

CONSTRUCTION WASTE MANAGEMENT & THE LEED RATING SYSTEM



The LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. It is a self-assessing measurement tool, based on a point system, which focuses on a number of design and construction strategies aimed at reducing a building's environmental footprint. The rating system is divided into five environmental categories with opportunities for innovation credits as well. The accumulation of credits or points, awarded for compliance with requirements defined by the rating system, determines the level of certification of that building – certified, silver, gold, or platinum. For more information about the U.S. Green Building Council and to access the complete LEED rating system and updates, please visit www.usgbc.org.

Carpet specifications may impact the following credits: Construction Waste Management, Recycled Content, Local/Regional Materials, Rapidly Renewable Materials, and Low-emitting Materials: Carpet. This data sheet addresses Construction Waste Management credits. For the purpose of this data sheet, NC refers to LEED for New Construction version 2.1, CI refers to LEED for Commercial Interiors (pilot draft), EB refers to LEED for Existing Buildings (pilot draft), and CS refers to LEED for Core and Shell (pilot draft)

This document has been assembled to aid in the specification of a carpet reclamation program and the subsequent calculation and documentation of credit requirements for the LEED rating system.

Construction Waste Management Credit Intent:

The intent of the Construction Waste Management Credit is to divert construction, demolition and land clearing debris from landfill disposal; to redirect recyclable recovered resources back to the manufacturing process; and to redirect reusable materials to appropriate sites.

The INVISTA™ reclamation program will reclaim all types of carpet fibers and carpet constructions regardless of the manufacturer—and *nothing* goes to the landfill. This program is independently certified by Scientific Certification Systems.

Resource and Materials Credit 2.1: 50% Diverted from Landfill 1 Point



Requirement: Develop and implement a waste management plan, quantifying material diversion goals. Recycle and/or salvage at least 50% of construction, demolition and land clearing waste. Calculations can be done by weight or volume, but must be consistent throughout.



Requirement: Develop and implement a waste management plan, quantifying material diversion by weight or volume, but consistently throughout. Divert at least 50% of construction, demolition and packaging waste.

Resource and Materials Credit 2.2: 75% Diverted from Landfill 1 Point



Requirement: Develop and implement a waste management plan, quantifying material diversion goals. Recycle and/or salvage an additional 25% (75% total) of construction, demolition and land clearing waste. Calculations can be done by weight or volume, but must be consistent throughout.



Requirement: Develop and implement a waste management plan, quantifying material diversion by weight or volume, but consistently throughout. Recycle and/or salvage at least 75% total of construction, demolition and packaging waste.



Resource and Materials Credit 2: 75% Diverted from Landfill 1 Point

Requirement: Develop and implement a waste management specification for any future building retrofits, renovations or modifications on the site that requires qualification of material diversion by weight. Recycle and/or salvage at least 75% (by weight) of any construction, demolition and land clearing waste (if applicable).

Referenced Standards

There is no standard referenced for this credit.

Calculations

To facilitate calculation and documentation, a spreadsheet is provided in the LEED Letter Template to calculate the percentage and weight of recycled and/or salvaged materials diverted from the landfill. The following calculations support that spreadsheet.

Track the weights of construction wastes that are landfilled and the weight of construction wastes that are recycled. To calculate the recycling percentage use the following equation:

$$\text{Recycling (\%)} = \frac{\text{Recycled Waste (tons)}}{\text{Recycled Waste + Landfilled Waste (tons)}} \times 100$$

Example:

Recycled Waste:	(tons)	Landfilled Waste	(tons)
Concrete	265.0	Misc. Landfilled Waste	87.5
Land clearing debris	102.5	TOTAL	87.5
Wood	41.2		
Masonry	23.7		
Gypsum wallboard	28.4		
Cardboard	15.8		
Steel	7.1		
Furniture	5.9		
Carpet	11.7		
Acoustical ceiling tile	9.4		
TOTAL	510.7		

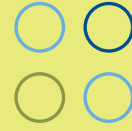
Calculations:	
Recycling (%) =	$\frac{510.7}{510.7 + 87.5}$
Rate	85%
85% recycling rate qualifies for all points	
Contribution of reclaimed carpet = 1.9%	

Average weight of carpet by carpet type:

Because face weights and backing types vary by product, use the following chart for estimates only. The estimated weight is an average based on carpet type and secondary backing.

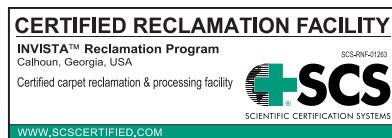
Carpet type	Secondary backing	lbs/sq. yd.
Broadloom	Woven polypropelene/latex	5.0
Broadloom	Urethane Foam	5.63
Broadloom	Hot Melt	5.2
Broadloom	Jute	4.22
Modular Tile	PVC	9.14

Most credits in the Material & Resource category are calculated using a percentage of total building materials. The specification of carpet alone is not likely to earn a point for construction waste management; rather, it may contribute to credit earning potential. Carpet may have a significantly greater impact on LEED-CI construction waste management contributions due to the scope of Commercial Interiors projects.



INVISTA™ reclamation program

In 1991, INVISTA™ initiated a program to find new ways to put used carpet back to work. To date, the INVISTA™ reclamation program has collected and recycled more than 100 million pounds of used carpet and has saved over 300,000 cubic yards of landfill space. In June of 2002, the INVISTA™ reclamation program received third-party certification as a viable solution for recycling used carpet.



With collection centers located in major cities throughout North America, trained installers carefully remove the old carpet and place it in a reclamation container. When enough carpet is collected to fill a 53-foot truck trailer, it is sent to our reclamation facility in Calhoun, GA for recycling. It's guaranteed: No reclaimed carpet will be sent to a landfill, regardless of the manufacturer, type of fiber or how it was constructed.

You will receive a written guarantee and chain of custody verification that the reclaimed carpet will not be disposed of in a landfill.

Request a Quote

When using an INVISTA™ affiliated service provider, carpet reclamation is included in the installation quote. A line item will appear as part of your removal and disposal fees.

In cases where new installation is unnecessary, an INVISTA™ affiliated service provider can simply provide a quote for removal and reclamation of carpet. Your service provider will need to know the following information:

- Project location
- Square yard estimate of carpet to be reclaimed
- Schedule for removal process

To locate an INVISTA™ affiliated service provider or to learn more about carpet reclamation visit antron.invista.com or call 1-877-5-ANTRON.

Specification

Long and short form carpet reclamation specifications are available for download at antron.invista.com. The reclamation specification-short form is shown below.

SECTION 01350 CARPET RECLAMATION SPECIAL PROJECT PROCEDURES - CARPET RECLAMATION

SPEC NOTE:

This section specifies requirements for removal and recycling used carpet and scrap from new installation. Preparation of existing substrate should be specified in Section 09680

1.1 SUMMARY

- A. Objective: The environmental objective of this Project is to produce a [building] [project] which enhances the health and well being of its occupants, while minimizing exposure to materials or products which may be injurious to the installers and occupants. Another objective is to minimize environmental burdens throughout the life cycle of the [office space] [work environment] that have affect on a local, regional and/or global scale.
- B. Reclamation Agency: The Invironmentalists™, or approved vendor, providing used carpet recycling under the INVISTA™ Reclamation Program, formerly the DuPont™ Carpet Reclamation® program.

1.2 SUBMITTALS

- A. Certification: Reclamation Agency and Carpet Remover shall certify in writing that used carpet was removed and recycled in accordance with the INVISTA™ Reclamation Program.
- B. [U. S. Green Building Council, LEED, version (___): Conform to all applicable requirements, documentation and verification needed for submission and as approved by Architect of Record.]

2.1 Adhesive Removal Solvents: Comply with Carpet and Rug Institute Publication 104.

- 3.1 Remove used carpet in large pieces, roll tightly, and pack neatly in container. Remove adhesive according to recommendations of the Carpet and Rug Institute (CRI).
- 3.2 Deposit only clean, dry used carpets in containers. When available, include scrap and waste from new installation. Clean shall be defined as carpet free from demolition debris or asbestos contamination, garbage, and tack strips.
- 3.3 Place used carpet in container supplied by reclamation agency. Place only used commercial carpeting in collection container. Keep container locked or supervised. Maximize the amount of material in the container. Neatly stack carpet tiles or repack in cardboard boxes prior to placing in container.
- 3.4 Sealing doors and other openings with duct tape at head, jamb, and sill may contain contaminants from work that occurs within a single room. Use window exhaust systems to establish negative pressure in contaminant producing work area, ensuring continuous flow of air into work area. Seal exhaust system ductwork that might leak into building or mechanical systems.

General Disclaimer

While every effort has been made to ensure that the information contained within these specifications is comprehensive and accurate, INVISTA™ and The Environmentalists™ will not accept any liability for omissions or errors, and disclaim any and all liability that may be claimed arising out of reliance upon the information presented in these specifications. The user acknowledges that any reliance upon these specifications is at their sole risk and discretion. Neither INVISTA™ nor The Environmentalists™ has any obligation to correct any error or omission in any portion of these specifications. INVISTA™ and The Environmentalists™ make no representations concerning suitability or fitness for use of these specifications and expressly disclaim any and all warranties, express or implied, including without limitation warranties of fitness for a particular purpose.

Beyond single environmental attributes . . .

The strongest environmental statement any one of us can make is to specify products that are durable and can be used longer. It is important to remember that "sustainability" by definition is any practice that would ensure the continued viability of a product well into the future. A carpet of Antron®, the most specified brand of carpet fiber, is engineered to look and perform better for a longer period of use than any other carpet. This performance yields the best life cycle and lowest total environmental impact.



All Antron® BCF carpet fiber is certified as an Environmentally Preferable Product (EPP). Environmentally Preferable Products are defined by the 1998 Executive Order 13101 as a product that has a lesser or reduced effect on human health and the environment when compared to other products that serve the same purpose. The EPP standard is based on EPA guidelines and ISO standards. Critical factors in this certification are product performance, total environmental impact, use of green energy, safety and health in manufacturing and use, and end-of life responsibility.

**For more information call
1.877.5.ANTRON or visit us at antron.invista.com**

Environmentally Preferable Products, established by Executive Order 13101, are certified by Scientific Certification Systems as having a lesser or reduced effect on health and the environment when compared with competing products that serve the same purpose. Antron® is a registered trademark for carpet fiber.
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