

NSF/ANSI 140-2007e

# Sustainable Carpet Assessment Standard

## Guidance Manual

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This Guidance Manual was developed to assist manufacturers to prepare for certification to the NSF/ANSI 140-2007e Sustainable Carpet Assessment Standard. Inquiries regarding its use can be directed to:

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<http://www.carpet-rug.org>

<http://www.nsf.org>

<http://www.scscertified.com>

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## FOREWORD

This Guidance Manual is being distributed to manufacturers who wish to document compliance to NSF/ANSI 140-2007e, Sustainable Carpet Assessment Standard. The goal of this Guidance Manual is to make it easier to use the Standard, and establish consistency in the data collection and documentation, required for certification to the Standard,

The NSF/ANSI 140-2007e Standard applies to all broadloom and tile carpet floor coverings. While the Standard can be used for any carpet product, it is intended for evaluation of commercial carpet products utilized in commercial and institutional applications and affixed to the floor in some fashion (i.e. adhesive or tacks). The Standard is a product evaluation methodology that is additive and complementary to emerging commercial green building standards. The ANSI approved Standard applies to carpets for all types of buildings, including commercial office, education, government, healthcare, hospitality, etc.

The Standard can also be applied to general purpose or decorative rugs and carpets typically sold as individual units. The Standard does NOT address carpet packaging, carpet padding/cushion or adhesives used in carpet installation. Copies of the approved Standard are available from the NSF International bookstore at <http://www.nsf.org/info/carpet>

Please note that neither the NSF/ANSI140-2007e Standard, nor this Guidance Manual purport to address **all** of the safety, health, environmental, comfort (e.g. odor) and performance concerns, if any, associated with the use of certified carpet products. It is the responsibility of the user of the Standard and the Guidance Manual to establish appropriate safety, health and other performance conditions and to determine the applicability of regulatory limitations prior to use.

# 1. GUIDELINES FOR USE

The purpose of the Sustainable Carpet Assessment Standard is to establish consistent requirements for sustainable carpet products. These requirements are intended to form the basis of conformity assessment programs, such as third-party certification or registration.

The Sustainable Carpet Assessment Standard has been designed, in part, to satisfy the following criteria:

- Demonstrate how carpet and rug products can conform to the environmental, economic, and social principles of sustainability throughout the supply chain.
- Demonstrate conformance with ISO Type 1 (ISO 14024) and Type 2 (ISO 14021) environmental labeling and declaration requirements.
- Demonstrate conformance with the Federal Trade Commission (FTC) Guides for the Use of Environmental Marketing Claims.
- Engender confidence in the various stakeholders (manufacturers, suppliers, regulators, and consumers) that certified products consistently meet the requirements of this program.
- Encourage participation by all manufacturers of carpets and rugs to maximize impact reductions and enhance environmental accomplishments.

This Guidance Manual complements the Sustainable Carpet Assessment Standard by providing useful test methods, processes, and other tools in order to report comprehensive, accurate and meaningful information about the environmental performance and social contribution of products and performance throughout the supply chain,

## 1.1 Reporting Data Quantity

For most of the certification assessment criteria, numerical quantification of the particular attribute undergoing assessment is required. This typically consists of two components: units and quantity.

### 1.1.1 Data Units

Reported units will either be specified (eg yd<sup>2</sup> or m<sup>2</sup>) or left to the user to declare. However it is important that whatever units be used permit easy quantity conversion to a functional unit of product basis. For example, if consumption of a raw material is reported in pounds per year, then yearly production of the product should also be reported. If pollutants are reported as concentrations (e.g., SO<sub>x</sub> in ppmv), then the corresponding volume should also be reported.

### 1.1.2 Data Quantity

For reporting of data quantity values, there are three possible entry types:

1. The requested item is relevant and its quantity known. Please note that a zero quantity may be valid if:
  - The requested item has been measured but is under the detection limit;
  - The requested item has been calculated and found equal to zero; or
  - The requested item is cited in a bibliographic reference as being equal to zero.
2. The requested item is not applicable (“N/A”), that is, it cannot exist because the input it comes from is not consumed. For example, no SO<sub>x</sub> could be released to the air if the fuels that are combusted do not contain any sulfur compounds.

3. The quantity data are not available (“?”), that is, the requested item may exist in the product or the process but has never been measured, or it cannot be calculated or assessed precisely.

In the relevant column, enter the quantity (in the units specified), “N/A,” or “?”.

## 1.2 Reporting Data Quality

To expedite the certification assessment process it is important in many cases to provide data quality information as well as quantity. Data quality criteria to be reported may include one or more of the following: Data Source, Data Type and Reference Document. These criteria and the data quality coding system are explained in more detail below.

### 1.2.1 Data Source

Three types of sources for data are defined as:

- ◆ Literature
- ◆ Factory, i.e. site specific
- ◆ Other, e.g. from other sites

In the relevant column (labelled ‘S’ within the Data Quality Column in the Guidance Manual tables), enter either “L” for literature, “F” for factory, or “O” for other. Any character other than L, F or O is not permitted. Table 1-1 summarizes the data source criteria.

**Table 1-1: Data Source and Data Type Reporting Nomenclature**

Data Source (S)		Data Type (M)	
L	Literature	M	Measured
F	Factory, site specific	C	Calculated
O	Other	A	Averaged
		E	Estimated
		U	Unknown (only for Literature)

### 1.2.2 Data Type

Five types of data are defined as:

**Measured:** The quantity is based on continuous measurement. For instance, electricity consumption is readily available from electric meters. Coal consumption is continuously measured with scales or other forms of stock accountability.

**Calculated:** The quantity has been calculated using emission factors, mass balance, or other indirect methods. For instance, SO<sub>x</sub> emissions may have been measured for several years, and an emission factor determined and used for subsequent years. Another example is CO<sub>2</sub> air emissions calculated from the carbon balance.

**Averaged Value:** The quantity has been extrapolated from spot measurements. For instance, VOCs may be measured three times per year, one day each time; from these values the average annual quantity may be calculated.

**Estimated:** The quantity has been established based on approximations. For instance, the transportation distance for a given raw material may be estimated due to lack of better information.

**Unknown:** This data type is only appropriate for data from the literature when the information provided is insufficient to classify the data as one of the previous types.

In the relevant column (labelled 'T' within the Data Quality Column in the Manual tables), enter either "M" for measured, "C" for calculated, "A" for averaged, "E" for estimated, or "U" for unknown. Any character other than M, C, A, E or U is not valid in column F. Table 1-1 above summarizes the data source criteria.

### 1.2.3 Reference Document

In addition to data source and type it is often necessary to report the reference document from which the units and quantity have been derived. This may consist of a lab report, a facility permit, a year-end sales report or any one of a large number of documents. Where requested, users shall declare the relevant reference document associated with the data quantity information provided. Users may choose to name the relevant reference documents directly within the relevant workbook table, as a linked footnote to the table, or as a linked reference described in a master reference table.

## 2. DECLARATION OF PRODUCT FAMILIES, TARGET ACHIEVEMENT AND PRODUCTION QUANTITIES

### 2.1 Declaration of Product Platforms/Families Undergoing Certification Assessment

Carpet floor coverings in the market today reflect an enormous variety in material choices (face fiber, primary and secondary backing systems and packaging options), manufacturing controls (energy choices, waste minimization, water consumption, air emissions), performance characteristics and end of life management options. This variability results in attendant environmental impact tradeoffs, which in turn is expected to result in different ratings within the key attribute assessment presented in this standard.

Individual product category (ies), platforms or families to be evaluated shall be clearly delineated, including reference name, fiber type, backing, form and target achievement level. (See Table 2-1 below).

**Table 2-1: Declaration of Product Platforms and Target Achievement Level\***

Platform/Category Name	Fiber Type	Backing	Form (Broadloom, Tile, Area Rug, etc)	Target Achievement Level (Silver, Gold, Platinum)
<i>Platform X</i>	<i>Wool</i>	<i>EVA</i>	<i>Broadloom</i>	<i>Silver</i>

*\*(Data shown below in italics is for informational purposes only and should be replaced by applicant's actual data)*

To simplify the process and provide alignment with other industry certification programs, it is recommended (but not required) that the manufacturer use the CRI Green Label Plus testing program product platform designation system. The CRI Green Label program delineates product platforms based on a unique combination of face and backing types. Each of the fiber types listed below in Table 2-2, combined with one of the backing types, is considered a unique platform.

**Table 2-2: Unique Fiber and Backing Options for Platform Declarations**

Fiber Types	Backing Options
Nylon Pre-Dyed	Polyurethane
Nylon Post-Dyed	SBR Latex
Olefin Pre-Dyed	Polyester
Olefin Post-Dyed	PVC
Wool	EVA
Polyester Post-Dyed	Polyolefin
Other	Other

Examples of the different platform designations can be found at the CRI Green Label web site, [http://www.carpet-rug.org/drill\\_down\\_2.cfm?page=8&sub=17&requesttimeout=350](http://www.carpet-rug.org/drill_down_2.cfm?page=8&sub=17&requesttimeout=350).

In addition to the combination of face fiber and backing, it is important to also consider other attributes of these materials and the production process which may impact the overall rating, and hence the potential achievement level. For example, select brands or styles within a platform may contain high post-consumer fiber or backing materials. Alternatively, the form, eg broadloom or tile may play a significant role in the recyclability of the product. In both of these potential situations, the overall rating of these products may be significantly higher than for the general platform (eg 37 versus 52). This, in turn would

change the certifiable achievement level (eg from silver to gold). Therefore, it may be appropriate to declare these different brands/styles as an independent product platform/family if higher levels of achievement are deemed important to the market.

## 2.2 Production Quantities

Many of the assessment criteria included in NSF/ANSI 140-2007e require total production information to quantify the points earned. Therefore, as noted on Table 2-3, for each primary product platform provide the standard unit of production (e.g., m<sup>2</sup> or yd<sup>2</sup>), reporting period (12 month, fiscal or calendar recommended), total production quantity for reporting period, and average weight (kg/m<sup>2</sup> or oz/yd<sup>2</sup>).

**Table 2-3: General Product Information\***

Platform	Unit (m <sup>2</sup> or yd <sup>2</sup> )	Reporting Period	Total Production for Reporting Period	Average Weight (kg/m <sup>2</sup> or oz/yd <sup>2</sup> )	Data Quality		
					S	T	D
<i>Platform X</i>	<i>yd<sup>2</sup></i>	<i>1/1/08-12/31/08</i>	<i>1,000,000</i>	<i>65 oz/yd<sup>2</sup></i>			

*\*(Data shown below in italics is for informational purposes only and should be replaced by applicant's actual data)*

### **3. DECLARATION OF CRITERIA TO BE EVALUATED**

In addition to the record keeping, product quality control and documented control system items required for certification, NSF/ANSI 140-2007e provides for the assessment of eighty-five (85) environmental and social responsibility criteria providing a 114-point total. In addition, there are ten (10) Innovation points available for a maximum 124 points total. To facilitate the certification assessment evaluation, product manufacturers shall declare the criteria to be evaluated for each product platform/family as provided in Annex A, Achievement Level Worksheet. One worksheet shall be completed for each product platform/family undergoing assessment.

## **4. CONFORMANCE WITH ENVIRONMENTAL AND SOCIAL RESPONSIBILITY ASSESSMENT CRITERIA**

As described in Section 4 of NSF/ANSI 140-2007e, the environmental and social responsibility assessment criteria for carpet floor coverings are divided into five subject categories as follows:

Public Health and Environment (PHE)  
Energy and Energy Efficiency (EN)  
Bio-based, recycled content, or environmentally preferable materials (MATLS)  
Manufacturing (MFG)  
Reclamation and end of life management (EOL)

There is also a category for Innovation (INV)

Overall, there are 84 different criteria for a total point value of 114, not counting ten (10) Innovation points. However, many of the criteria, particularly within the Energy and Energy Efficiency (EN) and Materials (MATLS) section are cumulative in nature and hence rely on the same data set for evaluation. That is, while they are listed as individual criteria, for example 5, 10, 15 or 20% Bio-based, Recycled Content and EPP Materials (Section 8.2.1), a single data submittal documenting the bio-based, recycled content, and EPP nature of the materials can be used to determine conformance with multiple criteria. Therefore, within this Guidance Manual, where the same data set or data table can be used, it is asked for only once.

## **5. QUALITY CONTROL AND RECORDKEEPING REQUIREMENTS**

### **5.1. Management Responsibility**

The Manufacturer shall appoint a member of its Management team, who shall have defined authority to ensure complete up to date documentation of all requirements for the NSF/ANSI 140-2007e Standard as described in this Guidance Manual.

The manufacturer will inform the certifying body if there is a change to company ownership, company name, factory address, etc.

The scope of this Guidance Manual is to provide the user with tools for reporting data relative to the Standard. Thus, the Guidance Manual does not include detailed direction on Quality Control or Record Keeping. The manufacturer should direct any questions on these topics to the certifying body or auditor.

For ease of reference, the following descriptions are numbered in the same way as in NSF/ANSI140-2007e.

## **6. PUBLIC HEALTH AND THE ENVIRONMENT (PHE)**

This Category contains various options for achieving the points necessary to demonstrate that an organization is taking steps to minimize inventory pollutants and energy use adversely affecting public health and environment. This section awards points for reducing a minimum number of known harmful pollutants, and additional points for reducing more pollutants.

This category provides a reasonable and achievable pathway for a carpet to document improvements to public health and environment over the supply chain.

### **6.2.1 Feedstock Inventory Documentation (PREREQUISITE)**

1 point

**Documentation:** As shown in Table 6.2.1, provide detailed product compositional information for each platform, including details on face fiber, primary, and secondary backings. This information can be derived from supplied Material Safety Data Sheets (MSDS) from each component supplier. CAS numbers for ingredients shall be provided where available. A separate table shall be provided for each platform. Any feedstock PBTs shall be specifically identified. Note: Reported values shall represent platform averages, although high/low ranges shall also be listed.

**Table 6.2.1: Product Compositional Information - Platform \_\_\_\_\_**  
 (Data shown below in italics is for informational purposes only and should be replaced by applicant's actual data.  
 Duplicate the table as needed for additional platform declarations)

Component	Ingredient	CAS No	Supplier and Product Name	Unit	Avg. Qty. (range)	% Finished Product	Data Quality		
							S	T	D
<i>Face Fiber</i>	<i>Nylon 6,6</i>			<i>oz/yd<sup>2</sup></i>	<i>18</i>	<i>27.7%</i>	<i>L, S</i>	<i>C</i>	<i>(1,2)</i>
	<i>Colorant A</i>			<i>oz/yd<sup>2</sup></i>	<i>0.3</i>	<i>0.5%</i>	<i>L, S</i>	<i>C</i>	<i>(1,2)</i>
	<i>Colorant B</i>			<i>oz/yd<sup>2</sup></i>	<i>0.2</i>	<i>0.3%</i>	<i>L, S</i>	<i>C</i>	<i>(1,2)</i>
	<i>Stain Resist Repellency Treatment</i>			<i>oz/yd<sup>2</sup></i>	<i>1.3</i>	<i>2.0%</i>	<i>L, S</i>	<i>C</i>	<i>(1,2)</i>
	<i>Delustrant Antistat</i>			<i>oz/yd</i>	<i>0.2</i>	<i>0.3%</i>	<i>L, S</i>	<i>C</i>	<i>(1,2)</i>
	<b>Total Face Fiber</b>			<b>oz/yd<sup>2</sup></b>	<b>20 (8-36)</b>	<b>30.8%</b>	<b>L, S</b>	<b>C</b>	<b>(1,2)</b>

(1) Supplier Ingredient Declaration, 1254.003, 4/05/2008

(2) Product Content Declaration Reports, Platform X, 1/03/1995 – 12/05/2007

**6.2.2 Input PBT chemicals and other chemicals of concern (PREREQUISITE)**

1 point

**Documentation:** For each product platform undergoing assessment, declare, on Table 6.2.2, which, if any, of the PBTs or other chemicals of concern are present at 0.1% or greater in the product. For a list of these chemicals please see NSF/ANSI 140-2007e Annex B.

**Table 6.2.2: PBT Chemicals from Stockholm Convention (POPs), US-Canada Bi-National list, TRI, RCRA Waste Minimization, EU RoHS**  
**Product Platform \_\_\_\_\_**

Chemical Name	Present in Product at 0.1% or greater? (Y/N)	Data Quality		
		S	T	D
Acenaphthene				
Acenaphthylene				
Aldrin <sup>3</sup>				
Anthracene				
Benzo (g, h, i) perylene				
Benzo(a)pyrene				
Cadmium				
Chlordane				
Chromium (hexavalent)				
DDT (also DDD and DDE on Bi-national list)				
Dibenzofuran				
Dieldrin <sup>3</sup>				
Dioxins <sup>2</sup>				
Endosulfan, alpha and Endosulfan, beta <sup>1</sup>				
Endrin				
Fluorene				
Furans <sup>2</sup>				
Heptachlor <sup>1</sup>				
Heptachlor epoxide <sup>1</sup>				
Hexachlorobenzene				
Hexachlorobutadiene				
Hexachlorocyclohexane, gamma (Lindane)				
Isodrin				
Lead (alkyl lead on Bi-national list)				
Mercury				
Methoxychlor				
Mirex				
Naphthalene				
Octachlorostyrene				
PAH Group (polycyclic aromatic hydrocarbons as defined in TRI)				
PBB (polybrominated biphenyls)				
PBDE (polybrominated diphenyl ethers)				
PCB (polychlorinated biphenyls)				
Pendimethalin				
Pentachlorobenzene				
Pentachloronitrobenzene				
Pentachlorophenol				
Phenanthrene				
Pyrene				
Tetrabromobisphenol A				

Tetrachlorobenzene (1,2,4,5-)				
Toxaphene				
Trichlorobenzene (1,2,4-)				
Trichlorophenol (2,4,5-)				
Trifluralin				

<sup>1</sup> Heptachlor/heptachlor epoxide and Endosulfan, alpha/beta are listed together on the RCRA Waste Minimization List

<sup>2</sup> Dioxins and furans are listed separately on Stockholm Convention POPs; listed together on bi-national PBTs and RCRA Waste Minimization List; TRI PBT lists as "dioxin and dioxin-like compounds."

<sup>3</sup> Aldrin and dieldrin are listed together on the Bi-national PBT list.

**6.3 Manufacturing emissions inventory and credit for voluntary reductions beyond compliance**

**6.3.1 Polybrominated diphenyl ether (PBDE) flame-retardants (PREREQUISITE)**

1 point

**Documentation:** For each product platform, report whether the product does or does not contain more than one-tenth of 1 percent of pentaBDE or octaBDE by mass.

These following forms could be used to help the manufacturer summarize the criteria for the IAQ/VOC section. Examples are shown below:

Credit 6.3.1 No PBDE Flame Retardants in Carpet Product

Credit 6.3.2 Minimize Indoor VOC Emissions (Pass GLP)

Credit 6.3.4 Minimize carcinogenic VOC emissions (Below SEL)

Credit 6.3.5.1 Minimize Indoor Formaldehyde VOC Emissions (formaldehyde below 1.5 ug/m3)

Credit	Points	Product 1	Product 2	Product 3
6.3.1 No PBDE	1	Meets criteria	Meets criteria	Meets criteria
6.3.2: Pass GLP	1	Meets criteria	Meets criteria	Meets criteria
6.3.4 (Below SEL)	1	Meets criteria	Meets criteria	Meets criteria
6.3.5.1 Formaldehyde	1	Meets criteria	Meets criteria	Meets criteria
<b>Total Points</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>



**6.3.2 Minimization of indoor volatile organic chemical (VOC) emissions (PREREQUISITE for Gold and for Platinum)**

1 point

NOTE – Compliance with this criterion can be met through participation and compliance with the Carpet and Rug Institute (CRI) Green Label Plus Program.

**Documentation:** This credit may be met in two ways: 1) Provide documentation of certification to Green Label Plus; or 2) Provide emission test results and calculations of modelled concentrations with ventilation and loading assumptions from an independent indoor air quality testing laboratory. Tests shall be performed on product samples representative of the product category(s) undergoing assessment. Tests shall have been performed within the last twelve months.

### 6.3.3.1 Inventory Air, Water and Waste (Media) Pollutants

4 points

**Documentation:** For each facility producing the carpet undergoing assessment, report the process outflow data (emissions) on a per platform or production basis for calendar year 2000. The human and ecological health constituents to be reported are for the following environmental categories listed in the BEES Please User Questionnaire: Building products and other co-products; Human and Ecological Health outflows (air and water); Pollutant Flows (Flue Gas and Wastewater); Total Solid Waste; Recovered Matter; Greenhouse Gases; Acidification Gases; Other Air Emissions; Ozone Depletion; Smog/MIR Index; Eutrophication; Other Water Effluents..

The BEES Please Questionnaire is an Excel file that can be downloaded from [http://www.bfrl.nist.gov/oa/software/bees/please/BEES\\_Please\\_Questionnaire.xls](http://www.bfrl.nist.gov/oa/software/bees/please/BEES_Please_Questionnaire.xls). For instructions on completing the questionnaire, refer to the BEES Please Questionnaire – User Guide, which can be downloaded directly from [http://www.bfrl.nist.gov/oa/software/bees/please/BEES\\_Please\\_Questionnaire--User\\_Guide.doc](http://www.bfrl.nist.gov/oa/software/bees/please/BEES_Please_Questionnaire--User_Guide.doc)

### 6.3.3.2 Output PBT emissions and emissions from other chemicals of concern

1 point

**Documentation:** Manufacturer shall document emissions from **PBT chemicals from Stockholm Convention (POPs)<sup>2</sup>, U.S. – Canada Bi-National list<sup>3</sup>, TRI<sup>4</sup>, RCRA Waste Minimization<sup>5</sup>, EU RoHS<sup>6</sup>** as listed on Table 6.3.3.1. For a US based manufacturer, supporting documentation shall include valid US EPA Toxic Release Inventory (TRI) reporting forms for Persistent, Bioaccumulative and Toxic (PBT) chemicals. Details on TRI reporting can be found at <http://www.epa.gov/triinter/lawsandregs/pbt/pbtrule.htm>.

<sup>1</sup> US EPA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantities, 40 CFR 302.4

<sup>2</sup> Stockholm Convention on Persistent Organic Pollutants (POPs) (<http://www.chem.unep.ch/Default.htm>)

<sup>3</sup> US EPA, Great Lakes Pollution Prevention and Toxics Reduction, Level I Substances (<http://www.epa.gov/glnpo/p2/bns.html>)

<sup>4</sup> U. S. Environmental Protection Agency (USEPA), SARA Title III Toxic Release Inventory (TRI) Emissions <http://www.epa.gov/tri/chemical>

<sup>5</sup> US EPA, Resource Conservation and Recovery Act (RCRA) ([http:// www.epa.gov](http://www.epa.gov))

<sup>6</sup> Directive 2002/95/EC of the European Parliament and of the Council, Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), January 2003

**Table 6.3.3.1: PBT chemicals from Stockholm Convention (POPs), U.S. – Canada Bi-National list, TRI, RCRA Waste Minimization, EU RoHS**

CHEMICAL NAME	CAS RN	Final CERCLA RQ <sup>5</sup>	Units	Quantity Emitted	Data Quality		
					S	T	D
Acenaphthene	83-32-9	5000	lbs				
Acenaphthylene	208-96-8	5000	lbs				
Aldrin <sup>3</sup>	309-00-2	1	lbs				
Anthracene	120-12-7	5000	lbs				
Benzo (g,h,i)perylene	191-24-2	5000	lbs				
Benzo(a)pyrene	50-32-8	1	lbs				
Cadmium	7440-43-9	10	lbs				
Chlordane	57-74-9	1	lbs				
Chromium (hexavalent)		N/A					
DDT (also DDD and DDE on Bi-national list)	50-29-3	1	lbs				
Dibenzofuran	132-64-9	100	lbs				
Dieldrin <sup>3</sup>	60-57-1	1	lbs				
Dioxins <sup>2</sup>	1746-01-6	N/A					
Endosulfan, alpha and Endosulfan, beta <sup>1</sup>	959-98-8 33213-65-9	1	lbs				
Endrin	72-20-8	1	lbs				
Fluorene	86-73-7	5000	lbs				
Furans <sup>2</sup>	110-00-09	100	lbs				
Heptachlor <sup>1</sup>	76-44-8	1	lbs				
Heptachlor epoxide <sup>1</sup>	1024-57-3	1	lbs				
Hexachlorobenzene	118-74-1	10	lbs				
Hexachlorobutadiene	87-68-3	1	lbs				
Hexachlorocyclohexane, gamma (Lindane)	58-89-9	1	lbs				
Isodrin	465-73-6	1	lbs				
Lead (alkyl lead on Bi-national list)	7439-92-1	10	lbs				
Mercury	7439-97-6	1	lbs				

CHEMICAL NAME	CAS RN	Final CERCLA RQ <sup>5</sup>	Units	Quantity Emitted	Data Quality		
					S	T	D
Methoxychlor	72-43-5	1	lbs				
Mirex	2385-85-5	N/A					
Naphthalene	91-20-3	100	lbs				
Octachlorostyrene	29082-74-4	N/A					
PAH Group (polycyclic aromatic hydrocarbons as defined in TRI)		N/A					
PBB (polybrominated biphenyls)		N/A					
PBDE (polybrominated diphenyl ethers) <sup>4</sup>		N/A					
PCB (polychlorinated biphenyls)	1336-36-3	1	lbs				
Pendimethalin	40487-42-1	N/A					
Pentachlorobenzene	608-93-5	10	lbs				
Pentachloronitrobenzene	82-68-8	100	lbs				
Pentachlorophenol	87-86-5	10	lbs				
Phenanthrene	85-01-8	5000	lbs				
Pyrene	129-00-0	5000	lbs				
Tetrabromobisphenol A	79-94-7	N/A					
Tetrachlorobenzene (1,2,4,5-)	95-94-3	5000	lbs				
Toxaphene	8001-35-2	1	lbs				
Trichlorobenzene (1,2,4-)	120-82-1	100	lbs				
Trichlorophenol (2,4,5-)	95-95-4	10	lbs				
Trifluralin	1582-09-8	10	lbs				

<sup>1</sup> Heptachlor/heptachlor epoxide and Endosulfan, alpha/beta are listed together on the RCRA Waste Minimization List

<sup>2</sup> Dioxins and furans are listed separately on Stockholm Convention POPs; listed together on bi-national PBTs and RCRA Waste Minimization List; TRI PBT lists as "dioxin and dioxin-like compounds."

<sup>3</sup> Aldrin and dieldrin are listed together on the bi-national PBT list.

<sup>4</sup> PBDEs requirements are listed in Section 6.3.1.

<sup>5</sup> US EPA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantities, 40 CFR 302.4

### **6.3.3.3 Reduction of toxic chemicals and media pollutants (for the years 1986-1999)**

**Documentation:** Document pollution reductions beyond Federal, State, or local regulatory compliance from 1986-1999 through the manufacturer's Environmental management System (EMS) or an ISO 14040 compliant LCA. The baseline is 1986-1999 data (baseline year may be selected based on year and availability) derived from a manufacturer Environmental Management System or ISO 14040 compliant LCA. A manufacturer may be awarded points for compliance with either 6.3.3.3.1 or 6.3.3.3.2. The manufacturer cannot be awarded points for compliance with both sections.

#### **6.3.3.3.1 Voluntary pollutant reductions beyond compliance**

8 points maximum

**Documentation:** Utilizing Table 6.3.3.3.1, manufacturers can document conformance with this criteria one of two ways:

- a. Provide data documenting reductions based on total operations; or
- b. Provide data documenting reductions based on per unit of production operations.

**Table 6.3.3.3.1: Voluntary Pollutant Reductions Beyond Compliance  
Manufacturing Facility/Complex \_\_\_\_\_**

Category	Unit	Year 'a' Qty	Data Source			1999 Qty	Data Source			Reduction (%)
			S	T	D		S	T	D	
Solid Waste Generated										
Hazardous Waste Generated										
<b>Total Solid and Hazardous Waste</b>										
<b>SARA Title III TRI Emissions</b>										
Climate Change Emissions										
Carbon Dioxide (CO2) Emissions										
Other emissions										
<b>Total Climate Change Emissions</b>										
<b>Water Use</b>										
Fuel Consumption										
Electricity Consumption										
<b>Total Energy Consumption</b>										

**6.3.3.3.2 Pollutants and toxic chemicals reduction through Life Cycle Assessment (LCA)**  
8 points maximum

**Documentation:** Utilizing Table 6.3.3.3.2, manufacturers can document conformance with this criteria one of two ways:

- c. Provide data documenting reductions based on total operations; or
- d. Provide data documenting reductions based on per unit of production operations.

**Table 6.3.3.3.2: Pollutants and toxic chemicals reduction through Life Cycle Assessment Manufacturing Facility/Complex \_\_\_\_\_**

Impact	Unit	1986 Qty	Data Source			1999 Qty	Data Source			Reduction (%)
			S	T	D		S	T	D	
Global Warming	CO2 eqs									
Ozone Depletion	CFC-11 eqs									
Acidification	H+ eqs									
Eutrophication	N eqs									
Photochemical Smog	NO eqs									
Human Health	Toluene eqs									
Fossil Fuel Depletion	Surplus MJ eqs									
Criteria Air Pollutants	microDALYs/g									
Ecological Toxicity	2,4-D eqs									
Solid and Hazardous Waste	eq ltons									

**6.3.3.4 Reduction of specified life cycle impact categories (for the years 2000-present)**

8 points maximum

**Documentation:** Complete Table 6.3.3.4 for each product platform, manufacturing facility, or total operations involved in the certification assessment,

**Table 6.3.3.4 – Baseline assessment life-cycle impact categories**  
**Product Platform/Manufacturing Facility/Complex** \_\_\_\_\_

Impact	Unit	2000 Qty	Data Source			2007 Qty	Data Source			Reduction (%)
			S	T	D		S	T	D	
Global Warming	CO2 eqs									
Ozone Depletion	CFC-11 eqs									
Acidification	H+ eqs									
Eutrophication	N eqs									
Photochemical Smog	NO eqs									
Human Health	Toluene eqs									
Fossil Fuel Depletion	Surplus MJ eqs									
Criteria Air Pollutants	microDALYs/g									
Ecological Toxicity	2,4-D eqs									
Solid and Hazardous Waste	eq ltons									

### 6.3.4 Minimization of indoor carcinogenic VOC emissions

1 point

**Documentation:** CRI Green Label Plus VOC testing data can be used to perform the calculations for meeting this credit pursuant to Standard Practice 174 included in Section 6.3.2 cited above.

Provide emission test results and calculations of modelled concentrations with ventilation and loading assumptions from an independent indoor air quality testing laboratory demonstrating modelled indoor air concentrations do not exceed the appropriate residential or commercial SEL listed below in Table 6.3.4. Tests shall be performed on product samples representative of the product category(s) undergoing assessment. Tests shall have been performed within the last twelve months.

Alternatively, because the methodology outlined above is very conservative in its approach, manufacturers may wish to undertake a focussed risk assessment to demonstrate that carcinogenic or reproductive toxicant VOCs do not emit from products at or above the SELs.

Provided below is a summary of calculated residential and commercial SELs for those chemicals with inhalation SHLs reported by CalEPA in its January 2005 "Proposition 65 Status Report Safe Harbor Levels" (<http://www.oehha.ca.gov/prop65/pdf/Jan2005StatusReport.pdf>)

**Table 6.3.4: Estimated Safe Exposure Levels**

	Inhalation Safe Harbor Level (µg/day) (a)	Breathing Rate (m3/day)	Residential Exposure Factor (b)	Residential Safe Exposure Level (µg/m3)	Commercial Exposure Factor(c)	Commercial Safe Exposure Level (µg/m3)
<b>Carcinogens</b>						
Acetaldehyde	90	20	100.00%	4.5	29.76%	15.12
Arsenic	0.06	20	100.00%	0.003	29.76%	0.01008
Benzene	13	20	100.00%	0.65	29.76%	2.184
Cadmium	0.05	20	100.00%	0.0025	29.76%	0.0084
Chloroform	40	20	100.00%	2	29.76%	6.72
Chromium (hexavalent)	0.001	20	100.00%	0.00005	29.76%	0.000168
Dichloromethane (Methylene chloride)	200	20	100.00%	10	29.76%	33.6
Ethylene dibromide	3	20	100.00%	0.15	29.76%	0.504
Formaldehyde (gas)	40	20	100.00%	2	29.76%	6.72
Methylhydrazine	0.09	20	100.00%	0.0045	29.76%	0.01512
Trichloroethylene	80	20	100.00%	4	29.76%	13.44
<b>Reproductive Toxicants</b>						
Benzene	49	20	100.00%	2.45	100.00%	2.45
1,2-Dibromo-3-chloropropane (DBCP)	4.3	20	100.00%	0.215	100.00%	0.215
Ethyl dipropylthiocarbamate	700	20	100.00%	35	100.00%	35

	Inhalation Safe Harbor Level (µg/day) (a)	Breathing Rate (m3/day)	Residential Exposure Factor (b)	Residential Safe Exposure Level (µg/m3)	Commercial Exposure Factor(c)	Commercial Safe Exposure Level (µg/m3)
Methyl bromide	810	20	100.00%	40.5	100.00%	40.5
N-Methylpyrrolidone	3200	20	100.00%	160	100.00%	160
(a) Inhalation Safe Harbor Levels as reported in the January 2005 "Proposition 65 Status Report Safe Harbor Levels", California Environmental Protection Agency)						
(b) Residential Exposure Factor is based on 24 hours per day, 7 days per week exposure						
(c) Commercial Exposure Factor is based on 10 hours per day, 7 days per week exposure						

### **6.3.5 Reduction in chemical and pollutant emissions**

#### **6.3.5.1 Minimize indoor formaldehyde emissions**

1 point

**Documentation:** Using the above criteria, the maximum concentration for formaldehyde emitted at 96 hours in emissions tests is 4.5 ug/m<sup>3</sup> (½ the CREL)\*.

Provide emission test results and calculations of modelled concentrations with ventilation and loading assumptions from an independent indoor air-testing laboratory. Tests shall be performed on product samples representative of the product category(s) undergoing assessment. Tests shall have been performed within the last twelve months.

CRI Green Label Plus testing data can be used to determine conformance with this criteria. Please note that certification under the Green Label Plus program, by and of itself does not connote conformance with this requirement.

\* Please check OEHHA website (<http://www.oehha.ca.gov/air/allrels.html>) for the most recent CREL requirements



### 6.3.5.2.2 PBTs released as process outputs

1 point

**Documentation:** Manufacturer shall complete Table 6.3.5.2 for each product platform. Manufacturer shall use Table 6.2.1 to identify all supply chain material and process inputs for each product platform.

For documentation of supply chain release of PBT chemicals and other chemicals of concern, the manufacturer shall document each supplier of product components listed by the manufacturer in Table 6.2.1. Table 6.3.5.2 can be used to document the supplier list. Each supplier shall submit valid TRI reporting forms documenting the release of PBT chemicals and other chemicals of concern as process outputs (emissions) at the point of manufacture at or above CERCLA RQ reporting thresholds. Details on TRI reporting can be found at <http://www.epa.gov/triinter/lawsandregs/pbt/pbtrule.htm>. See Table 6.3.3.1 for additional information on TRI reporting.

### 6.3.5.2.3 PBTs used in materials or process inputs

1 point

**Documentation:** Manufacturer shall complete Table 6.3.5.2 for each product platform. Manufacturer shall use Table 6.2.1 to identify all supply chain material and process inputs for each product platform.

For documentation of supply chain use of PBT chemicals and other chemicals of concern, the manufacturer shall document each supplier of product components listed by the manufacturer in Table 6.2.1. Table 6.3.5.2 can be used to document the supplier list. Each supplier shall submit valid TRI reporting forms documenting PBT chemicals and other chemicals of concern used in supply chain materials and that process inputs are below TRI reporting thresholds, and by documenting that suppliers' PBT emissions are below reporting thresholds as described in Annex B. Details on TRI reporting can be found at <http://www.epa.gov/triinter/lawsandregs/pbt/pbtrule.htm>. See Table 6.3.3.1 for additional information on TRI reporting.

## 7. ENERGY AND ENERGY EFFICIENCY (EN)

This category documents energy used in carpet production, greenhouse gas emissions, and recognizes the use of renewable energy, implementation of energy conservation, and energy efficiency measures. For purposes of this section of the standard, improvements over a three-year time period shall be measured. For purposes of this Standard, renewable energy is defined in Section 3.14.

NOTE – As used in this Standard, the term “Green-e” refers to Green-e or equivalent forms of fuel, such as non-nuclear, non-fossil based fuels.

### 7.2.1. Inventory electrical and thermal energy (PREREQUISITE)

1 point

**Documentation:** For each facility producing the carpet undergoing assessment, indicate the fuel and electricity inputs used for production electrical and thermal energy requirements, units, annual quantity, percent renewable (where applicable) and data quality information (e.g., data source, data type and collection date). This information can be provided using:

- 1 - The BEES Questionnaire (specifically the Purchased Fuels and Purchased Electricity sections of the Site Data Worksheet), with additional indications of renewability; or,
- 2 - The Energy Inventory Reporting Table below (Table 7.2.1).

As defined in Section 3.14 of NSF /ANSI140-2007e, renewable energy includes solar electric (photovoltaic), solar thermal, wind, geothermal, biogas, biomass, hydro and renewable cogeneration on site or off site, on or off grid

Please refer to Section 5.3 of the BEES Please Questionnaire User Guide for guidance on data quality reporting. The Questionnaire and User Guide can be downloaded from [http://www.bfrl.nist.gov/oa/software/bees/please/bees\\_please.html](http://www.bfrl.nist.gov/oa/software/bees/please/bees_please.html)

**Table 7.2.1: Energy Inventory Reporting Table**  
**Product Platform or Manufacturing Facility** \_\_\_\_\_

Energy Input	Unit	Annual Qty	Renewable Y/N or %	Data Quality		
				S	T	D
<b>Purchased Fuels</b>						
- Coal						
- Natural Gas						
- Heavy Fuel Oil						
- Medium Fuel Oil						
- Light Fuel Oil						
- Diesel						
- Gasoline						
- Propane						
- Butane						
- Lubricating Oils						
- Biomass						
- Biogas						
- Other (Specify)						
<b>Self Generated Non-Fuel Energy</b>						
- Solar Electric						
- Solar Thermal						
- Wind Power						
- Other (Specify)						
<b>Purchased Energy</b>						
- Grid Electricity						
- Steam						
- Compressed Air						
- Other (Specify)						

### 7.2.2.1 Document percentage of renewable energy and/or energy reduction

Maximum 12 points

**Documentation:** As used in this Standard, the term “Green-e” refers to Green-e or equivalent forms of fuel, such as non-nuclear, non-fossil based fuels.

Using the information supplied in Table 7.2.1, indicate for each energy source used in product production whether it: 1) meets Green-e requirements [http://www.green-e.org/ipp/standard\\_for\\_marketers.html](http://www.green-e.org/ipp/standard_for_marketers.html) (for both on-site and off-site generation sources); or 2) is certified Green-e Power. For those production facilities located in states not specifically included in the Green-e standard, the standard shall be used as guidance for determining whether the energy source meets the requirements.

Additionally, report the purchase of any certified Green-e Tradable Renewable Certificates ([http://www.green-e.org/what\\_is/dictionary/trc.html](http://www.green-e.org/what_is/dictionary/trc.html)) intended to be used to offset non-renewable energy sources used in product production.

This information shall be provided as requested below in Table 7.2.2.1 or equivalent.

**Table 7.2.2.1: Renewable Energy Reporting Table**  
**Product Platform or Manufacturing Facility** \_\_\_\_\_

Energy Input	Unit	Annual Qty	MJ or kWh equivalent	% Renewable per 7.2.2.1	Renewable Qty	Unit	Data Source		
							S	T	D
<b>Purchased Fuels</b>									
- Biomass									
- Biogas									
- Landfill Gas									
- Other (Specify)									
<b>Self Generated Non-Fuel Energy</b>									
- Solar Electric									
- Solar Thermal									
- Wind Power									
- Other (Specify)									
<b>Purchased Energy</b>									
- Grid Electricity									
- Steam									
- Compressed Air									
- Other (Specify)									
<b>TRC's</b>									
- Specify by supplier									
<b>Totals</b>									

The percent of total production energy requirements (1) derived from renewable sources shall be calculated as follows:

$$\% \text{ Renewable energy} = \frac{\text{total energy from renewable sources (2)} + \text{TRC credit}}{\text{Total energy consumed by manufacturing facility for product(s) undergoing certification}}$$

(1) Total energy consumed is the energy required for the production of the product(s) undergoing certification assessment. It is not the total production energy required for all operations. Allocation shall be consistent with the product allocation described in Section 7.2.1 of this document. Where a manufacturer uses multiple facilities under its ownership or operating control to produce the product(s) undergoing certification assessment, the energy consumed from each facility for the production of that product or its components must be included.

(2) Total Energy from Renewable Sources is the proportionate share of purchased energy, consistent with certified product allocation methodology described in Section 7.2.1 of this guide.

### 7.2.3 Suppliers Use of Renewable Energy

Maximum 6 points

**Documentation:** For documentation of supply chain use of renewable energy the manufacturer shall document each supplier of product components (comprising greater than 1% by weight) listed by the manufacturer in Table 6.2.1. Table 7.2.3 below can be used to document the supplier list and reporting of renewable energy use. Each supplier shall report use of renewable energy in the production of the supplied components. See Section 7.2.2.1 in NSF/ANSI 140-2007e for additional information on reporting of renewable energy.

Points earned shall be calculated for use of renewable energy in the supply chain (calculated on a weight-based product average).

Each supplier shall report the fraction of renewable energy used in the production of its supplied component(s). The percentage of renewable energy used by any one supplier will be factored into the total use of renewable energy by the product components by its percentage contribution to the finished product on a weight basis.

For example, a product has a total weight of 100 o/sy and a backing component comprises 20 o/sy, i.e. contributes 20% of the product weight. The supplier of the backing component utilizes 50% renewable energy. The portion of the finished product produced by renewable energy from this supplier is 10% (i.e.  $20\% \times 50\% = 10\%$ ). The percentages from all suppliers should be summed before consulting Table 7.2.

**Table 7.2.3: Supply Chain Renewable Energy**

Product Platform/Family \_\_\_\_\_  
 Name of Supplier \_\_\_\_\_  
 Products Supplied to Manufacturer \_\_\_\_\_  
 Date \_\_\_\_\_

Renewable Energy Input	Unit	Annual Qty	MJ or KwH Equivalent	% Renewable per 7.2.2.1	Renewable Quantity	Unit	Data Source		
							S	T	D
<b>Purchased Fuels</b>									
Biomass									
Biogas									
Other (specify)									
<b>Self-Generated Non-Fuel Energy</b>									
Solar Electric									
Solar Thermal									
Wind Power									
Other (specify)									
<b>Purchased Energy</b>									
Grid Electricity									
Steam									
Compressed Air									
Other (specify)									
<b>TRC's</b>									
Specify by Supplier									
<b>TOTALS</b>									

The percent of total production energy requirements (1) derived from renewable sources shall be calculated as follows:

$$\% \text{ Renewable energy} = \frac{\text{total energy from renewable sources (2) + TRC credit}}{\text{Total energy consumed by manufacturing facility for product(s) undergoing certification}}$$

(1) Total energy consumed is the energy required for the production of the product(s) undergoing certification assessment. It is not the total production energy required for all operations. Allocation shall be consistent with the product allocation described in Section 7.2.1 of this document. Where a manufacturer uses multiple facilities under its ownership or operating control to produce the product(s) undergoing certification assessment, the energy consumed from each facility for the production of that product or its components must be included.

(2) Total Energy from Renewable Sources is the proportionate share of purchased energy, consistent with certified product allocation methodology described in Section 7.2.1 of this guide.

**7.2.4 Green House Gas Emissions Inventory**

1 point

**Documentation:** For purposes of this section of the standard, improvements over a three-year time period shall be measured.

Calculate the GHG emissions resulting from energy use as reported in the manufacturers Energy Inventory in Table 7.2.1.

Calculate GHG reductions resulting from the manufacturers use of Green-e renewable energy reported in Table 7.2.2.1 and/or GHG reductions resulting from the reduction of energy use reported in 7.2.2.1.

Additionally, if manufacturer has completed a GHG Inventory for its operations, provide documentation showing results for the base line year and subsequent reporting years. Report reductions in GHGs.

Table 7.2.4 Greenhouse Gas Emissions  
**Product Platform or Manufacturing Facility** \_\_\_\_\_

Category	Unit	Baseline Year	Data Source			Current Year	Data Source			Reduction (%)
			S	T	D		S	T	D	
Carbon Dioxide (CO2) Emissions										
Nitrous Oxide (NOx) emissions										
Sulfur Dioxide (SO2)										
Other emissions										
<b>Total Greenhouse Gas Emissions</b>										

## **8. BIO-BASED, RECYCLED CONTENT OR ENVIRONMENTALLY PREFERABLE (EPP) MATERIALS (MATLS)**

This Category requires progressively higher levels of bio-based, recycled content, or EPP materials. Biobased materials are defined in Section 3.2 of the NSF/ANSI 140-2007e. Recycled materials are measured by percent-recycled content by total product weight. Environmentally preferable materials are defined in Section 3.9. For this section, EPP materials may earn points comparable to bio-based or recycled materials up to the 25% level. Higher achievement levels require progressively higher levels of bio-based materials and recycled content. This category contains achievement levels ranging from simple inventorying of bio-based, recycled content and EPP materials, to requiring substantial percent of bio-based and recycled materials at high levels.

For more information on the criteria for this section, please refer to the NSF/ANSI 140-2007e Standard.

**8.2 Materials content inventory (PREREQUISITE)**

2 points

**Documentation:** Using Table 8.2, for each product platform undergoing assessment, document, for a representative (average) product, the quantity or percentage of bio-based, recycled content, or environmentally preferred materials used in the product. Alternatively, provide this information on a total consumption basis for the platform.

For each component for which bio-based, recycled content, or environmentally preferred content is claimed, provide documentation from supplier supporting this declaration. Supporting evaluation/certification from independent third party auditor is preferred.

**Table 8.2: Material Content by Formulation - Platform \_\_\_\_\_**  
*(Data shown below in italics is for informational purposes only and should be replaced by applicants actual data)*

Component	Supplier	Wt	Recycled Content				Bio-based Content		Environmentally Preferred Content		Total Content		Data Quality		
			Post-Consumer		Pre-Consumer		wt	%	wt	%	wt	%	S	T	D
			%	wt	%	wt									
<i>Face Fiber</i>															
<i>Primary Backing</i>															
<i>Precoat</i>															
<i>Main Coat</i>															
<i>Secondary Backing</i>															
<b>Grand Total</b>															

**8.2.1 Bio-based, recycled content, or environmentally preferable product (EPP) materials (10% post-consumer recycled content is PREREQUISITE for Platinum)**

Maximum 20 points

**Documentation:** Utilizing the inventory data provided in Table 8.2, calculate the percent of feedstock that is bio-based, recycled content or environmentally preferable material. See Table 8.2.1 for suggested reporting format.

**Table 8.2.1 Summary of Material Content**

<b>Content Type</b>	<b>Content Detail</b>	<b>Percent</b>	<b>Factor</b>	<b>% Contribution</b>
Recycled Content	Post-Consumer		1.0	
	Pre-Consumer		0.5	
Bio-based	Bio-based		1.0	
Environmentally Preferred	Environmentally Preferred (up to 25% maximum)		1.0	
<b>Grand Total</b>				

## 9. MANUFACTURING (MFG)

This Category encourages corporate wide environmental responsibility and achievements. Achievement levels range from simple adoption of an environmental policy and having an environmental management system, to supply chain activities like LCA.

This Category documents corporate wide achievements in addition to those for sustainable carpet production.

### 9.2 Manufacturer's environmental policy, Environmental Management System (EMS), and social indicator reporting

#### 9.2.1 Policy, EMS, and publicly available targets (PREREQUISITE)

1 point

**Documentation:** To demonstrate conformance with the Environmental Management System & Policy criteria, manufacturers shall either:

- a. Submit a copy of ISO 14001 certification registration, if certified; or
- b. Provide written evidence of the presence and use of an environmental management system which, as a minimum should address the items listed below:
  - An appropriate environmental policy, including a commitment to prevention of pollution;
  - The legislative requirements and environmental aspects associated with the organization's activities, products and services;
  - Management and employee commitment to the protection of the environment, with clear assignment of accountability and responsibility;
  - Environmental planning throughout the full range of the organization's activities, from raw material acquisition through product distribution;
  - A disciplined management process for achieving targeted performance levels;
  - Appropriate and sufficient resources, including training, to achieve targeted performance levels on an ongoing basis
  - An emergency preparedness and response program
  - A system of operational control and maintenance of the program to ensure continuing high levels of system performance;
  - Environmental performance evaluations against the policy, objectives and targets and identification of improvement opportunities where appropriate;
  - A management process to review and audit the EMS and to identify opportunities for improvement of the system and resulting environmental performance; and
  - Appropriate communications with internal and external interested parties.

To demonstrate conformance with the public declaration criteria, the manufacturer shall provide the specific URL site, listing the manufacturer's environmental targets, objectives and metrics; or provide a copy of the latest annual report containing the required information. The annual report shall have been published within the last 12 months.

## 9.2.2 Manufacturer's social indicator reporting (PREREQUISITE)

1 point

**Table 9.1 – Social indicators for sustainable carpet assessment standard**  
(Source: Global Reporting Initiative)

Indicator		Description
Labor practices and decent work	Employment	Breakdown of workforce, employment type, and employment contract workforce retained vs. temporary workforce.
		Net employment creation, turnover
		Employee benefits, beyond those legally mandated
	Health and safety	Recording and notification of occupational accidents, injuries, illnesses and disease.
Human rights	Strategy and mgt	Description of policies and procedures dealing with all aspects of HR relevant to operations including monitoring mechanisms and results.
		Description of policies and procedures to evaluate and address human rights performance within the supply chain and contractors, including monitoring systems and results.
	Child labor	Description of policy and procedures excluding child labor including monitoring systems and results.
Society	Community	Policies to manage impacts on communities in areas affected by activities as well as description of procedures to address this issue, including monitoring systems and results.

**Documentation:** Provide the information requested for employment, health & safety, strategy & management, child labor and community indicators as described in Table 9.1 for either the entire company, the relevant company division, or the company operations associated with the production of product platform(s) undergoing assessment. The reporting of employment information required in Table 9.1 can be made by either a detailed breakdown or general summary of compliance.

### **9.3 Performance Durability (PREREQUISITE)**

1 point

**Documentation:** Provide laboratory test data demonstrating conformance with the stated requirements as shown in Table 9-2 of NSF/ANSI 140-2007e. Tests shall be performed on product samples representative of the product category (ies) undergoing assessment. Tests shall have been performed within the last twelve months.

#### 9.4 LCA for product platform undergoing assessment (PREREQUISITE For Platinum)

3 points

**Documentation:** Manufacturer shall document that an ISO 14040-14048 compliant LCA has been completed for the product. As a minimum, the following items are to be described in the LCA:

- a. The functional unit – a functional unit of ‘covering 0.09m<sup>2</sup> (1ft<sup>2</sup>) of floor surface for typical life span is recommended
- b. The product system to be studied – including the product system flow chart listing key unit processes
- c. The product system boundaries – cradle to grave is recommended
- d. Allocation procedures
- e. Types of impact and methodology of impact assessment – the use of EPA’s TRACI (Tool for the Reduction and Assessment of Chemical and other environmental Impacts) methodology is recommended, incorporating the following impact categories as a minimum:
  - i. Global warming potential (CO<sub>2</sub> equivalents)
  - ii. Acidification (H<sup>+</sup> equivalents)
  - iii. Eutrophication (N Equivalents)
  - iv. Fossil Fuel depletion (MJ surplus energy)
  - v. Water Intake
  - vi. Criteria air pollutants – solid particles (microDALYs)
  - vii. Smog (NO<sub>2</sub> equivalents)
  - viii. Ecological Toxicity (2,4-D equivalents)
  - ix. Ozone Depletion (CFC-11 equivalents), and
  - x. Human Health (C<sub>7</sub>H<sub>7</sub> equivalents)
- f. Data Quality – including time-related, geographical and technology coverage, sources of the data and their representativeness, and uncertainty of the information
- g. Assumptions
- h. Limitations

The LCA shall be prepared by an experienced life-cycle practitioner, or have undergone critical review as described in ISO 14040.

### **9.5 Environmental Management System (EMS) Certification**

2 points

**Documentation:** To demonstrate conformance with the Environmental Management System Certification criteria, manufacturers shall either:

- a. Submit a copy of ISO 14001 certification registration;
- b. Submit a copy of US EPA Performance Track Independent Assessment

## **9.6 Supplier's social indicator reporting**

1 point

**Documentation:** Manufacturer will have suppliers provide the information requested for employment, health & safety, strategy & management, child labor and community indicators as described in Table 9.1 of NSF/ANSI 140-2007e, for either the entire company, the relevant company division, or the company operations associated with the production of product(s) undergoing assessment. This information can be reported using Table 9.6. The reporting of employment information required in Table 9.1 can be made by either a detailed breakdown or general summary of compliance.

Table 9.6 Supplier's Social Indicator Reporting

Product Platform/Family \_\_\_\_\_  
 Name of Supplier \_\_\_\_\_  
 Facility Location \_\_\_\_\_  
 Contact Person/Phone \_\_\_\_\_  
 Date \_\_\_\_\_

Description of Indicator	Yes or No	Supplier Comments	Reference Document
<b>Labor practices and decent work</b>			
Do you document and record breakdown of workforce status (employee or non-employee), employment type (full-time/part time), and employment contract (indefinite or permanent/fixed temporary or temporary) and identify workforce retained vs. temporary workforce?			
Do you document and record your net employment creation, and average turnover?			
Do you offer employee benefits, beyond those legally mandated?			
<b>Health and Safety</b>			
Do you document and record occupational accidents, injuries, illnesses and disease, such as an OSHA 300 log? If so, please attach a copy of the OSHA 300 summary.			
<b>Human Rights</b>			
Do you have policies and procedures dealing with all aspects of Human Rights relevant to operations including monitoring mechanisms and results? If so, please attach a copy of each policy.			
Do you have policies and procedures to evaluate and address human rights performance within the supply chain and contractors, including monitoring systems and results? If so, please attach a copy of policy or documentation.			
Please describe your policy and procedures excluding child labor including monitoring systems and results. If possible, please provide a copy of policy or documentation.			
<b>Community</b>			
Please describe policies to manage impacts on communities in areas affected by activities as well as description of procedures to address this issue, including monitoring systems and results.			

### **9.7.1 Quality Management System**

1 point

**Documentation:** The manufacturer can provide its ISO 9001 certificate as evidence of its effective and active Quality Management System.

If the manufacturer has an equivalent Quality Management System, the manufacturer will provide detailed information on its QMS system.

### **9.7.2 ISO 9001 Quality Management System Certification**

1 point

**Documentation:** The manufacturer shall provide current documentation from its third party certifier of its current ISO 9001 registration.

### **9.8 Design for Environment (DfE) and/or LCA Process**

3 points

**Documentation:** Manufacturer shall submit a completed DfE Product Design Matrix, or equivalent for each product undergoing assessment. The State of Minnesota's DfE Product Design Matrix, with instructions for completion can be downloaded from <http://www.pca.state.mn.us/oea/publications/dfetoolkit.pdf>  
Alternative tools can be found through the EPA website at <http://www.epa.gov/dfe/pubs/about/index.htm>

## **9.9 Waste Minimization or Waste Reduction**

A manufacturer shall maximize the yield from product feedstock and minimize the generation of waste materials during production. The manufacturer shall direct recyclable resources back into the manufacturing process. Inefficient materials selection, supplier delivery, production processes, and warehousing operations can lead to high levels of waste generation and corresponding losses in production yields. Documented and operational waste minimization or waste reduction planning is a practical tool for improving operations and reducing waste.

For the purposes of this section of this Standard, improvements over a three-year time period shall be measured. Waste is defined in 3.18. Discarded materials identified in the waste minimization plan and managed through internal or external reuse or recycling or compositing operations, or utilized for energy production, shall be excluded from the waste generation calculation.

A manufacturer may be awarded points for compliance with either 9.9.2 or 9.9.2.1. The manufacturer cannot be awarded points for compliance with both sections.

### **9.9.1 Documented and operational waste minimization or waste reduction program**

1 point

**Documentation:** Manufacturer will provide documentation of its operational procedures and processes for waste minimization.

**9.9.2 Minimizing Waste Generation**

2 points

**Documentation:** Manufacturer will complete Table 9.9.2. for the product platform to be assessed.

Table 9.9.2 Waste Generation

Product Platform/Facility: \_\_\_\_\_

Production Volume lbs	Waste Generated lbs	Waste Generated %	Data Type (M,C,A,E,U)

**-Or-**

**9.9.2.1 Waste Reduction**

2 points

**Documentation:** Manufacturer will complete Table 9.9.2.1 for the product platform to be assessed.

Table 9.9.2.1 Waste Reduction

Product Platform/Facility: \_\_\_\_\_

Year 1 Production Volume lbs	Year 1 Waste Generate d lbs	Year 1 Waste Generated %	Year 3 Production Volume lbs	Year 3 Waste Generated lbs	Year 3 Waste Generated %	Waste Reductio n Year 3- Year 1 %	Data Type (M,C,A,E,U)

## 10. RECLAMATION AND END OF LIFE MANAGEMENT (EOL)

This section encourages product reuse, recycling, and reclamation, thereby reducing waste to landfill and incineration. It requires extended life of the system including proper installation and maintenance. A manufacturer or supplier shall have its own materials management system or demonstrate financial or contractual instruments whereby it takes materials that start as carpet and are reclaimed and/or recycled. This category accounts for recycling materials from their highest to lowest use after production, encouraging reuse and avoiding disposal in landfills.

This section helps further Carpet America Recovery Effort (CARE) goals and documents carpet reclamation over the supply chain, avoiding landfilling and incineration. CARE is an industry-government effort established as a result of a Memorandum of Understanding (MOU) for Carpet Stewardship to increase the amount of recycling and reuse of post-consumer carpet and reduce the amount of carpet waste going to landfills. For more information, see <http://www.carpetrecovery.org>

### 10.2 Reclamation and recycling program

A manufacturer shall make reclamation processes available to greater than 50% of its customer base. Credits may be obtained individually or in any combination as the manufacturer's reclamation program applies.

#### 10.2.1 Operational reclamation program (PREREQUISITE)

1 point

**Documentation:** As suggested in Table 10.2.1, provide facility name, location, quantity of manufacturer's product processed, and any products excluded from processing for each facility where the manufacturer's product is reclaimed. To demonstrate that the reclamation opportunities do indeed exist, it is recommended that documentation be provided for at least 1% or 40,000 lbs (whichever is smaller) of post-consumer product collected within the past twelve months.

For newly launched products, operators of recognized carpet reclamation programs shall provide verification of reclamation capacity.

All information provided shall be reflective of the product platform(s) undergoing evaluation.

**Table 10.2.1: Product Reclamation Opportunities**

Facility Name	Facility Location (City/State)	Quantity of Manufacturer's Products processed (estimate)	Manufacturer's products excluded from processing	Data Quality		
				S	T	D

### **10.2.2 Extended Product Life (PREREQUISITE For Platinum)**

1 point

**Documentation:** Manufacturer shall provide the following:

- a. Certification that the carpet meets the applicable performance durability requirements (See Section 9. 3);
- b. Copies of standard sales contracts demonstrating that the manufacturer recommend installation of the carpet using the CRI Carpet Installation Standard or manufacturer's equivalent; and
- c. Copies of standard sales contracts or other applicable documents demonstrating that the manufacturer recommends customers following the CRI Care & Maintenance guide or manufacturer's equivalent.

**10.2.3 Product Reclamation (10% product reclamation is a PREREQUISITE for Platinum)**

Maximum 17 points

**Documentation:** Manufacturer shall supply documentation of annual weight of carpet reclaimed as recommended in Table 10.2.2.1 below. Eligible reclamation activities include: 1) on-site post-consumer carpet recycling operations; 2) purchase of post-consumer carpet materials for manufacture into new carpet or alternative products; and 3) other financial or contractual instruments which can be quantified as to annual weight of carpet reused or recycled. Reclamation rate shall be calculated as follows:

$$\text{Reclamation Rate} = \frac{\text{Lbs of all product reclaimed (annually)}}{\text{Lbs of annual production of product(s) being certified}}$$



### **10.3 Transparent secondary materials reclamation system**

2 points

**Documentation:** The manufacturer shall identify one or more operating material management facilities with the ability to reclaim the manufacturer's product into a 'secondary' (i.e., non-carpet) product(s).

The manufacturer shall also demonstrate that the reclamation opportunity is available to greater than 50% of the customer base. This customer availability can be tied to the number of customers, the quantity of product procured, or another, equivalent option recommended by the manufacturer.

#### **10.4 Transparent materials reclamation system**

Maximum 2 points – 1 point pre-consumer, 2 points post-consumer

**Documentation:** The manufacturer shall identify one or more operational material management facilities, owned or otherwise obligated by the manufacturer, with the ability to reclaim the manufacturer's secondary materials (pre-consumer (1 point) post-consumer (2 points)) into the same product system from which they originated.

The manufacturer shall also demonstrate that the reclamation opportunity is available to greater than 50% of the customer base. This customer availability can be tied to the number of customers, the quantity of product procured, or another, equivalent option recommended by the manufacturer.

### **10.5 Transparent re-purposed materials reclamation system**

2 points

**Documentation:** The manufacturer shall identify one or more operating material management facilities with the ability to reclaim materials that start as carpets and are repurposed/refurbished/reused as equivalent carpet products through the reclamation program

The manufacturer shall also demonstrate that the reclamation opportunity is available to greater than 50% of the customer base. This customer availability can be tied to the number of customers, the quantity of product procured, or another, equivalent option recommended by the manufacturer.

## 11. Innovation (INV)

### 10 pts maximum for any innovation credits

The intent of this section is to provide manufacturers the opportunity to be awarded points for *exceptional* performance above the requirements set by this Standard and/or *innovative* performance not specifically addressed by this Standard.

Innovation points shall be applied for and submitted by applicants to address topics that will further the promotion of sustainable carpet. A maximum of ten points shall be awarded for innovation points.

#### 11.1 Innovation credit

Guidance for this section may be found in Annex C of NSF/ANSI 140-2007e.

**Documentation:** The certifying agency will be responsible for evaluating the submission from the manufacturer and for determining the total number of innovation credits that will be awarded to the manufacturer.

To help provide consistency and clarity to the process, manufacturers or certifiers may refer to a list of experts, who would be available for consultation on innovation proposals. Manufacturers can either contact the Joint Committee chair, or NSF (as the JC secretariat) to get the most updated list of available experts.

It is important to note that the award of innovation credits for one certification at a specific point in time does not constitute automatic approval for a similar strategy in a future certification.

Approved innovation credits may be pursued by any manufacturer.

For each innovation point submitted for consideration, provide an 'Innovation Credit Briefing'. This document shall include:

- Identification of the proposed innovation credit intent
- Description of the innovative technology or processes applied
- Documentation and quantification of results to demonstrate quantifiable environmental or social benefits
- Proposed number of innovation credits and justification for the requested quantity of credits.

## Annex A: Target Achievement Level Scorecard

				<i>Gold and/or Platinum Prerequisites in Italics</i>	
<b>Manufacturer</b>					
<b>Product Platform/Family:</b>					
Yes	?	No			
<b>Public Health &amp; Environment (PHE)</b>					<b>30 Points</b>
1	Required		6.2.1	Feedstock Inventory Documentation	1
1	Required		6.2.2	Input PBT Chemicals and other chemicals of concern	1
1	Required		6.3.1	PBDE Flame Retardants	1
1	<i>Req Gold &amp; Platinum</i>		6.3.2	<i>Minimize Indoor Air VOC's (met by Green Label Plus)</i>	1
			6.3.3.1	Inventory Air, Water & Waste (Media) Pollutants	4
			6.3.3.2	Output PBT emissions and emissions from other chemicals of concern	1
			6.3.3.3.1	Reduction beyond compliance (1986-1999)	
				or	8
			6.3.3.3.2	Reduction in specified life cycle impact categories (1986-99)	
			6.3.3.4	Reduction in specified life cycle impact categories (2000 and beyond)	8
			6.3.4	Minimize indoor carcinogenic VOC emissions	1
			6.3.5.1	Minimize Indoor formaldehyde emissions	1
			6.3.5.2.1	Supplier's material and process inputs present at 1%	1
			6.3.5.2.2	PBTs released as process outputs	1
			6.3.5.2.3	PBTs used in materials or process inputs	1
<b>4</b>	<b>0</b>	<b>0</b>	<b>TOTALS</b>		<b>30</b>
Yes	?	No			

			Energy & Energy Efficiency (EN)		20 Points
<b>Manufacturing Facility Only:</b>					
1	Required		7.2.1	<b>Inventory electrical and thermal energy</b>	1
			7.2.2.1	≥1% Renewable Energy and/or energy reduction	2
			7.2.2.1	≥2% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥5% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥8% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥10% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥15% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥20% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥25% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥35% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥50% Renewable Energy and/or energy reduction	1
			7.2.2.1	≥75% Renewable Energy and/or energy reduction	1
				<b>Suppliers Use of Renewable Energy:</b>	
			7.2.3	≥1% Renewable Energy	2
			7.2.3	≥25% Renewable Energy	1
			7.2.3	≥35% Renewable Energy	1
			7.2.3	≥50% Renewable Energy	1
			7.2.3	≥75% Renewable Energy	1
			7.2.4	Green House Gas Emissions Inventory	1
1	0	0	<b>TOTALS</b>		20
Yes	?	No			
			<b>Bio-based, Recycled Content or EPP* Materials (MATLS)</b>		<b>22 Points</b>
2	Required		8.2	<b>Materials Content Inventory</b>	2
			8.2.1	>5% bio-based or recycled content	2
			8.2.1	>10% bio-based or recycled content	1
				OR	
1	<i>Req Platinum</i>		8.2.1	≥10% <i>post consumer recycled content</i>	

			8.2.1	<u>&gt;15% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;20% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;25% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;30% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;35% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;40% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;45% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;50% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;55% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;60% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;65% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;70% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;75% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;80% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;85% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;90% bio-based or recycled content</u>	1	
			8.2.1	<u>&gt;95% bio-based or recycled content</u>	1	
				<i>*EPP materials are awarded points up to 25% only.</i>		
<b>3</b>	<b>0</b>	<b>0</b>	<b>TOTALS</b>		<b>22</b>	
Yes	?	No				
			<b>Manufacturing (MFG)</b>			<b>17 Points</b>
<b>1</b>	Required		9.2.1	Policy, EMS & Publicly Available Targets	1	
<b>1</b>	Required		9.2.2	Manufacturer's Social Indicator Reporting	1	
<b>1</b>	Required		9.3	Performance Durability	1	
<b>3</b>	<i>Req Platinum</i>		9.4	<i>LCA for product platform undergoing assessment</i>	3	
			9.5	Environmental Management System Certification	2	
			9.6	Supplier's Social Indicator Reporting	1	
			9.7.1	Quality Management System	1	
			9.7.2	ISO 9001 Quality Management System Certification	1	
			9.8	Design for Environment Process and/or LCA Process	3	

			9.9.1	Documented and Operational waste minimization or waste reduction program	1
			9.9.2	Minimizing Waste Generation	2
				OR	
			9.9.2.1	Waste Reduction	
<b>6</b>	<b>0</b>	<b>0</b>	<b>TOTALS</b>		<b>17</b>
Yes	?	No			
<b>Reclamation and End of Life Management (EOL)</b>					<b>25 Points</b>
<b>1</b>	Required		10.2.1	Operational Reclamation Program	<b>1</b>
<b>1</b>	<i>Req Platinum</i>		10.2.2	<i>Extended Product Life</i>	<b>1</b>
			10.2.2.1	≥2% Product Reclamation	1
			10.2.2.1	≥4% Product Reclamation	1
			10.2.2.1	≥6% Product Reclamation	1
			10.2.2.1	≥8% Product Reclamation	1
<b>1</b>	<i>Req Platinum</i>		10.2.2.1	≥10% <i>Product Reclamation*</i>	<b>1</b>
			10.2.2.1	≥11% Product Reclamation	1
			10.2.2.1	≥15% Product Reclamation	1
			10.2.2.1	≥20% Product Reclamation	1
			10.2.2.1	≥25% Product Reclamation	1
			10.2.2.1	≥30% Product Reclamation	1
			10.2.2.1	≥35% Product Reclamation	1
			10.2.2.1	≥40% Product Reclamation	1
			10.2.2.1	≥45% Product Reclamation	1
			10.2.2.1	≥50% Product Reclamation	1
			10.2.2.1	≥60% Product Reclamation	1
			10.2.2.1	≥70% Product Reclamation	1
			10.2.2.2	≥80% Product Reclamation	1
			10.3	Transparent Secondary Materials Reclamation Systems	2
			10.4	Transparent Materials Reclamation Systems	2
			10.5	Transparent repurpose Materials Reclamation Systems	2
<b>3</b>	<b>0</b>	<b>0</b>	<b>TOTALS</b>		<b>25</b>

				<i>*For 2007, 10% reclamation and recycling is a prerequisite for Platinum, consistent with CARE goals. Check CARE website for subsequent years' goals.</i>	
<b>17</b>	<b>0</b>	<b>0</b>	<b>Total Before Innovation</b>		<b>114</b>
Yes	?	No			
			<b>Innovation (Bonus Points)</b>		<b>10</b>
			11.1	Innovation Credit	10
		GRAND TOTAL	<b>TARGET ACHIEVEMENT LEVEL (CIRCLE ONE): SILVER, GOLD, PLATINUM</b>		
				Silver $\geq$ 37 points	
				Gold $\geq$ 52 points	
				Platinum $\geq$ 60 points	

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