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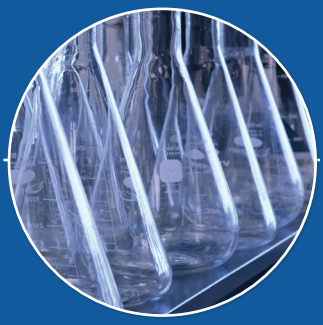
NSF/ANSI 332 - 2015

Sustainability Assessment for Resilient Floor Coverings



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American National Standard
for Sustainability —

Sustainability assessment for resilient floor coverings

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Designated as an ANSI Standard
January 26, 2015

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Prepared by
The NSF Joint Committee on Sustainable Flooring

Recommended for Adoption by
The NSF Council of Public Health Consultants

Adopted by
NSF International
March 2010

Revised May 2011
Revised December 2011
Revised October 2012
Revised July 2015

Published by

NSF International
P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA

For ordering copies or for making inquiries with regard to this Standard, please reference the designation "NSF/ANSI 332-15."

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Annex A A1

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Foreword[2]

This American National Standard, NSF/ANSI 332 Sustainability Assessment for Resilient Floor Coverings Standard, has been developed as part of the ongoing efforts of interested parties to document and improve the sustainability profile of resilient floor coverings using established and/or advanced scientific principles, practices, materials, and standards. Stakeholders involved in developing the Standard included resilient floor covering manufacturers, end users such as consultants and certifiers, state agencies responsible for environmentally preferable product procurement practices, academics, and non-governmental organizations.

The purpose of the Sustainability Assessment for Resilient Floor Coverings 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.

The Sustainability Assessment for Resilient Floor Coverings Standard has been designed, in part, to satisfy the following criteria:

- Product design through encouraging manufacturers to integrate environmental and life-cycle thinking into the product(s) design process.
- Product manufacturing encouraging manufacturers to quantify the environmental impacts from their manufacturing, and then act to reduce or remove those impacts.
- Long term value encouraging manufacturers to maximize product(s) longevity.
- End of life management ensuring that existing and new resilient flooring products can be collected, processed, recycled, and/or composted within the existing materials recycling infrastructure.
- Corporate governance encouraging corporate social responsibility in the forms of providing a desirable workplace, being involved in the local community, and demonstrating financial health.
- Innovation to give manufacturers the opportunity to be awarded points for exceptional performance above the requirements set forth in this Standard.

As used in this Standard, "resilient floor coverings" includes, but is not limited to, vinyl tile, vinyl composition tile, sheet vinyl, rubber, polymeric, 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.

This version of the standard includes the following revision:

Issue 8 – Normative References and Environmental Product Declarations
This ballot added language to clarify when a reference is undated the most recent version is the default and also addressed section 5.2.4 to promote a company's ability to receive recognition that has developed an EPD to the flooring PCR.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments should be sent to Chair, Joint Committee on Resilient Flooring, NSF International, National Center for Sustainability Standards at ncss@nsf.org, or P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF/ANSI Standard
For Sustainability

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(s) 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(s) manufacturers interested in understanding the sustainability performance of their product(s). 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(s) 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, polymeric, 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.

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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(s) 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

The following documents contain provisions that, through reference, constitute provisions of this NSF/ANSI Standard. At the time this Standard was balloted, the editions listed below were valid. All documents are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below. The most recent published edition of the document shall be used for undated references.

Age Discrimination in Employment Act of 1967[3]

ASTM D6400-12. *Standard Specification for Labeling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities*[4]

ASTM E648-10e1. *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*[4]

[3] EEOC Headquarters, U.S. Equal Employment Opportunity Commission, 131 M Street, NE, Washington, DC 20507 <www.eeoc.gov>

[4] ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. <www.astm.org>

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ASTM E662-09. *Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials*[4]

ASTM F1066-04 (2010)e1. *Standard Specification for Vinyl Composition Floor Tile*[4]

ASTM F1303-04 (2009). *Standard Specification for Sheet Vinyl Floor Covering with Backing*[4]

ASTM F1344-12. *Standard Specification for Rubber Floor Tile*[4]

ASTM F1700-04 (2010). *Standard Specification for Solid Vinyl Floor Tile*[4]

ASTM F1859-12. *Standard Specification for Rubber Sheet Floor Covering Without Backing*[4]

ASTM F1860-12. *Standard Specification for Rubber Sheet Floor Covering With Backing*[4]

ASTM F1861-08. *Standard Specification for Resilient Wall Base*[4]

ASTM F1913-04 (2010). *Standard Specification for Vinyl Sheet Floor Covering Without Backing*[4]

ASTM F2034-08. *Standard Specification for Sheet Linoleum Floor Covering*[4]

ASTM F2169-12. *Specification for Resilient Stair Treads*[4]

ASTM F2195-07. *Standard Specification for Linoleum Floor Tile*[4]

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*[5]

California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350)[6]

California Office of Environmental Health Hazard Assessment (OEHHA)[7]

California Proposition 65, *Safe Drinking Water and Toxic Enforcement Act of 1986*[8]

Civil Rights Act of 1991[3]

CML, Leiden University Institute of Environmental Sciences, *Chain Management by Life Cycle Assessment (CMLCA)*[9]

Code of Federal Regulations, (7CFR) Part 205, *SUBCHAPTER M* [Docket Number: TMD-00-02-FR] RIN: 0581-AA40, *National Organic Program Final Rule* [10]

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[5] California Air Resources Board 1001 I Street, P. O. Box 2815, Sacramento, CA 95812 <www.arb.ca.gov/consprod/regs/regs.htm >

[6] CalRecycle, 801 K Street, MS 19-01, Sacremento, CA 95814 <www.calrecycle.ca.gov/Greenbuilding/Specs/Section01350/>

[7] California Office of Environmental Health Hazard Assessment - Air, P.O. Box 4010, Sacramento, CCA 95812-4010, <www.oehha.ca.gov/air/chronic_rels/>

[8] California Office of Environmental Health Hazard Assessment - Proposition 65, P. O. Box 4010, Sacramento, CA 95812-4010 <www.oehha.ca.gov/prop65/prop65_list/Newlist.html>

[9] Leiden University Institute of Environmental Sciences (CML), P. O. Box 9518 2300 RA Leiden, The Netherlands <www.leidenuniv.nl/interfac/cml/ssp/index.html>

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EN 14565, *Specification for Resilient Floor Coverings based on Synthetic Thermoplastic Polymers*[11]

Equal Pay Act of 1963[3]

Global Reporting Initiative (GRI), *G3 Reporting Framework*[12]

ILO C29 Forced Labour Convention, 1930[13]

ILO C105 *Abolition of Forced Labour Convention,* 1957[13]

ILO C182 *Worst Forms of Child Labour Convention*, 1999[13]

International Agency on the Research of Cancer (IARC)[14]

ISO 14001, 2004, *Environmental management systems – Requirements with guidance for use*[15]

ISO 14021, 1999, *Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling)*[15]

ISO 14040, 2006, *Environmental management – Life cycle assessment – Principles and framework*[15]

ISO/TR 14047:2012, *Environmental management – Life cycle assessment* – Examples of application of ISO 14042[15]

ISO/TR 14049:2000, *Environmental management – Life cycle assessment* – Examples of application of ISO 14041 to goal and scope definition and inventory analysis[15]

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*[15]

ISO 14064:2, 2006(E), *Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements*[15]

ISO 14064:3, 2006, *Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions*[15]

ISO/IEC DIS 17065, *Conformity assessment – Requirements for bodies certifying products, processes and services*[15]

Minnesota Pollution Control Agency, *Design for the Environment ToolKit* [16]

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[10] U. S. Government Printing Office, Washington, DC 20402 <www.ams.usda.gov/nop/indexIE.htm>

[11] British Standards Group (BSI), 389 Chiswick High Road, London, W4 4AL, UK <www.bsi-global.com>

[12] Global Reporting Initiative, Keizersgracht 209 1016 DT Amsterdam, The Netherlands <www.globalreporting.org/Home>

[13] International Labour Office, 4 route des Morillons CH-1211 Geneva 22, Switzerland <www.ilo.org>

[14] International Agency on the Research of Cancer (IARC) IARC Monographs on the Evaluation of Carcinogenic Risks to Humans <http://monographs.iarc.fr>

[15] International Organization for Standardization (ISO), 1 ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland <www.iso.org>

[16] Minnesota Pollution Control Agency, 520 Lafayette Road, St. Paul, MN 55155-4194 <www.pca.state.mn.us/>

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National Institute of Standards and Technology (NIST) *Building for Environmental and Economic Sustainability (BEES)* software[17]

National Toxicology Program (NTP) *Report on Carcinogens*[18]

Occupational Health and Safety Administration (OSHA)[19]

Rehabilitation Act of 1973[3]

SA8000, *Social Accountability SA8000*[20]

South Coast Air Quality Management District Rule 1168, *Adhesive and Sealant Applications*[21]

South Coast Air Quality Management District Rule 1113, *Architectural Coatings*[22]

Titles I and V of the Americans with Disabilities Act of 1990 (ADA)[3]

Title VII of the Civil Rights Act of 1964[3]

United Nations Framework Convention on Climate Change, *Kyoto protocol*[23]

United States Environmental Protection Agency (USEPA) *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA)[24]

United States Environmental Protection Agency (USEPA) *Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI)*[25]

United States Environmental Protection Agency (USEPA) *Toxics Release Inventory (TRI) Program*[26]

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[17] Building and Fire Research Laboratory NIST, 100 Bureau Drive, Stop 8600, Gaithersburg, MD 20899-8600 <www.bfrl.nist.gov/oae/software/bees.html>

[18] National Toxicology Program (NTP) Report on Carcinogens, P.O. Box 12233, MD K2-14, Research Triangle Park, NC USA 27709 <http://ntp.niehs.nih.gov>

[19] Occupational Health and Safety Administration (OSHA), U.S. Department of Labor Occupational Safety & Health Administration, 200 Constitution Avenue, Washington, D.C. 20210 <www.osha.gov>

[20] Social Accountability International, 220 East 23rd Street, Suite 605, New York, NY 10010 <www.sa8000.org>

[21] South Coast Air Quality Management District – Regulation 1168, 21865 Copley Dr. Diamond Bar, CA 91765 <www.aqmd.gov/rules/reg/reg11/r1168.pdf>

[22] South Coast Air Quality Management District – Regulation 1113, 21865 Copley Dr., Diamond Bar, CA 91765 <www.aqmd.gov/rules/reg/reg11/r1113.pdf>

[23] United Nations Framework Convention on Climate Change, P. O. Box 260124 D-53153, Bonn, Germany <http://unfccc.int>

[24] U. S. Environmental Protection Agency, Office of Emergency Management, Ariel Rios Building (5104A), 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460, <http://www.epa.gov/oem/content/hazsubs/cercsubs.htm>

[25] U. S. Environmental Protection Agency, PA Office of Research and Development National Risk Management Research Laboratory, Sustainable Technology Division – Systems Analysis Branch (MS-466), 26 West Martin Luther King Drive, Cincinnati, OH 45268 <www.epa.gov/nrmrl/std/traci/traci.html>

[26] U. S. Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Washington, DC 20460 <www.epa.gov/triinter/lawsandregs/pbt/pbtrule.htm>

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