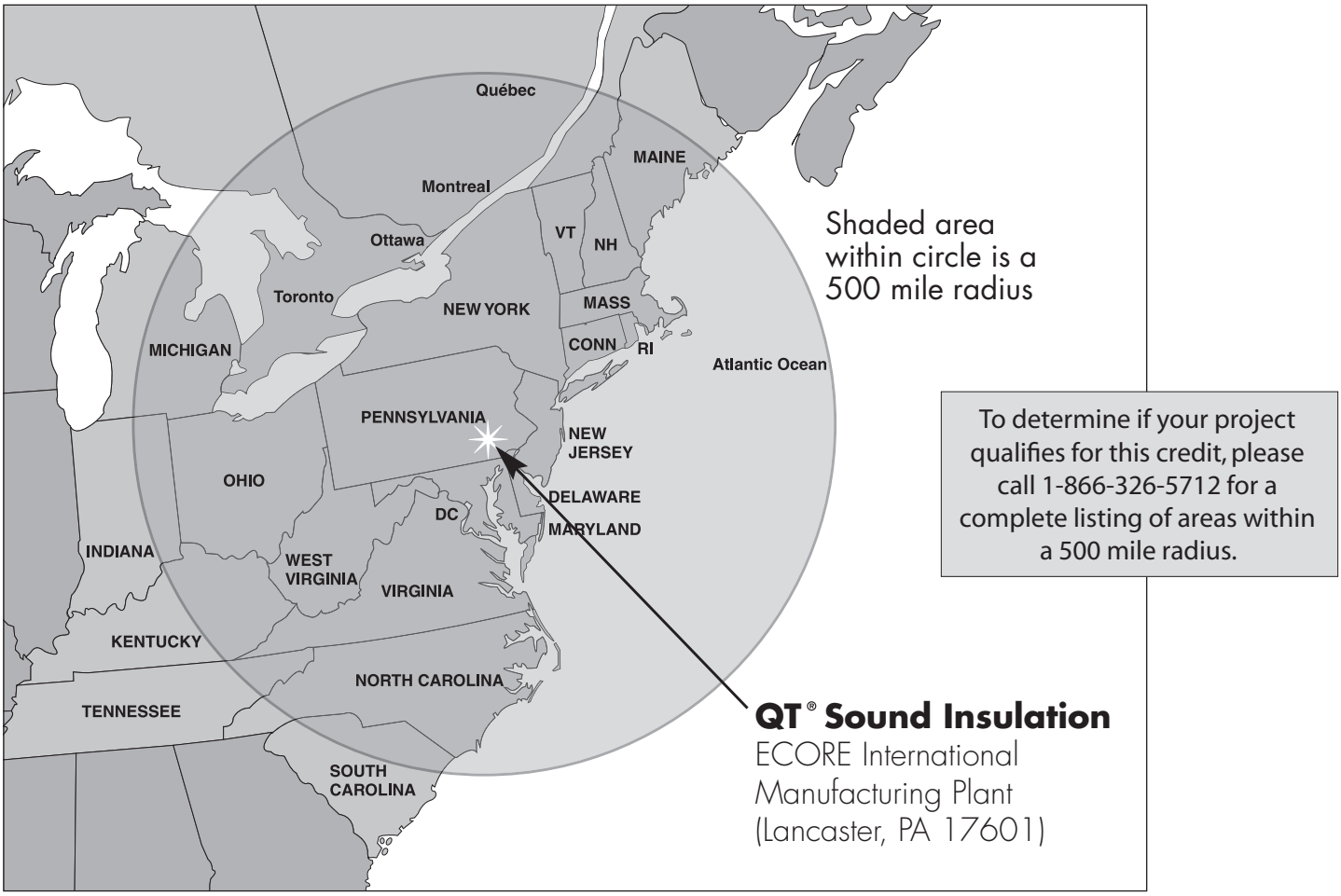
- Same as above but with a minimum of 20% of the total material value.

How QT can contribute:

QT Sound Insulation is manufactured in Lancaster, PA. All product components, including both SBR and EPDM rubber are manufactured on-site.

Potential Strategies:

Establish a project goal for locally sourced materials and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed.



Definition of LEED-NC Credit EQ 4.1:

EQ 4.1… (1 point)
- Adhesives and sealants must be lower than the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168.

Definition of LEED-EB Credits EQ 3.1 - EQ 3.2:

Optimize use of air quality compliant materials inside the building to reduce the emissions from materials used in the building. Points are awarded for the existence of product purchasing policies for the building and site addressing the requirements of this credit and documentation of purchasing during the performance period in conformance with those policies, as described below. Subsequent re-certification is tied to both polices and purchasing performance, as described below. At a minimum, these policies must include the following product groups: paint and coatings, adhesives, sealants, carpet, composite panels, and agrifiber products. The building materials covered include any building materials covered by letters a.-e. listed below that are used for improvements, including upgrades, retrofits, renovations, or modifications, inside the building.

One point shall be awarded, up to a maximum of 2 points, for each 45% of annual purchases calculated on a cost basis that conform to one of the following sustainability criteria:

a. Adhesives and sealants with a VOC content less than the current VOC content limits of South Coast 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.

OR

b. Paints and coatings with VOC emissions that do not exceed the VOC and chemical component limits of Green Seal's Standard GS-11 requirements.

OR

c. Carpet that meets the requirements of the CRI Green Label Plus Carpet Testing Program.

OR

d. Carpet cushion that meets the requirements of the CRI Green Label Testing Program.

OR

e. Composite panels and agrifiber products that contain no added urea-formaldehyde resins.

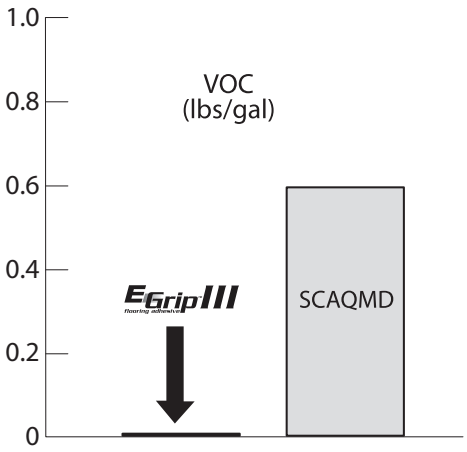
How QT can contribute:

E-Grip III, a revolutionary zero-VOC adhesive (SCAQMD) Rule #1168. The low odor, one-component urethane adhesive is formulated for use with indoor and outdoor applications. Easy to trowel and apply, its moisture-cured, no-mix formula provides excellent adhesion to elastomers, concrete, and wood. The product is solvent free, anti-microbial, and has a 12 month shelf life.

The zero-VOC content of E-Grip III is far less than that which is required by the California South Coast Air Quality Management District (SCAQMD) Rule #1168 for adhesive flooring and sealant applications, the most demanding standard in the U.S.

Potential Strategies:

Specify low-VOC materials in construction documents. Ensure that VOC limits are clearly stated in each section where adhesives and sealants are used. Review product cut sheets, MSDS sheets, signed attestations, or other official literature from the manufacturer clearly identifying the VOC contents or compliance with referenced standards.



E-Grip III: Recycled Rubber Flooring Adhesive

PHYSICAL DATA			
Adhesive Type:	Single component polyurethane	**Moisture Vapor Emission of Concrete Floor**:	Maximum 5.5 lbs per ASTMF 1869
Color:	Gray		
Antimicrobial:	Yes	**Flashpoint:**	> 500˚F
Adhesive Cure System:	Moisture-cured	**Shelf Life:**	12 Months
VOC Content:	0 (calculated) lbs/gal	**Working Time:**	30-40 mins
Solvents:	0 (calculated) lbs/gal	**Trowel:**	1/16" x 1/16" x 1/16" square notch
Freeze/Thaw Stability:	Stable	**Coverage:**	95 sq ft/gal - 1/16" notched trowel
Application Temp:	40˚F to 100˚F		

The Key Differences and Similarities of LEED Rating Systems

LEED 2009 is a new version of the rating system that delivers against key environmental and human health impacts, and puts in place a transparent framework for weighting credits accordingly, based on the best available science. LEED 2009 consists of credit alignment and harmonization; transparent environmental and human impact credit weighting; regionalization; and a predictable development cycle. The organizational structure now being used to manage LEED makes many of the credits congruent across all rating systems. The following chart outlines the similarities and differences between the various LEED rating systems.

LEED - New Construction 2009 (NC)	LEED - Commercial Interiors 2009 (CI)	LEED - Existing Buildings 2009 (EB)
General		
Applies to whole buildings	Applies to tenant improvements of new or existing office space	Applies to facility management policies and measured performance
Materials and Resources		
MR Credit 2: Construction Waste Management - 1-2 pts. **1 point** - 50% of construction debris diverted from landfills **1 additional point** - 75% of construction debris diverted from landfills	**MR Credit 2: Construction Waste Management - 1-2 pts.** Same requirements as LEED-NC Credit MR 2	**MR Credit 3: Sustainable Purchasing - Facility Alterations and Additions - 1 pt** 50% of total purchases achieving at least one of the criteria on the sustainability list during the performance period Points may be earned through at least one of the following criteria: - Purchases contain at least 10%post consumer and/ or 20% postindustrial material - Adhesives meet VOC content limits of South Coast Air Quality Management District
MR Credit 4: Recycled Content - 1-2 pts. **1 point** - 10% of total project materials, by cost, contain recycled content (post + 1/2 pre-consumer) **1 additional point** - 20% of total project materials, by cost, contain recycled content (post + 1/2 pre-consumer)	**MR Credit 4: Recycled Content - 1-2 pts.** Same requirements as LEED-NC MR Credit 4	
MR Credit 5: Regional Materials - 1-2 pts. **1 point** - 10% of building materials or products used are extracted, harvested, recovered, or manufactured within 500 miles of the project site **1 additional point** - 20% of building materials or products used are extracted, harvested, recovered, or manufactured within 500 miles of the project site	**MR Credit 5: Regional Materials - 1-2 pt.** **1 point** - Option 1: 20% minimum of construction and Division 12 (Furniture) materials and products used are manufactured within 500 miles of the project site **1 additional point - Or - Option 2:** Meet requirements of option 1 and 10% minimum of construction and Division 12 (Furniture) materials used are extracted, harvested, recovered, or manufactured within 500 miles of the project site	**MR Credit 9: Solid Waste Management - Facility Alterations and Additions - 1 pt** Divert 70% of waste by volume generated by facility alteration and additions from disposal to landfills and incineration facilities
Indoor Environmental Quality		
IEQ 4.1: Low Emitting Materials: Adhesives and Sealants - 1 pt. Adhesives meet VOC limits for South Coast Air Quality Management District (SCAQMD)	**EQ 4.1: Low Emitting Materials: Adhesives and Sealants - 1 pt.** Same requirements as LEED-NC IEQ Credit 4.1	
IEQ 4.3: Low Emitting Materials: Flooring Systems - 1 pt. **Option 1:** All hard surface flooring must meet the requirements of the FloorScore standard **Or - Option 2:** All interior flooring elements must meet the 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, including 2004 Addenda.	**EQ 4.3: Low Emitting Materials: Flooring Systems - 1 pt.** Same requirements as LEED-NC IEQ Credit 4.3	

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QT Sound Insulation is a line of high quality sound control underlayment manufactured in the U.S.A. by ECORE International, a leading innovator in recycled products technology. QT is made from 92% recycled rubber and has been tested in over 200 different laboratory and field test assemblies. QT has been proven to repeatedly perform as engineered to meet design requirements. The product and engineering support that is provided by QT Sound Insulation guarantees that QT will work as specified, every time.

All QT products are engineered with high durability to withstand foot traffic, pouring equipment, and materials.

ECORE International

ECORE International, manufacturer of QT Sound Insulation was founded in 1989. Located in Lancaster, PA, ECORE is the largest user of scrap tire rubber in North America and annually recycles over 80 million pounds of scrap tire rubber, helping to conserve more than 1 million barrels of oil to make viable solutions for the commercial, consumer, and industrial markets.

ECORE is committed to operating its business and facilities in a manner that use resources wisely and protects the quality of the environment and the health and safety of associates, families, and the community. The company is actively affiliated with the U.S. Green Building Council, American Society of Testing Materials, and Building for Environmental and Economic Sustainability run by the US National Institute of Standards and Technology.

For more information on QT Sound Insulation, call 1-866-326-5712
or visit **www.qtsoundcontrol.com**

Manufactured in the U.S.A. by:

ecore™
INTERNATIONAL

QT4019-0711