

LEED Product Review
Crumb Rubber Mulch
Heffco Elastomers Inc, Simcoe ON





October 17, 2012

Mr. Dan Heffernan
Heffco Elastomers Inc.
P.O. Box 7, 147 First Ave
Simcoe, Ontario N3Y 4K8

Re: LEED Product Review – Heffco Crumb Rubber Mulch

Dear Mr. Heffernan,

We are pleased to provide you with our LEED Product Review for Heffco Elastomers Inc. We hope the findings and solutions presented in this report will empower you to market a product that not only has lower ecological impacts and manufacture costs, but also is primed to be integrated into the LEED building certification process.

Our analysis indicates that the Crumb Rubber Mulch has many excellent features and manufacturing processes that will position it well for the LEED certification system. The rating system strives to balance environmental responsibility, resource efficiency, user comfort and well-being, and the economics of building. It includes all stakeholders in an integrated development process. This process results in a high-quality product that maximizes the owner's return on investment.

Identifying LEED-friendly product features, presented in more detail below, translates to increased product marketability, positioning the product for use in LEED buildings and other forward-thinking environmentally conscious projects.

Ecovert would like to thank Heffco Elastomers Inc. for the opportunity to further develop our professional relationship and assist you in identifying the strategies and solutions required to advance Heffco Elastomers Inc. in the green marketplace.

Best Regards,

Jim Lord BBA, FCIP, LEED AP, SMaRT AP
Principal
Ecovert Corporation



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1.0 Executive Summary

Ecovert was retained by Heffco Elastomers Inc to conduct a LEED Product Review for it's Crumb Rubber Mulch. The objective of the LEED Product Review is to determine the product's applicability to the LEED Rating System, and to put forth potential strategies for increased product applicability in green infrastructure projects.

The LEED Product Review of Crumb Rubber Mulch provides an in-depth analysis of findings from the product appraisal, and documentation provided by Heffco Elastomers Inc.. In our report we have outlined the available LEED Rating Systems, and the credits within these systems which pertain to building products. Our findings are intended to assist Heffco Elastomers Inc. in aligning its products with opportunities to gain points in a LEED system.

The LEED Rating Systems are rigorous standards that enable buildings to stand out through demonstrating their environmental excellence. The recommendations provided below identify opportunities for Crumb Rubber Mulch to contribute to LEED certification in building projects, but are not a guarantee; to achieve these benefits, product teams must work with the project's integrated design team to ensure LEED credit requirements are met.

2.0 LEED and Building Products

2.0 LEED Overview

Since the Canada Green Building Council's (CaGBC) inception in 2002, the LEED (Leadership in Energy and Environmental Design) rating system has become the industry standard for environmental building design. The LEED Rating System is a comprehensive, voluntary design and assessment tool which helps architecture, engineering, and construction professionals improve building efficiency and measure the sustainability of their projects.

LEED certification showcases environmental commitment and provides the necessary tools for an immediate, measurable impact on building performance. LEED promotes a whole-building approach to sustainability by recognizing performance in six key areas of human and environmental health: sustainable site development, water savings, energy efficiency, conservation of materials and resources, indoor environmental quality, and innovation in design.

LEED projects are unique as they incorporate economic, environmental and social goals into the building design, construction and operation. This approach can achieve a positive impact on triple bottom line – economic, environmental and social – asset performance.

Each program shares a common set of sustainable criteria for demonstrating excellence in sustainable buildings and is tailored to meet the needs of landlords and tenants. The following is a review of each program and an assessment of how these rating systems incorporate sustainable products.

2.1 Product Recognition in LEED

The LEED System recognizes that for a building to be truly sustainable, the products used within the building must also be environmentally and socially responsible. While there are a multitude of different products used in building construction and operations, the LEED system has identified key product attributes that contribute to a healthy and sustainable building. Products that excel in these attributes help buildings receive additional points toward a LEED rating. Each rating system – whether for new buildings, existing buildings, homes, etc – recognizes different product attributes. Some common sustainable product attributes recognized by LEED are:



Crumb Rubber Munch

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- Low-emitting materials (low in VOCs, formaldehyde, particulates)
- Recycled content
- Greenguard-certified furniture
- Carpet and Rug Institute – Green Label Program
- Low-flow water fixtures

The following section describes each rating system in more detail, and outlines the rating system's requirements for sustainable products and the credits products may affect.

2.2 CaGBC LEED Rating Systems

2.2.1 LEED Canada for Green Building Design and Construction 2009

The CaGBC LEED NC 2009 rating system is designed to distinguish high-performance, environmentally efficient new construction or significantly renovated commercial and residential building developments.

LEED NC 2009 Highlights for Products:

- Rewards buildings for including products with high recycled content, regional content, rapidly renewable material content, and certified wood content.
- Buildings receive credit for low-emitting products including paints, coatings, carpet, adhesives, sealants, and wood and laminate products.
- Technologies that reduce stormwater run-off, light pollution, water use, heat island effect, and erosion recognized.

2.2.2 LEED Canada for Existing Buildings: Operation and Maintenance 2009

The CaGBC LEED EBOM 2009 rating system is designed to give owners of existing buildings an opportunity to validate excellence in best sustainable practices to compete with newer LEED NC buildings.

LEED EBOM 2009 Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
- Green Cleaning products emphasized.
- Continuous purchasing of sustainable products is encouraged.
- Credit for low-mercury lamps.

2.2.3 LEED Canada for Commercial Interiors 2009

The CaGBC LEED CI rating system is designed for tenants who do not have the ability to make alterations to base building systems and wish to pursue LEED certification.

LEED CI Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
- Sustainable furniture receives credit.
- Like LEED NC 2009, LEED CI rewards buildings for choosing products with high recycled content, regional content, rapidly renewable material content, and certified wood content.

- Buildings receive credit for low-emitting products, including paints, coatings, carpet, adhesives, sealants, and wood and laminate products.

2.2.4 LEED ND 2009: Neighbourhood Development

The CaGBC LEED ND 2009 rating system is based on principles of smart growth, New Urbanism, and green infrastructure and building, and targets neighbourhoods with many buildings rather than single plots.

LEED ND 2009 Highlights for Products:

- Points give credit for whole site initiatives (stormwater, heat island, light pollution).
- Recognizes recycled content in infrastructure.
- Combines infrastructure and green buildings – larger scale, greater opportunities for products.

2.2.5 LEED Homes

The CaGBC LEED Homes rating system allows homeowners to demonstrate their personal commitment to green building,

LEED Homes Highlights for Products:

- Several points available for environmentally preferable products.
- Credit for surface water control, nontoxic pest control, reducing heat island effect, and reducing water use.
- Increased opportunity for energy-saving products:
 - Windows
 - Appliances
 - Lighting
 - Insulation
 - Space heating equipment

2.3 USGBC LEED Rating Systems

2.3.1 LEED 2009 for Schools

The USGBC LEED 2009 for Schools rating system is designed with special consideration to the needs of all types of learning communities.

LEED for Schools Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
 - Increased consideration to products with exemplary indoor environmental quality attributes.
 - Recognition of product acoustic features.
 - Attention given to mould prevention in building products.
-

2.3.2 LEED 2009 for Retail: New Construction

The USGBC LEED 2009 for Retail rating system is designed for any retail building, including restaurants, apparel, grocery, banks, etc. Consideration is given to the unique space types, hours of operation, transportations concerns, and energy and water consumption patterns of retail operations.

LEED Retail Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
 - Rewards buildings for including products with high recycled content, regional content, rapidly renewable material content, and certified wood content.
 - Buildings receive credit for low-emitting products, including paints, coatings, carpet, adhesives, sealants, wood and laminate products, and ceiling/wall materials.
-

2.3.3 LEED 2009 for Retail: Commercial Interiors

The USGBC LEED 2009 for Retail rating system is targeted for tenant spaces in any retail building, including restaurants, apparel, grocery, banks, etc.

LEED Retail Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
 - Credit for use of Energy Star appliances and efficient lighting.
 - Rewards buildings for including products with high recycled content, regional content, rapidly renewable material content, and certified wood content.
 - Buildings receive credit for low-emitting products, including paints, coatings, carpet, adhesives, sealants, wood and laminate products, and ceiling/wall materials.
-

2.3.4 LEED 2009 for Healthcare: New Construction and Major Renovations

The USGBC LEED 2009 for Healthcare rating system targets new construction of healthcare facilities, specifically formulated to consider the health and well-being of healthcare patients and workers.

LEED 2009 for Healthcare Highlights for Products:

- Similarly to LEED NC 2009 above, products reducing water use, heat island effect, stormwater run-off, and light pollution are recognized.
 - Water use reductions in building equipment and food production recognized.
 - Materials without lead, cadmium, and copper – and lamps without mercury – are rewarded.
 - Use of low-emitting materials gains points.
 - Acoustic design and product features are recognized.
-

3.0 Product Profile

3.1 Project Summary & Scope

Heffco Elastomers Inc. produces Crumb Rubber Mulch products made from recycled tires in their manufacturing facility based in Toronto, Ontario.

3.2 Product & Company

The product is manufactured at 147 First Ave in Simcoe, ON, Canada and consists of 97% recycled rubber. The Crumb Rubber Mulch product is intended for use in outdoor landscaping.

The product's primary LEED-recognized attributes are its incorporation of recycled tire crumb and its regionally-located manufacturing facility. Heffco Elastomers Inc's products contain a very high recycled content with 97% of its total made up of recycled Ontario rubber tires. It may potentially contribute to regional content as well, depending on the location of the LEED project site and its proximity to the manufacturing facility. These qualities allow the product to not only contribute to decreasing the impact of the building's environmental footprint, but to also improve building occupant and environmental health.

3.3 Product Usage

The Heffco Elastomer product is intended for use as mulch in outdoor landscaping.

4.0 LEED Synergies for Heffco Elastomers Inc

Our analysis of Heffco Elastomers Inc. Recycled Tire Products suggests that the product features are compatible with a variety of LEED requirements and can contribute to multiple LEED credits over various rating systems. There are many opportunities to integrate the product with the LEED certification program, specifically with: LEED for New Construction, LEED for Commercial Interiors, LEED for Healthcare, LEED for Schools, and LEED for Retail, both NC and CI. The following credits apply specifically to the product:

Credit	Pts	Credit Name	Rating System	Relevance to Product
LEED Canada for Green Building Design and Construction 2009				
MRc4.1, 4.2	2	Recycled Content, 10-20%	LEED NC 2009	Recycled content
MRc5.1, 5.2	2	Regional Content, 20-30%	LEED NC 2009	Regional-sourced content
LEED Canada for Commercial Interiors 2009				
MRc4.1, 4.2	2	Recycled Content, 10-20%	LEED CI 2009	Recycled content
MRc5.1, 5.2	2	Regional Materials, 20-30%	LEED CI 2009	Regional-sourced content
LEED 2009 for Healthcare: New Construction and Major Renovations [USGBC]				
MRc3	4	Sustainably Sourced Materials and Products	LEED 2009 for Healthcare	Recycled, reused, or rapidly renewable content
LEED for Schools 2009 [USGBC]				
MRc4	2	Recycled Content, 10-20%	LEED 2009 for Schools	Recycled content
MRc5	2	Regional Materials, 20-30%	LEED 2009 for Schools	Regional-sourced content

For recycled content credits:

- The sum of post-consumer recycled content plus 1/2 of the pre-consumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials that make up Divisions 2-10 of the project. Include only materials permanently installed in the project.
- The recycled content value of a material assembly is determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

For regional materials credits, 20% or 30% of the total cost of the materials from Divisions 2-10 in the project must be:

- Building materials or products that have been extracted, harvested, recovered, and processed within 800km (by truck) or 2400km (by rail or sea) of the final manufacturing site. Demonstrate that the final manufacturing site is within the applicable boundaries of the project site for these products.
- If only a fraction of the product/material is extracted, harvested, recovered, processed, and manufactured locally, then only that percentage (by weight) must contribute to the regional value. Should 80% of the product be extracted and manufactured within the applicable boundaries, then the entire product may be used in the calculations for regional materials.

5.0 Recommendations Synergies for Heffco Elastomers Inc

In order to improve the LEED paperwork for your product we recommend that you include the percentage of recycled content in your product brochure as well as indicate your manufacturing address.

It is our understanding that the tire crumb is sourced from a number of Ontario locations. For Ontario projects any of these locations would help your products to contribute to the regional extraction credit. We would therefore recommend that you include your main suppliers address on your LEED Letter.



6.0 Sample LEED Credit Support Documentation Letter

Company Letterhead & Logo

Date

To Whom It May Concern,

Re: Crumb Rubber Mulch

Heffco Elastomers Inc produces cost effective and environmentally friendly alternatives to traditional materials used in a variety of industrial, recreational, landscaping, commercial and municipal applications.

We use only the highest quality materials to ensure a superior product. Our rubber crumb rubber mulch landscaping products contain a minimum of 97% of post-consumer recycled content materials.

Our manufacturing facility is located in Simcoe, Ontario at 147 First Avenue and is transported by truck to the project site. More than 97% of the assembled product consists of recycled crumb rubber which is produced at:

% of Product From Following Location	Point of Extraction	Distance Between Extraction and Manufacture Locations	Method of Transport
97%	Enter Location	1,500 km	Truck

Please feel free to contact me at phone number if you have any questions regarding this product and its recycled or regional content.

Sincerely,

SIGNATURE

Printed name, title, Heffco Elastomers Inc

CC: full names (if required)