NSF Standard
For Sustainability Assessment for Resilient Floor Coverings

Sustainability assessment for resilient floor coverings

1 General

1.1 Purpose

The overall purpose of this Standard is a thorough communication of information that is verifiable, accurate, and not misleading about environmental and social aspects associated with the production and use of resilient floor coverings. Such communication is expected to encourage the demand for and supply of products that cause less stress on the environment and society, thereby stimulating the potential for market-driven continuous improvement.

This Standard is intended to be science based, provide transparency, and offer credibility for manufacturers in making claims of environmental preferability and sustainability, and to harmonize the principles and procedures used to support such claims.

This Standard provides a practice for assessing the sustainability of resilient floor coverings. Sustainability-related information can inform a manufacturer’s decisions about supply chain modifications, product content changes, manufacturing adjustments, performance improvements, end-of-life options, and corporate governance, with the goal of producing more sustainable products.

This Standard addresses environmental performance and sustainability attributes (including social aspects) of products, and provides a means to track incremental changes to the products’ sustainability profile. This Standard is intended to provide a consistent framework in which to compare and assess the sustainable nature of different products within the context of performing similar functions.

This Standard is intended to be used primarily by product manufacturers interested in understanding the sustainability performance of their products. Independent auditors, certification bodies and environmental labeling organizations are also potential users of this Standard for its use in supporting market-based environmental and sustainability claims. This Standard may also be used by purchasers and consumers who wish to ensure that manufacturers are accurately declaring the sustainable nature of their products.

1.2 Scope

This Standard establishes a consistent approach to the evaluation and determination of environmentally preferable and sustainable resilient floor coverings. The Standard includes relevant criteria across the product life cycle from raw material extraction through manufacturing, use, and end-of-life management.

As used in this Standard, “resilient floor coverings” includes, but is not limited to, vinyl tile, vinyl composition tile, sheet vinyl, rubber, poly-olefin or ethylene, and linoleum flooring products in which the wearing surface is non-textile. Also included are flooring accessories such as wall base, moldings, and stair treads. The Standard is applicable to products manufactured in one facility or multiple facilities, one country or multiple countries.
1.3 Principles

This standard practice was developed based on the following important principles.

1.3.1 Life cycle consideration

The life cycle of a product ranges from activities associated with the production and delivery of raw materials or generation of natural resources to the final disposal. This Standard was developed with consideration of the life cycle of resilient floor coverings to help identify the appropriate and relevant characteristics and criteria to be used in evaluating a product’s environmental preferability and sustainability.

1.3.2 Relationship with legislation

A precondition for claiming conformance with this Standard shall be compliance with environmental and other relevant regulations.

1.3.3 International trade aspects

The procedures and requirements included within this Standard have not been prepared, adopted, or applied with a view to creating unnecessary obstacles to international trade.

1.3.4 Scientific basis

The criteria contained in this Standard were developed and selected based on sound scientific and engineering principles intended to produce accurate, reproducible results.

1.3.5 Product innovation

Use of this Standard is intended to support, not inhibit, innovation that maintains or has the potential to improve environmental and social accountability performance.

2 Normative references


1 ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. http://www.astm.org


ASTM F1861. Standard Specification for Resilient Wall Base


ASTM F2169 Specification for Resilient Stair Treads


CA/DHS/EHLB/R-174, Indoor Air Quality Section, Environmental Health Laboratory Branch, Division of Environmental and Occupational Disease Control, California Department of Health Services. Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5 Article 2, Consumer Products, Sections 94507-94517, The California Consumer Products Regulations –Consumer Products

California Proposition 65, Safe Drinking Water and Toxic Enforcement Act of 1986

CML, Leiden University Institute of Environmental Sciences, Chain Management by Life Cycle Assessment (CMLCA)


EN 14565, Specification for Resilient Floor Coverings based on Synthetic Thermoplastic Polymers

Global Reporting Initiative (GRI), G3 Reporting Framework

2 California Air Resources Board 1001 I Street, P. O. Box 2815, Sacramento, CA 95812; http://www.arb.ca.gov/consprod/regs/regs.htm

3 California Office of Environmental Health Hazard Assessment, P. O. Box 4010, Sacramento, CA 95812-4010; http://www.oehha.ca.gov/prop65/prop65_list/Newlist.html

4 Leiden University Institute of Environmental Sciences (CML), P. O. Box 9518 2300 RA Leiden, The Netherlands http://www.leidenuniv.nl/interfac/cml/ssp/index.html


6 British Standards Group (BSI), 389 Chiswick High Road, London, W4 4AL, UK; www.bsi-global.com
ILO C29 Forced Labour Convention, 1930 (No. 29)\(^8\)

ILO C105 Abolition of Forced Labour Convention, 1957 (No. 105)\(^11\)

ILO C182 Worst Forms of Child Labour Convention, 1999 (No. 182)\(^11\)

ISO 14001, 2004, Environmental management systems – Requirements with guidance for use\(^12\)

ISO 14021, 1999, Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling)\(^9\)

ISO 14040, 2006, Environmental management – Life cycle assessment – Principles and framework\(^12\)

ISO /TR 14049:2000, Environmental management- Life cycle assessment- Examples of application of ISO 14041 to goal and scope definition and inventory analysis\(^12\)

ISO/TR 14047:2003, Environmental management- Life cycle assessment- Examples of application of ISO 14042\(^12\)

ISO 14064:1, 2006, Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals\(^12\)

ISO 14064:2, 2006, Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements\(^10\)

ISO 14064:3, 2006, Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions\(^12\)

MOEA, Minnesota Office of Environmental Assistance, Design for Environment Toolkit\(^10\)

National Institute of Standards and Technology (NIST) Building for Environmental and Economic Sustainability (BEES) software\(^11\)

Resilient Floor Covering Institute FloorScore Program\(^12\)

\(^7\) Global Reporting Initiative, Keizersgracht 209 1016 DT Amsterdam, The Netherlands;  http://www.globalreporting.org/Home

\(^8\) International Labour Office, 4 route des Morillons CH-1211 Geneva 22, Switzerland;  http://www.ilo.org

\(^9\) International Organization for Standardization (ISO), 1 ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland  http://www.iso.ch/iso/en/ISOOnline.frontpage

\(^10\) Minnesota Pollution Control Agency, 520 Lafayette Road, St. Paul, MN 55155-4194;  http://www.pca.state.mn.us/oae/publications/dfetoolkit.pdf

\(^11\) Building and Fire Research Laboratory NIST, 100 Bureau Drive, Stop 8600, Gaithersburg, MD 20899-8600;  http://www.bfri.nist.gov/oae/software/bees.html

\(^12\) Resilient Floor Covering Institute, 115 Broad Street Suite 201, LaGrange, Georgia 30240;  http://www.rfci.com
3 Definitions

3.1 bio-based resource: A product component (other than food or feed) that is derived in whole or significant part from biological production operations, such as agriculture, forestry, or fisheries. A bio-based resource can be exhausted if improperly managed. However, a bio-based resource can be produced indefinitely with proper stewardship.

3.2 environmentally preferable: A product, material or content that has a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

3.4 key supplier: A supplier of a material ingredient that comprises at least 5% by weight of a particular finished product, or that contains one or more chemicals of concern as defined by section 5.4.1a – 5.4.1e.


16 United Nations Framework Convention on Climate Change, Kyoto protocol

17 United States Environmental Protection Agency (USEPA) National Environmental Performance Track Program

18 United States Environmental Protection Agency (USEPA) Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI)

19 United States Environmental Protection Agency (USEPA) Toxics Release Inventory (TRI) Program

Comment [MC2]: Throughout the document the term “product” is used. That can become a too-narrow description as typically product categories or platforms or groupings are certified. Proposal: refer to products, plural – or use term category, platform, or group.

1470 Dave Kitts

Comment [MC3]: Dave Kitts 1474
3.3 Green Cleaning Strategies from current draft standard is not in this new revision. Was that deletion an oversight or intentional? Proposal: review need for that definition

http://www.epa.gov/triinter/lawsandregs/pbt/pbtrule.htm

http://unfccc.int

http://performancetrack/index.htm


http://www.epa.gov/nrmrl/std/sab/traci
3.5 **key supplies**: Includes material such as cartons, packaging, raw materials, etc. from a key supplier.

3.6 **life cycle assessment (LCA)**: A systematic evaluation of the environmental impact of a product that may include all stages of its life cycle.

3.7 **life cycle impact assessment (LCIA)**: A phase of life-cycle assessment aimed at understanding and evaluating the magnitude and significance of the potential environmental impact categories.

3.8 **life cycle inventory analysis**: A phase of life-cycle assessment involving compilation and quantification of inputs and outputs for a given product system may include all stages of its life cycle.

3.9 **local employment**: Employment of workers who reside within 15 mi of the primary place of employment, or can access the primary place of employment within 30 min on public transit or by car pool.

3.10 **post-consumer recycled material**: Waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of a product, which is no longer used for its intended purpose (see ISO 14021).

3.11 **pre-consumer recycled material**: Material diverted from the waste stream during the manufacturing process. This term excludes reutilized materials such as rework, regrind, and scrap that are capable of being reclaimed within the same process that generated them.

3.12 **registration**: A procedure by which an independent third party gives written assurance that a system conforms to specified requirements, mandatory or voluntary, regulated or non-regulated.

3.13 **resilient floor covering**: Includes, but is not limited to, vinyl tile, vinyl composition tile, sheet vinyl, rubber, poly-olefin or ethylene, and linoleum flooring products in which the wearing surface is non-textile. Also included are flooring accessories such as wall base, moldings, and stair treads.

4 **Conformance, evaluation, and assessment criteria**

4.1 **Elements**

This sustainability assessment standard is divided into six basic categories consisting of credits that are potentially available to organizations seeking compliance with the standard. The six categories are:

- Informed Product Design;
- Intelligent Product Manufacturing;
- Long-term Value;
- End of Life Management;
- Progressive Corporate Governance; and
- Innovation.

The criteria are grouped in general conformance with a product’s life cycle, from design with material selection and production to manufacturing, use, and end of life. Additionally, criteria related to corporate governance are included to address issues of social responsibility.

4.2 **Prerequisites**
Each category has one or more prerequisites that are required, as the minimum performance against the Standard. Users shall meet all prerequisites in each category in order to proceed. Once all prerequisites are met, users may achieve optional points toward multiple levels of achievement in each category by meeting specified performance requirements. Prerequisites by category include:

For Informed Product Design:
- 5.2.1 Environmental Considerations in Design
- 5.3.1 Inventory of Material Inputs
- 5.4.1 Identification of Use of Chemicals of Concern

For Intelligent Product Manufacturing:
- 6.2.1 Environmental System Policy
- 6.3.1 Energy Inventory
- 6.4.1 Inventory of Water Use

For Long-term Value:
- 7.2.1 Recommended Usage
- 7.2.2 Durability
- 7.3.1 Minimal Long Term Indoor VOC Emissions

For Progressive Corporate Governance:
- 9.2.1 Preliminary Disclosure
- 9.3.5 Prohibitions on Forced Labor
- 9.3.6 Prohibitions on Child Labor

4.3 Scoring methodology

For users choosing to rate the sustainability performance of products evaluated in accordance with this Standard, a point-based scoring system has been developed. Presented in Annex A, this system is based on an 82-point scale (excluding optional innovation credits), with the different points for the various assessment criteria allocated as follows:

a) Informed Product Design – 29 points
b) Intelligent Product Manufacturing – 28 points
c) Performance Value – 14 points
d) End of Life Management – 10 points
e) Progressive Corporate Governance – 11 points
f) Innovation – maximum of 10 points

4.4 Procedures for labeling and reporting

4.4.1 Basic principle

The methodology for assessing whether a product conforms to the product environmental and social responsibility criteria and for verifying ongoing conformance shall be documented and be of sufficient detail to provide consumer confidence that this Standard has been correctly conformed to.

4.4.2 Declaration of level of conformance/labeling

Comment [MC6]: in 4.4.2 – levels of conformance – in relation to 10 possibly available innovation credits – the 16 points required for “conformant” means conceivably a product platform could garner 10 innovation credits & thus need just 6 “regular” points – Seems we need to discuss this.
Proposal: review points & appropriateness of them vs levles & innovation Dave Kitts 1475
Achievement of conformance with the requisite criteria/points shall permit users to make the following product declarations:

a) Sustainable Product Achievement – Conformant: Minimum 16 points
b) Sustainable Product Achievement – Silver: Minimum 26 points
c) Sustainable Product Achievement – Gold: Minimum 37 points
d) Sustainable Product Achievement – Platinum: Minimum 56 points

4.4.3 Public reporting

Users making a declaration of conformance should report this in a publicly available document.

4.4.4 Monitoring and reevaluation

Documented procedures shall exist that demonstrate measurement of, and the regular monitoring of continued conformance to this Standard.

4.4.5 Non-conformance and corrective and preventative action

Authority shall be assigned and supported by corporate management for identifying and investigating nonconformance, and taking the appropriate action. In establishing and maintaining procedures for investigating and correcting non-conformance, the manufacturer shall include these basic elements:

a) Identify the cause of the non-conformance;
b) Identify and implement the necessary corrective action;
c) Implement or modify controls necessary to avoid repetition of the non-conformance; and
d) Record any changes in written procedures resulting from the corrective action.

4.4.6 Certification

Information on suggested parameters for certification is provided in Annex B.

5 Informed product design

5.1 Purpose

The purpose of this section is to encourage manufacturers to integrate environmental and life-cycle thinking into the product design process.

5.2 Enlightened design process

The intent of the criteria in this section is to encourage the understanding of environmental impacts of products by the product designers and developers.

5.2.1 Prerequisite - Environmental considerations in design

The manufacturer shall implement an environmental assessment program within the product design and development system. The program shall consider the environmental attributes and impacts of its products
and packaging, including issues such as designing for longevity, designing for reusability, and designing for recyclability and/or compostability. The environmental assessment program shall consider environmental attributes and impacts of products and packaging across the entire product life cycle (e.g., raw material extraction, manufacturing, use, and end of life).

### 5.2.2 Life cycle assessment (LCA) or Design for Environment (DfE) assessment

By demonstrating that one of the following actions below was completed within the past three years relative to the product undergoing assessment, the manufacturer shall receive points as detailed below. A maximum of three points shall be awarded for 5.2.2.

The manufacturer shall receive one point if it completes a DfE (or equivalent) assessment

The manufacturer shall receive two points if it completes a cradle-to-gate or cradle-to-grave Life Cycle Assessment conforming to ISO 14040 / ISO 14044 standards on life cycle assessment. Life cycle impact assessment factors shall be taken from publicly available sources such as TRACI (US EPA Tools for the Reduction and Assessment of Chemical and other Environmental Impacts or CMLCA (Institute of Environmental Sciences, Leiden University). At a minimum, the following life cycle impact categories shall be characterized:

- Global Warming
- Acidification
- Ozone depletion
- Photochemical Smog Formation
- Eutrophication

### 5.3 Environmentally sustainable material inputs

The criteria in this section are intended to ensure that the manufacturer is fully informed as to the material composition of its products, including packaging and recommended adhesive systems. The criteria are also meant to encourage the selection and use of component materials manufactured wholly or in part from environmentally sustainable inputs such as recycled materials (post-consumer and post-industrial) and bio-based resources.

#### 5.3.1 Prerequisite - Inventory of material inputs

The manufacturer shall complete an inventory of material inputs for the product undergoing assessment (including packaging and recommended adhesive system). At a minimum, the inventory shall report inputs on using Chemical Abstract Service (CAS) nomenclature, with inputs classified as hazardous declared to a minimum 1000 ppm (0.1%) threshold and other inputs to 10,000 ppm (1.0%) threshold. The manufacturer shall classify the materials by their environmentally sustainable nature (e.g., recycled [pre- or post-consumer], bio-based, environmentally preferable).

#### 5.3.2 Environmentally sustainable inputs – product

For the product undergoing assessment, the manufacturer shall declare the total quantity of environmentally sustainable inputs (e.g., recycled [pre- or post-consumer], or bio-based), specified on a

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Comment [MC7]: The requirement that biobased materials be certified organic is a nice thought but quite frankly is not viable at this point in time, nor does it appear to be viable within a several year time frame. The use of organic in some situations has been shown to be negative while in others quite positive. Using organic for industrial sources currently is simply too high of a bar and does not promote the move to organic in a reasonable manner.

Proposal: Remove the organic requirement (at least for the lower percentage levels) and allow just biobased to achieve credit.

Paul Firth 1483

20 (see http://www.moea.state.mn.us/p2/DFEtoolkit.cfm)
percentage weight basis. The manufacturer shall receive one point per 5.0% environmentally sustainable content. A maximum of eight points shall be awarded for 5.3.2.

Recycled content quantity shall be calculated as follows:
- Post-consumer recycled content shall be valued at 100% weight basis; and
- Pre-consumer recycled content shall be valued at 50% weight basis.

Bio-based resource content shall be calculated as follows:
- Bio-based resources sourced from operations operating in conformance with internationally recognized organic, sustainable agriculture, or sustainable forestry criteria (examples: USDA Organic and Forest Stewardship Council certified resources) shall be valued at 100% basis.

5.3.3 Environmentally sustainable inputs – packaging

For the product undergoing assessment, the manufacturer shall declare the total quantity of environmentally sustainable inputs of the packaging materials specified on a percentage weight basis. The quantity shall be calculated as described in 5.3.2. The manufacturer shall receive either one point for 50% to 74% post-consumer recycled content, or two points for 75% or greater post-consumer recycled content.

5.4 Human and ecologically friendly inputs

The criteria in this section are intended to ensure that the manufacturer is fully informed as to the human and ecological hazards associated with the chemical composition of its products, including the recommended adhesive systems. These criteria are also meant to encourage the use of environmentally compatible chemicals while minimizing and eliminating the use of chemicals of concern.

5.4.1 Prerequisite - Identification of use of chemicals of concern

The manufacturer shall create a report classifying the raw material inputs for the product undergoing assessment, including recommended adhesive, by the chemical hazard classifications listed below. At a minimum, the manufacturer shall report whether the raw material input comprising at least 1000 ppm of the product or adhesive is classified as any of the following:

a) International Agency on the Research of Cancer (IARC), Group 1 – Carcinogenic to Humans and Group 2A – Probably Carcinogenic to Humans.

b) National Toxicology Program (NTP) – Known Human Carcinogen;

c) Occupational Safety and Health Administration (OSHA) – Regulated Toxic Metal or Carcinogen;

d) California Proposition 65 – Known to cause cancer or reproductive toxicity;

e) USEPA Toxic Release Inventory (TRI) persistent, bioaccumulative, and toxic (PBT) chemicals – Known persistent, bioaccumulative, and toxic chemicals and compounds (a subset of the EPA TRI list of chemicals and compounds); or

Comment [MC8]: 5.3.3 – just accentuates recycled content as a sustainable input, not bio-based resources as done for flooring product in 5.3.2
Proposal: suggest this credit also acknowledge bio-based resources for packaging as does for flooring product in 5.3.2
Dave Kitts 1476

Comment [MC9]: The carcinogen list should also include the NTP “reasonably anticipated human carcinogens.” This will make usage of the NTP list consistent with the IARC and Prop 65 carcinogen listings.
1431 Jim Darr

Comment [MC10]: Other well-recognized PBT lists should be considered, such as the RCRA Waste Minimization list, the U.S. - Canada Binational list, the Stockholm Convention POPs list, and the EC RoHS list. All these lists are referenced in the NSF carpet standard.
1434 Jim Darr
f) USEPA TRI – Complete USEPA toxic chemical list (including known PBT chemicals and compounds).

   NOTE – This raw material input includes only ingredients added intentionally.

5.4.2 Minimization of known chemicals of concern in product

The manufacturer shall receive one point for demonstrating that the product does not contain any known carcinogen as listed in 5.4.1a – 5.4.1d at levels equal or greater than 1000 ppm (0.1%) or the level that requires labeling under California Proposition 65, whichever is higher.

The manufacturer shall receive one point for demonstrating that the product does not contain any known reproductive toxicant as listed in 5.4.1d at levels equal or greater than 1000 ppm (0.1%) or the level that requires labeling under California Proposition 65, whichever is higher.

The manufacturer shall receive one point for demonstrating that the product does not contain any known toxic metal as listed in 5.4.1c at levels equal or greater than 1000 ppm (0.1%).

The manufacturer shall receive one point for demonstrating that the product does not contain any known PBT chemical or compound as listed in 5.4.1e at levels equal or greater than 1000 ppm (0.1%).

The manufacturer shall receive one point for demonstrating that the product does not contain any other toxic chemical as listed in section 5.4.1f at levels equal or greater than 1000 ppm (0.1%).

A maximum of five points shall be awarded for 5.4.2.

5.4.3 Minimization of known chemicals of concern in recommended adhesive

The manufacturer shall receive one point for demonstrating that no component listed as a carcinogen or reproductive toxicant as defined in 5.4.1a – 5.4.1d comprises more than 1% (10,000 ppm) of the total mass of the adhesive.

5.4.4 Elimination of chemicals with upstream concerns

For those material inputs present in the product at equal or greater than 5% (five percent), the manufacturer shall receive:

- One point for demonstrating that one step upstream of the life cycle manufacturing boundaries does not release known PBT chemicals or compounds (see 5.4.1e) at or above USEPA TRI PBT reporting thresholds; and/or

- One point for demonstrating that one-step upstream of the life cycle manufacturing boundaries does not release any listed TRI chemicals or compounds (see 5.4.1f) at or above USEPA TRI reporting thresholds.

5.5 Informed selection of suppliers

The intent of the criteria within this section is to ensure that manufacturers are aware of the environmental performance and social accountability of their supply chains.

5.5.1 Supplier environmental disclosure
The manufacturer shall receive one point for documenting the implementation of a key supplier environmental disclosure process requiring supplier disclosure of environmental performance information including, at a minimum:

- Compliance (or lack thereof) with local, regional, and national environmental requirements and report of any outstanding violations or issues of non-compliance;
- Presence (or absence) of a documented environmental management system prepared and operated in general accordance with ISO 14001;
- Release of reportable quantities of TRI PBTs;
- Use (or lack thereof) of renewable energy supplies; and
- Provide evidence of greenhouse gas emissions tracking.

5.5.2 Supplier environmental performance disclosure

The manufacturer shall document the percent of its key suppliers that have satisfactorily conformed to the company’s environmental disclosure requirements as described in 5.5.1. The manufacturer shall receive one point if 50-74% of its key suppliers have conformed, or receive two points if 75% or more of its key suppliers have conformed.

5.5.3 Supplier social accountability

The manufacturer shall receive one point for documenting the implementation of a supplier social accountability disclosure process requiring supplier disclosure of social accountability information including, at a minimum:

- Declaration of compliance with local, regional, and national labor requirements, and report of any outstanding violations or issues of non-compliance; and
- Documentation and assessment of social accountability conformance prepared in general accordance with the social indicators described in GRI, SA8000, or another comparable evaluation program.

5.5.4 Supplier social accountability disclosure

The manufacturer shall document the percent of its key suppliers that have satisfactorily conformed to the company’s social accountability disclosure requirements as described in 5.5.3. The manufacturer shall receive one point if 50-74% of its key suppliers have conformed, or receive two points if 75% or more of its key suppliers have conformed.

5.5.5 Supplier audits

The manufacturer may receive up to two points for supplier audits. It shall receive one point if it declares what percent of its key suppliers it has audited in the past five years to verify conformance with environmental or social accountability disclosure requirements. It shall receive a second point if it has conducted annual reviews of 10% or more of its key suppliers.
6 Intelligent product manufacturing

6.1 Purpose

The criteria in this section are intended to encourage manufacturers to quantify the environmental impacts from their manufacturing, and then act to reduce or remove those impacts.

6.2 Environmental policy and management

The intent of these criteria is to ensure that manufacturers have a basis from which to actualize strategic environmental management within the organization.

6.2.1 Prerequisite - Environmental Policy

The manufacturer shall implement an environmental management policy. The environmental management policy should include a commitment to continual improvement and pollution prevention, plus showing assurance of compliance with applicable regulations and other legal environmental requirements. Policy shall be communicated to all persons working for or on behalf of the organization, and is made publicly available.

6.2.2 Registered EMS system

The manufacturer shall receive three points for documenting that its EMS system is registered with ISO 14001.

6.2.3 Maintaining environmental attributes through manufacturing

The manufacturer shall receive one point for implementing a tracking system to ensure that design criteria specified in its EMS system are not cost-engineered or otherwise modified during the manufacturing process.

6.3 Conservation of energy resources

A manufacturer can improve its environmental impact by means of its energy initiatives: both reduction of consumption (i.e., conservation) and selection of source (i.e., renewability). The intent of the criteria in this section is to encourage both approaches in order to reduce the environmental impacts from energy production and consumption, including resource depletion, greenhouse gas emissions, and hazardous air pollutants.

6.3.1 Prerequisite - Energy inventory

The manufacturer shall complete an inventory of energy use that encompasses both production (including quantity and source) and transportation of raw materials from key suppliers.

6.3.2 Reduction of environmental impact of energy input

The resilient flooring manufacturer shall demonstrate overall reduction in the environmental impact of its energy inputs on a unit product basis, facility basis, or total manufacturing operation of compliant or
similar product. Reduction shall be calculated from 2000 or later. Impact reduction shall be quantified as follows:

- Measured reductions in energy consumption (including that supplied as direct fuel, electricity, and/or steam); and/or
- Conversion of energy inputs from non-renewable resources (e.g., fossil fuels) to renewable alternatives.

The manufacturer shall receive points according to table 6.1 for a maximum of ten points for 6.3.2.

**Table 6.1 Manufacturers use of renewable energy or energy reduction of total energy production requirements**

<table>
<thead>
<tr>
<th>Percent reduction threshold</th>
<th>Points awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1%</td>
<td>2</td>
</tr>
<tr>
<td>≥2%</td>
<td>3</td>
</tr>
<tr>
<td>≥5%</td>
<td>4</td>
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<td>≥8%</td>
<td>5</td>
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<td>≥25%</td>
<td>9</td>
</tr>
<tr>
<td>≥35%</td>
<td>10</td>
</tr>
</tbody>
</table>

**6.4 Management of water resources**

The intent of the criteria within this section is to encourage the conservation of water resources and protection of water quality.

**6.4.1 Prerequisite - Water use inventory**

The manufacturer shall complete an inventory of water use including identification of quantity of water used, quantity consumed (e.g., loss through evaporation), and sources (e.g., municipal potable, direct capture, on-site wells, reclaimed wastewater.).

**6.4.2 Reduced water consumption**

The manufacturer shall receive one point for an average 1% minimum of 5% reduction of water use and consumption over the last ten years, on a per-unit or total basis.

**6.4.3 Water quality**

The manufacturer shall document that wastewater released either to a publicly owned treatment works (POTW), or directly to the environment, is of a quality equal to or better than the quality of the supplied water according to established standards. A manufacturer can earn either one or two points, as detailed below:

- The manufacturer shall receive one point if the wastewater’s quality meets tertiary wastewater treatment standards; or
6.5 Optimization of material resources

Inefficient materials selection, supplier delivery, production processes, and warehousing operations can lead to high levels of waste generation and corresponding losses in production yields. The criteria in this section are intended to encourage the maximization of yield from product raw materials and to minimize the generation of waste materials during production.

6.5.1 Waste minimization program

The manufacturer shall receive one point for having a documented and operational waste minimization program that includes quantification of waste generation rate.

NOTE – For the purposes of 6.5.1, “waste” is defined as material that must be managed via landfilling or incineration.

6.5.2 Manufacturing Waste minimization

The manufacturer shall receive either:

– One point for demonstrating a waste generation reduction rate of at least 10% over the previous ten years; or

– Two points for demonstrating an annual average total waste generation rate of less than 2% on a weight basis.

A maximum of two points shall be awarded for 6.5.2.

6.5.3 Packaging minimization

The manufacturer shall use packaging and delivery options designed to minimize waste generation during transport and installation of product. It shall receive one point if a product’s packaging weight is documented as constituting less than 2% of the product’s weight.

6.5.3.1 Pallet use

Where pallets are normally used in shipment of flooring product, including the pallet weight in the 2% requirement is waived provided a recycling or reclamation program has been documented for the used pallets.

6.6 Protection of air resources

The criteria in this section are intended to minimize or eliminate the production and release of greenhouse gases and of known PBT air contaminants.

6.6.1 Greenhouse gas loadings
The manufacturer shall receive two points for completing a greenhouse gas inventory for product manufacturing operations in accordance with ISO 14064 or an equivalent standard.

6.6.2 Greenhouse gas reduction goals

The manufacturer shall receive one point for establishing greenhouse gas reduction targets equal to or stricter than the relevant Kyoto protocol goals.

6.6.3 Greenhouse gas reductions

The manufacturer shall demonstrate a reduction in greenhouse gas loadings on a per unit production basis.

NOTE – Consistent scope of production must be reflected, and the initial year of calculation must be 1990 or later.

The manufacturer shall receive one point for each 25% reduction. A maximum of three points will be awarded for 6.6.3.

6.6.4 PBT reductions

The manufacturer shall demonstrate that emissions of PBT compounds are below reporting levels as defined under the USEPA TRI Program. The manufacturer shall receive one point for achieving this goal in relation to emissions from its on-site activities, and/or one point for achieving the goal in relation to emissions from its supplied electricity source/s, for a maximum of two total points.

7 Long-term Value

7.1 Purpose

The criteria in this section are intended to encourage manufacturers to maximize product longevity. The longevity of a product is dependent on its durability and performance characteristics and can reduce the replacement cycle and the resulting impact on the environment. Reclamation at the end of a product’s life also reduces the environmental impact.

7.2 Fitness of purpose

The criteria in this section are intended to demonstrate that the product performs at or above recognized industry performance standards, in order to ensure that the incorporation of positive environmental attributes has not been undermined by lower-quality performance. These criteria are also meant to encourage product reclamation, thereby conserving material resources and limiting the responsibility of future generations to manage today’s wastes.

7.2.1 Prerequisite - Recommended Usage

The manufacturer shall confirm that their resilient floor covering products are designed and manufactured to be durable and long-lasting under conditions of intended use. Manufacturer shall demonstrate a continuous effort to communicate relevant design and product selection criteria in order to assure intended use and longest possible service life.
7.2.2 Prerequisite - Durability

The manufacturer shall provide documentation showing that the product performs at or above all of the following performance requirements as described in these industry-recognized standards that are relevant to the specific product:

- Vinyl Composition Floor Tile – ASTM F1066;
- Sheet Vinyl Flooring – ASTM F1303 or ASTM F1913;
- Vinyl Tile – ASTM F1700;
- Rubber Sheet Flooring – ASTM F1859 or ASTM F1860;
- Rubber Tile – ASTM F1344;
- Linoleum Sheet Flooring – ASTM F2034;
- Linoleum Tile – ASTM F2195; and
- Polymeric Flooring – EN 14565.

Standard Specification for Resilient Wall Base - ASTM F1861

Specification for Resilient Stair Treads - ASTM F2195.

NOTE - Chemical composition and material requirements are not applicable to this credit.

7.3 Protection of indoor air quality

The intent of the criteria in this section is to demonstrate that the product and its associated infrastructure (e.g., its recommended adhesives and sealants) do not release chemicals of concern or provide a pathway for other vectors that are potentially irritating and/or harmful to installers and occupants.

7.3.1 Prerequisite – Minimal long-term indoor volatile organic compound (VOC) emissions

The manufacturer shall demonstrate that the maximum concentration for any chemical emitted at 96 h in emissions tests (following a 10 d conditioning period) shall not result in a modeled indoor air concentration greater than half of the chronic reference exposure level (CREL) established by California Office of Environmental Health Hazard Assessment (OEHHA). Concentration levels for formaldehyde and acetaldehyde are established separately. Testing shall be performed in accordance with CA/DHS/EHLB/R-174.

7.3.2 De minimis indoor carcinogenic VOC emissions

The manufacturer shall receive one point for demonstrating that carcinogenic or reproductive toxicant VOCs are not emitted from products at levels above the Safe Exposure Levels (SELs) as described in section 8.2 of CA/DHS/EHLB/R-174.

7.3.3 Minimal short-term adhesive and sealant emissions

The manufacturer shall receive one point for demonstrating that adhesives and sealants (as applicable) recommended for use by the flooring manufacturer meet the VOC content limits established in South Coast Air Quality Management District Rule 1168 and comply with CA/DHS/EHLB/R-174 (CA section 01350).

7.4 Compatibility with green maintenance strategies

The intent of the criteria in this section is to ensure that resilient flooring products sold in the marketplace are compatible with, and encourages the use of, green maintenance strategies.
7.4.1 Elimination of chemicals of concern from cleaning products

The manufacturer shall receive one point for demonstrating that the recommended cleaning products and maintenance procedures (including stripping and resealing) do not require the use of any of the listed chemicals of concern described in 5.4.1a – 5.4.1e, nor contain those chemicals at levels equal to or greater than 1000 ppm (0.1%).

7.4.2 Control of VOC emissions from cleaning products

The manufacturer shall receive one point for demonstrating that recommended cleaning products do not exceed the maximum allowable VOC levels established for the relevant product group as described in The California Consumer Products Regulations – Consumer Products, sections 94507-94517.

8 End of Life Management

8.1 Reclamation feasibility

The intent of the criteria in this section is to ensure that existing and new resilient flooring products can be collected, processed, recycled, and/or composted within the existing materials recycling infrastructure.

8.1.1 Product recyclability or compostability

The manufacturer shall demonstrate that post-consumer collected material (including installation waste) meets at least one of the following criteria:

a) The material can be recycled into a different product group (e.g., vinyl tile into car bumpers);

b) The material can be composted or otherwise converted into a beneficial soil amendment (e.g., gypsum, wood dust);

c) The material can be recycled into a similar product (e.g., vinyl tile into vinyl tile); or

d) The material can be recycled into a complementary product group (e.g., flooring: vinyl tile into carpet tile).

For the recyclability claims above, the manufacturer shall demonstrate that the recycled material can comprise at least five percent (5%) by weight of the new product. For the compostability claim above, the manufacturer shall demonstrate that any product being composted conforms to ASTM D6400.

The manufacturer shall receive either:

- One point for conformance to 8.1.1a or 8.1.1b; or
- Two points for conformance to 8.1.1c or 8.1.1d.

A maximum of two points will be awarded for 8.1.1.

8.1.2 Post-consumer collection operations
For products that have been available for sale for ten years or more, the manufacturer shall demonstrate that the product (including installation waste) is being collected for recycling or composting through ongoing collection operations. For new products (e.g., those with a market presence of less than ten years), the manufacturer shall demonstrate preparation and implementation of a post-consumer collection and recovery plan. The manufacturer shall receive either one point for demonstrating conforming activities within 200 miles of at least two major metropolitan areas or two points for demonstrating conforming activities for a national area.

8.2 Product reclamation and stewardship

The intent of this section is to encourage the diversion of flooring materials from landfilling, and to promote the redirection of material resources into new products instead.

8.2.1 Post-consumer reclamation

The manufacturer shall document and report the product post-consumer reclamation rate of products. The rate shall be calculated as follows:

\[
\text{Reclamation Rate} = \frac{\text{kgs of all post-consumer product reclaimed (annually)}}{\text{kg of annual production of product being certified}}
\]

The manufacturer may include any or all of the following in reclamation calculation:

- Material recovered via flooring manufacturer’s on-site post-consumer collection operations and composted or recycled into new products;
- Purchase of post-consumer flooring material for manufacture into new flooring or alternative products; and/or
- Other financial or contractual instruments that can be quantified as to annual weight of flooring product recycled or composted.

The manufacturer shall receive one point for 1 or 2% post-consumer reclamation; two points for 3 or 4% post-consumer reclamation; or, at a maximum, three points for 5% or greater post-consumer reclamation.

8.2.2 Corporate investment in reclamation

The manufacturer shall receive points for the percent of their revenue that it commits to documented activities associated with improving the reclamation rate of its products. Points shall be awarded as follows:

- The manufacturer shall receive one point for 0.05% of their revenue invested (annual average, maximum five-year averaging);
- The manufacturer shall receive two points for 0.10% of their revenue invested (annual average, maximum five-year averaging); or
- The manufacturer shall receive three points for 0.15% or more of their revenue invested (annual average, maximum five-year averaging).

A maximum of three points shall be awarded for 8.2.2.
Qualifying activities include research and development in materials processing and new product development (using reclaimed materials); purchase and installation of processing equipment to be used wholly or in part for the processing of reclaimed flooring materials, including composting grinding equipment; and other quantifiable financial support of post-consumer material collection, processing, and manufacturing activities (including ongoing labor expenses).

9 Progressive corporate governance

9.1 Purpose

The criteria in this section are intended to encourage corporate social responsibility in the forms of providing a desirable workplace, being involved in the local community, and demonstrating financial health.

9.1.1 Manufacturer

In section 8, for the purpose of manufacturer, it shall be interpreted as a parent corporation, manufacturing plant, and/or business unit.

9.2 Public commitment to sustainability

The criteria in this section are intended to demonstrate corporate/organizational leadership in public disclosure and transparency of key environmental and social accountability objectives and data.

9.2.1 Prerequisite - Preliminary disclosure

The manufacturer shall release one of the following publicly:

- Annual findings under company’s registered or generally conforming ISO 14001 EMS;
- Product life-cycle assessment findings through participation in the Building for Economic and Environmental Sustainability (BEES), managed by the National Institute of Standards and Technology (NIST);
- Product life-cycle assessment findings prepared in conformance with ISO 14040 series, and independently peer reviewed;
- The company’s USEPA Performance Track Annual Performance Report; or
- The company’s social accountability performance as quantified under SA 8000 or equivalent.

The information shall be released in one of the following forms:

- Part of the company’s annual report, available to all who request a copy; or
- Online (e.g., downloadable from the company’s website).

9.2.2 Comprehensive disclosure
The manufacturer shall receive one point for demonstrating one of the following:

- Public release of the annual sustainability report per the guidelines of the Global Reporting Initiative of the United Nations Environment Program; or
- Public release of the annual environmental and social accountability targets and achievements.

The information shall be released in one of the two forms described in 8.2.1.

9.3 Employer responsibility

9.3.1 Employee turnover

The manufacturer shall receive one point for quantifying and reporting the average employee turnover rate (per year or two-year rolling average).

9.3.2 Employee injury rate

The manufacturer shall receive one point for quantifying and declaring the average employee injury rate (per year or two-year rolling average) as required by the governing reporting agency. At a minimum, the report shall include occupational accidents, injuries, illnesses, and disease.

9.3.3 Right to collective bargaining

The manufacturer shall receive one point for demonstrating compliance with the National Labor Relations Act requirements or internationally recognized equivalent.

9.3.4 Prerequisite - Prevention of discrimination

The manufacturer shall demonstrate that it does not engage in or support discrimination in the employment process. Examples include but are not limited to:

- Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits employment discrimination based on race, color, religion, sex, or national origin;
- the Equal Pay Act of 1963 (EPA), which protects men and women who perform substantially equal work in the same establishment from sex-based wage discrimination;
- the Age Discrimination in Employment Act of 1967 (ADEA), which protects individuals who are 40 years of age or older;
- Title I and Title V of the Americans with Disabilities Act of 1990 (ADA), which prohibit employment discrimination against qualified individuals with disabilities in the private sector, and in state and local governments;
- Sections 501 and 505 of the Rehabilitation Act of 1973, which prohibit discrimination against qualified individuals with disabilities who work in the federal government; and
- the Civil Rights Act of 1991, which, among other things, provides monetary damages in cases of intentional employment discrimination.

9.3.5 Prerequisite - Prohibitions on forced labor
The manufacturer shall demonstrate that it does not engage in or permit the use of forced or compulsory labor (per ILO conventions C29 and C105) at its facilities and those of its key suppliers.

9.3.6 Prerequisite - Prohibitions on child labor

The manufacturer shall demonstrate that it does not operate facilities or source key supplies from countries that have not ratified ILO Convention 182.

9.3.7 Living wages / remuneration

The manufacturer shall demonstrate compliance with all applicable legal minimum standards. The manufacturer shall receive one point for demonstrating both of the following for employees/workers other than management personnel:

- Wages are sufficient to meet basic needs of personnel and provide some discretionary income; and
- Wages are paid directly to employees, with full disclosure of any required or authorized deductions (e.g., taxes, health care benefits, and retirement investments).

9.4 Community engagement

9.4.1 Community financial investment

The manufacturer shall declare, as percent of net income defined in accordance with generally accepted accounting principals, the average three-year rolling monetary value provided to the communities where the majority of employees reside by means of state and local taxes paid plus direct contributions (e.g., grants and investments). Employee salaries and other employee remuneration are expressly excluded from this calculation. Thus, taxes or investments made at a state or provincial level do not qualify for inclusion unless specifically designated for allocation to the community. The manufacturer shall receive one point for investing 10% or more of its net income to the community.

9.4.2 Employee participation

The manufacturer shall receive one point for documenting company-supported employee activities within the community. Company-supported employee activities consist of community service work performed during paid time off for that purpose, excluding activities deemed political in nature.

9.4.3 Local recruiting

The manufacturer shall receive one point for documenting net local employment (full-time equivalent basis) and local sourcing expenditures (U. S. dollars spent or equivalent) per year or three-year rolling average.

9.5 Financial leadership

9.5.1 Profitability

The manufacturer shall receive one point for demonstrating continued year-over-year profitability.

9.5.2 Investment in research and development
The manufacturer shall receive one point for devoting 2.5% or more of its annual revenue to research and development activities intended to support the continuing viability of the company, including investment in emerging technologies.

9.5.3 Vendor/supplier satisfaction

The manufacturer shall receive one point for reporting the percentage of contracts that were paid in accordance with agreed terms, excluding agreed penalty arrangements. Terms may include scheduling of payments, form of payment, and other conditions.

10 Innovation

10.1 Scope

The criteria in this section are intended to give manufacturers the opportunity to be awarded points for exceptional performance above the requirements set forth in previous sections of this Standard, and/or for innovative performance in categories not specifically addressed by this Standard. The number of points awarded shall be determined on a case-by-case basis. A maximum of ten points shall be awarded for innovation under this section.

10.2 Innovation credit

A manufacturer shall receive up to ten innovation points for exceptional performance above the requirements set by this Standard and/or for the development of new technologies that result in innovative performance not specifically addressed by this Standard. These innovation points are awarded for comprehensive strategies that demonstrate quantifiable environmental benefits.

In order to request an innovation credit, a manufacturer must submit a written explanation of the innovation, why it does not fit into the current categories or credits provided in the standard and justify that the amount of points requested by drawing a parallel to the number of points awarded in a similar category.

For example, a manufacturer may earn innovation points for dematerialization. In this case, credit can be provided for process, and for products or product lines that provide equal function using less material by percent weight per square foot, which reduces impacts as measured over all product stages. In this example, the intent is to use design innovation to achieve dematerialization.

Guidance for this section may be found in Annex C.
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Annex A (normative)

Sustainable flooring product assessment – resilient floor coverings

### Scorecard

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5.3.1 Prerequisite - Inventory of material inputs

5.3.2 Environmentally sustainable inputs – product

5.3.3 Environmentally sustainable inputs – packaging

5.4.1 Prerequisite - Identification of use of chemicals of concern

5.4.2 Minimization of known chemicals of concern in product

5.4.3 Minimization of known chemicals of concern in recommended adhesive

5.4.4 Elimination of chemicals with upstream concerns

5.5.1 Supplier environmental disclosure

5.5.2 Supplier environmental performance disclosure

5.5.3 Supplier social accountability

5.5.4 Supplier social accountability disclosure

5.5.5 Supplier audits

6 Intelligent product manufacturing

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<td>Progressive corporate governance</td>
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<td>Prerequisite - Preliminary disclosure</td>
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<td>Prerequisite - Prevention of discrimination</td>
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<td>Living wages / remuneration</td>
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Total possible points: 92
Annex B
(informative)

Key elements of a certification program for
Environmentally preferable and sustainable resilient floor coverings

B.1 General

Declaring conformance to this Standard identifies that a manufacturer designs, develops, and creates products in a manner that is considered to be in some measure sustainable and/or environmentally preferable. Conformance to this Standard alone does not imply certification. The manufacturer can provide additional public confidence regarding the attainment of these goals by undertaking independent conformity assessment (certification).

B.2 Product certification process

B.2.1 Selection of conformity assessment body

The manufacturer identifies a certification organization to perform the conformity assessment of the product assessment process for conformance with this Standard.

B.2.2 Conformity assessment to standard

The certifying organization performs the necessary functions to determine whether the manufacturer’s operations and product(s) conform to the specified criteria. This may involve activities such as an audit of the manufacturing facility, review of the product formulation, testing, or review of documentation for assessing conformance with the specified criteria.

B.2.3 Issuance of product certification

If the product has been demonstrated adequately to meet the specifications described in this Standard, and any issues of nonconformance have been addressed, the certifying organization provides a product certification to the manufacturer. This may include the provision of documentation of certification of the product to the manufacturer, as well as inclusion of the product on any publicly available lists of certified products maintained by the certifying organization. The certifying organization instructs the manufacturer regarding appropriate use of the registered certification mark of the certifying organization.

B.2.4 Monitoring of product conformance

At intervals determined by the certifying organization, the continued conformance of the certified product to the specified criteria is monitored using periodic facility audits, periodic retesting, or both.

B.3 Suggested requirements for certifying organizations

A certifying organization offering a certification program for environmentally preferable and sustainable resilient floor coverings should conform to the requirements of ISO/IEC Guide 65, General requirements for bodies operating product certification systems.
B.3.1 Marking of certified product

The certifying organization should specify requirements for marking of certified products. Requirements for product marking should include, at a minimum:

- Certified products should bear a registered certification mark of the certifying organization; and
- Each product should bear a statement of achievement status (e.g., silver, gold.)

B.3.2 Listing certified companies

The certifying organization should maintain a published listing of all certified products. The listing format should include the following minimum information:

- company name and address;
- product description;
- trademark / formulation designation; and
- each environmentally preferable and sustainable product claim that has been successfully evaluated and is certified.

B.3.3 Audits

The certifying organization should conduct actual physical audits of all facilities and productions locations of the certified company at least annually.

B.3.4 Corrective action

The manufacturer should take corrective action for all items of nonconformance found during audits and re-evaluation including:

- provisions for review and authorization for modifications to formulations;
- modifications to certified product formulations; and
- documentation and authorization of the modification maintained on file.

B.3.5 Enforcement

To preserve the integrity of the registered certification mark of the certification organization, enforcement action should be taken by the certifier for the following:

- use of the registered trademark of the certifying organization on a non-certified product;
- general nonconformance;
- unauthorized change to certified products; and
- unauthorized shipment or disposal of products placed on hold.

B.3.6 Appeals

The certifying organization should have provisions for an appeals process as requested by any party directly affected by a decision, action, or inaction of the certifying organization.

Comment [MC24]: Annex B – B.3.3 – the “annual” term or requirement should be struck in regards to requiring actual physical audits every year. That is not the typical criteria & is not to be defined in a standard.
Proposal: remove “annual” requirement
1482 Dave Kitts
B.3.7 Complaints

The certifying organization should provide for the following:

- investigation of complaints related to certified products;
- misuse of the registered trademark of the certifying organization by a certified company;
- use/misuse of the registered trademark of the certifying organization by a non-certified company; and
- certified company retention and disclosure of complaint records and remedial actions for certified products.

B.3.8 Advertising

A certifying organization should provide guidance to certified manufacturers regarding proper use of the registered trademark of the certifying organization on sales literature, technical publications, promotional materials, packaging, catalogs, and advertising.

B.3.9 Records

A certifying organization should have provisions for verification of complete certified company records including:

- purchased materials and ingredients; and
- production, shipment, and inventory.

B.3.10 Public notice

Provisions for issuing a public notice for nonconformance to any requirement of certification should be maintained by the certifying organization.

B.3.11 Confidentiality

The certifying organization should have a documented policy of non-disclosure of any confidential information supplied to the certifying organization by the company regarding the product, including formulations, components, processes, ingredients, and the identity of the company’s suppliers and distributors.
Annex C

(informative)

Guidance on innovation points in section 10

C.1 Guidance

The intent of the innovation points in section 10 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 herein.

Points for innovative performance are awarded for comprehensive strategies that demonstrate quantifiable environmental benefits and proportional to an existing credit within the standard. If an innovation item is not covered in the standard, it must meet the guidance set forth in this Annex. The intent is to recognize novel approaches for reducing the environmental footprint. Innovation points may be earned in any of the five categories:

- informed product design;
- intelligent product manufacturing;
- long-term value;
- end of life management; and
- progressive corporate governance.

There are a maximum of ten points available in section 10.

The certifying agency should be responsible for evaluating the submission from the manufacturer and for determining the total number of innovation points that will be awarded to the manufacturer.

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

Approved innovation points may be pursued by any manufacturer. The manufacturer must sufficiently document the quantifiable benefits of the innovation. The documentation must include:

- identification of the proposed innovation credit intent;
- description of the innovative technology or processes applied; and
- documentation of results to demonstrate quantifiable environmental benefits.
The option for choosing unit product, facility or total manufacturing operation does not lead to a sustainability outcome. Meaning, you could potentially have your "per unit" energy increase due to problems or inefficiencies while your total facility energy went down due to slower business. This is not what the intention of this credit really means.

Proposal: Allow for the choice of unit process specific, facility or manufacturing operations as the source but require that it be normalized on a per unit product basis so that no matter what the business conditions are like, the real measure is on energy used to produce a product. That is what is intended.

Josh Jacobs 1463 We suggest the use of a Total Volatile Organic Compound (TVOC) limit on the emissions from these products, in addition to the CA CRELs. While it is recognized that TVOC should not be used as an indicator of health effects, it is a useful tool in estimating and potentially reducing the indoor pollutant load. Many of the products that are commonly used in our indoor environments meet CREL limit criteria, yet emit high total levels of VOCs, which may include potentially harmful chemicals. Its use follows a precautionary principle, as a relatively small percentage of the chemicals observed indoors and emitting from building materials, finishes and furnishings have been evaluated for their health effects. The precautionary principle implies that there is a responsibility to intervene and protect the public from exposure to harm where scientific investigation discovers a plausible risk in the course of having screened for other suspected causes.

Proposal: As UZ 120 (http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=142) has already set TVOC limits for 3 days (≤ 1200 µg/m3) and 28 days (≤ 360 µg/m3), we suggest a 14 day compromise of ≤ 780 µg/m3. If this is unacceptable to the committee we suggest that products are required to have their TVOC limits clearly listed, as manufacturers receive this information as part of their Laboratory Test Report for CA/DHS/EHLB/R-174 Section 5.1.5. This would allow purchasers of these products to make as informed a decision as possible.

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Proposal: As UZ 120 (http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=142) has already set TVOC limits for 3 days (≤ 1200 µg/m3) and 28 days (≤ 360 µg/m3), we suggest a 14 day compromise of ≤ 780 µg/m3. If this is unacceptable to the committee we suggest that products are required to have their TVOC limits clearly listed, as manufacturers receive this information as part of their Laboratory Test Report for CA/DHS/EHLB/R-174 Section 5.1.5. This would allow purchasers of these products to make as informed a decision as possible.
been assessed for their health effects) would accomplish the goal of being as protective as reasonably allowable.

Proposal: As UZ 113 (http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=114) has already set TVOC limits for 3 days (≤ 1000 µg/m³) and 28 days (≤ 100 µg/m³), we suggest a 14-day compromise of ≤ 550 µg/m³.

If this is unacceptable to the committee, we suggest that products are required to have their TVOC limits clearly listed, as manufacturers receive this information as part of their Laboratory Test Report for CA/DHS/EHLB/R-174 Section 5.1.5. This would allow purchasers of these products to make as informed a decision as possible.