

CSI GreenFormat

Construction Product Sustainability Information
Reporting Guide

Overview and Status –
GreenBuild November 2008



www.greenformat.com



CSI – Building People, Processes & Performance

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Buildings Use Lots of Stuff

Global construction:

Accounts for largest component of waste stream in developed countries

2/5 of world's material & energy flow

1/6 of freshwater withdrawals

1/4 of wood harvest

(Source: Dr. John Fernandez, Associate Professor Building Technology, MIT)



The Market Wants Guidance

Designers and contractors want to make low-impact choices, but need help

Growing number of green product certifications, but still **relatively few** certified products

Many certification programs are **narrowly focused**, on indoor emissions or forest management, for example



Green Certifications

(some are more independent than others)

Low-emitting materials



Sustainable forestry



Green overall



Need a Common Lexicon

LEED is transforming the building industry by providing a **benchmark definition** of a **green building**

No such definition exists for **products and materials**

A **benchmark definition to measure against** would help in **selecting products**



Product Selection in a Nutshell

- Designer learns of new product
- Makes initial assessment re: suitability for a project
- Requests additional info as needed ("custom questionnaire")
- Reviews compiled information and makes determination



Establish an attributes checklist for manufacturers to answer

- Material composition
- Origin of materials, sustainably managed, recycled: post consumer, post industrial.
- Manufacturing process and its waste products.
- Natural resources used (embodied energy).
- Resource conservation techniques in manufacturing.
- Transportation, packaging.
- Installation methods, conservation of materials and energy.
- IAQ effect, VOC, CFC and toxicity ratings.
- Estimated lifespan of product.
- Can the product be recycled? How would it be disposed?
- Maintenance requirements.



Example of an Attributes Checklist

From GreenSpec Directory
www.BuildingGreen.com:

GreenSpec Guidelines

- Made of recycled or salvaged content (4 criteria)
- Preserve natural resources (4 criteria)
- Avoid toxics or other emissions (7 criteria)
- Reduce impacts of construction (3 criteria)
- Save energy or water (4 criteria)
- Promote healthy indoor spaces (5 criteria)



GreenFormat – Structured Product Sustainability Attributes

Standard sustainable criteria framework that is both responsive and flexible

Quantifiable information on products' sustainability

Website and database for reporting versatility

The logo for GreenFormat, featuring the word "GreenFormat" in a bold, black, sans-serif font. A small green leaf icon is positioned above the letter "n" in "Green".

GreenFormat

Addresses a real need

For both designers & manufacturers

Design professionals

- will have **access to reliable, substantiated information** on sustainable attributes of a variety of construction products
- **more efficient and thorough** than wading through green wash or misleading information

Manufacturers

- will have a **consistent platform** for defining the sustainable attributes of their products **rather than responding to numerous “custom questionnaires”**
- based on **established, credible sustainable standards and certifications**



What Factors Were Considered?

Custom questionnaires do not always request quantifiable information

Need to **tie sustainable claims to standards, certifications, and recognized valuation** procedures

Provide information **addressing the requirements of sustainable performance and rating systems**, such as LEED® and the Green Guide for Healthcare

Criterion-based format, no open-ended questions

Create a report that best enables **objective analysis**



Sustainable Standards/Metrics ASTM E 2129 – 05

Standard Practice for Data Collection for Sustainability Assessment of Building Products

Data areas :

Materials
Manufacturing Process
Operational Performance of
Installed Product
Indoor Air Quality
Corporate Environmental
Policy

www.astm.org



Designation: E 2129 – 05

Standard Practice for Data Collection for Sustainability Assessment of Building Products¹

This standard is issued under the fixed designation E 2129; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last approval. A superscript symbol (°) indicates an editorial change since the last revision or approval.

1. Scope

1.1 This practice covers a set of instructions for collecting data to be used in assessing the sustainability of building products for use in both commercial and residential buildings.

1.1.1 There are many features of a building that contribute to sustainability; one of them is the selection of products for use in a building. Other key features influencing sustainability include, but are not limited to: overall efficiency of the design of the building, the impact the building has on the microclimate and macroclimate. This standard addresses sustainability issues related to building products. This standard does not address sustainability issues related to overall building design, site selection, building operations, or other features influencing sustainability.

1.1.2 While it is recommended that users rely on professional judgment informed by both environmental expertise and specific knowledge of the intended use of the product, this standard provides no instruction as to interpretation of the data obtained. Interpretation of the data obtained is the responsibility of the user of this standard.

1.1.3 This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this practice may be applicable in all circumstances. This practice is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "standard" in the title means only that the document has been approved through the ASTM consensus process.

1.2 This standard is organized according to the Construction Specifications Institute's (CSI) **MasterFormat**² sections to promote consistency in the evaluation of building products.

¹ This practice is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.71 on Sustainability.

Current edition approved August 15, 2005. Published August 2005. Originally approved in 2001. Last previous edition approved in 2004 as E 2129 – 04.

² The term "MasterFormat" and the MasterFormat logo are trademarks of The Construction Specifications Institute (CSI), 99 Canal Center Plaza, Suite 300, Alexandria VA 22314.

1.3 This standard includes general, comprehensive data requirements. Depending upon the building product, certain data requirements may not apply given the unique characteristics of the product and the potential environmental impacts related to the intended use of the product. Depending upon the building product, certain data requirements may need to be added as appropriate to the unique characteristics of the product and the potential environmental impacts related to the intended use of the product.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:³

C 618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

C 989 Specification for Ground Granulated Blast Furnace Slag for Use in Concrete and Mortars

C 1240 Specification for Use of Silica Fume for Use as a Mineral Admixture in Hydraulic Cement Concrete, Mortar, and Grout

D 5359 Specification Glass Cullet Recovered from Waste for Use in Manufacture of Glass Fiber

D 6400 Specification for Compostable Plastics

E 631 Terminology of Building Constructions

E 1480 Terminology of Facility Management (Building-Related)

E 2114 Terminology for Sustainability Relative to the Performance of Buildings

2.2 ANSI Standards:⁴

A 208.2 Medium Density Fiberboard

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.



Evaluating by ISO Labeling Guidelines

Type I (ISO 14024) claims are based on criteria set by a third party and are multiuse

- based on the product's life cycle impacts.
- The awarding body may be either a governmental organization or a private non-commercial entity. Examples
 - SCS, GreenGuard, CRI Carpet Label, PIMA Quality Mark

Type II (ISO 14021) claims are based on self-declarations by manufacturers or retailers

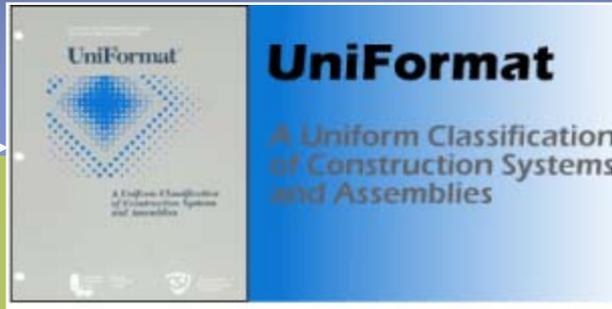
- CSI's GreenFormat, manufacturers self reporting form
- MBDC reporting form

Type III (ISO/TR 14025) claims consist of quantified product information based on environmental life cycle impacts.



CSI Format and Classification Systems

Upfront costing & Environmental LCA



Classification by work results
NOT materials



MasterFormat is organized to integrate the Life-Cycle of the Facility



What is *MasterFormat*

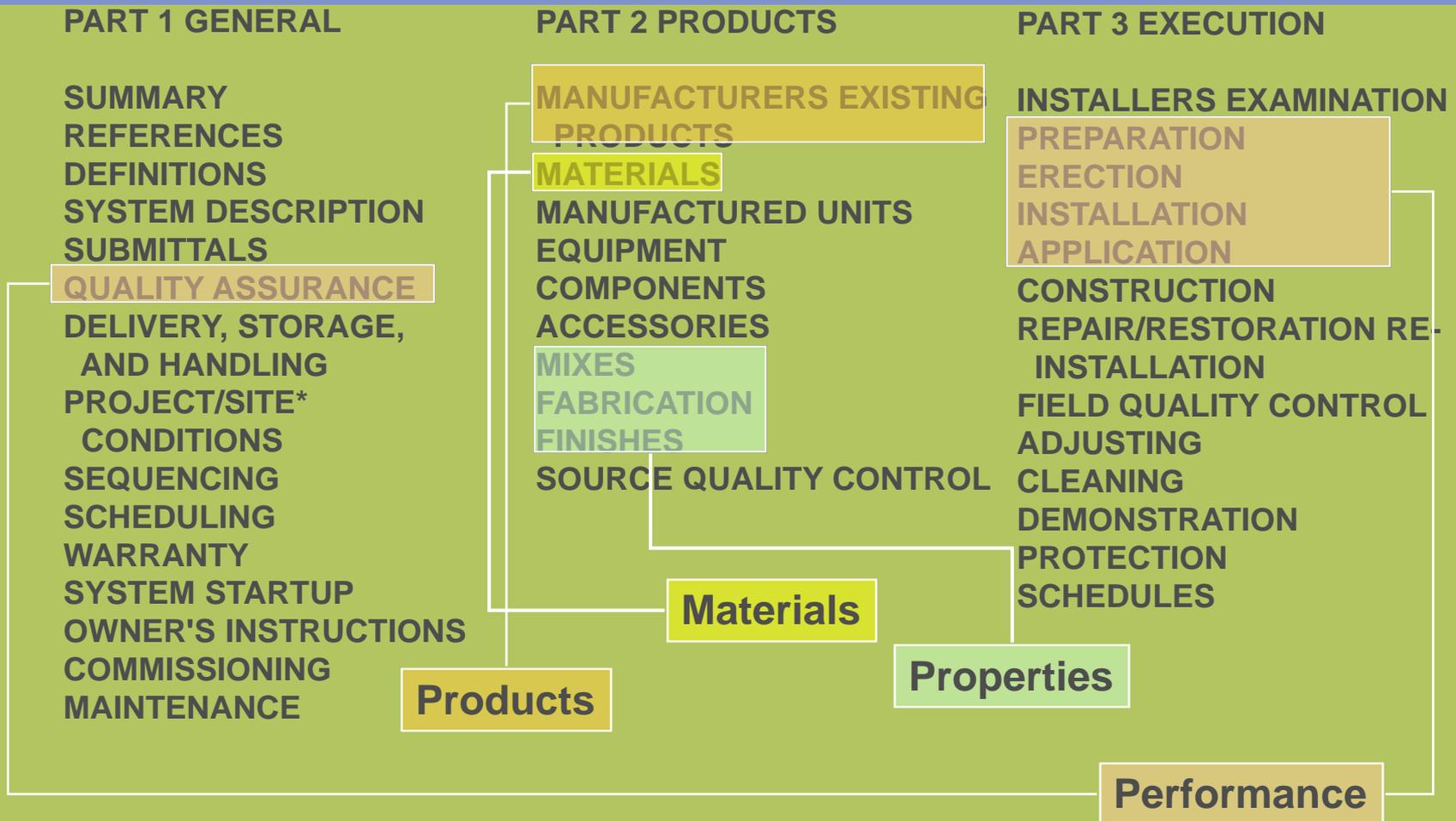
Master list of titles and number used to organize information by **“work results”**.

Primary Uses: Organize bidding and contract requirements, specifications, drawing notes, product info, and **cost data**.

<u>Division Numbers and Titles</u>	
<i>Procurement and Contracting Requirement Group:</i>	
Div. 00	Procurement and Contracting Requirements
<i>Specification Group:</i>	
<i>General Requirements Subgroup</i>	
Div. 01	General Requirements
<i>Facilities Construction Subgroup</i>	
Div. 02	Existing Conditions
Div. 03	Concrete
Div. 04	Masonry
Div. 05	Metals
Div. 06	Wood, Plastics, and Components
Div. 07	Thermal and Moisture Protection
Div.08	Openings
Div. 09	Finishes
Div. 10	Specialties
Div. 11	Equipment
Div. 12	Furnishings
Div. 13	Special Construction
Div. 14	Conveying Equipment
Div. 15 – 19	Reserved for Future Expansion
<i>Facility Services Subgroup:</i>	
Div. 20	Reserved for Future Expansion
Div. 21	Fire Suppression
Div..22	Plumbing
Div. 23	HVAC
Div. 25	Integrated Automation
Div. 26	Electrical
Div 27	Communications
Div. 28	Electronic Safety and security.
<i>Site and Infrastructure:</i>	
Div. 30 - 39	
<i>Process Equipment Subgroup</i>	
Div. 40	Process Integration
Div. 41	Material Processing and handling
Div 43 - 49	

SectionFormat™

A uniform approach to organizing specification language contained in a Project Manual



GreenFormat

5 Information Categories

Section 1	Background Information
Section 2	Product Details
Section 3	Product Usage
Section 4	Additional Information
Section 5	Manufacturer Self-Certification



Section 1: Background Information

General information organized by **MasterFormat number, manufacturer name, product type, product or trade name**

Brief description of product and its use

Designers can search by MasterFormat number, manufacturer name, or product type keyword search



Section 2: Product Details – Standards and Certifications

Section 2.1: Standards and Certifications

Which regulatory sustainable criteria and standards the product meets; yes/no answers with date verified/accepted.

Included are:

Federal evaluation tools such as Energy Star, USDA Bio-based Compliant, USDA Organic, etc.

State and local/regional criteria including state-funded EPP programs and local/regional standards like the South Coast Air Quality Management District (SCAQMC)

Other questions include international sustainable standards



Section 2: Product Details – Performance and Composition

Section 2.2: Performance Criteria

Section 2.3: Composition of Product

These categories, which collect certification, performance and product composition information, include **questions relevant to three of the four methods of specifying products**:

- Reference Standards
- Performance
- Descriptive spec

Proprietary specs would use Sections 1 & 2.



Section 3: Product Usage

Section 3.1: Life Cycle Analysis

Section 3.2: Material Extraction and
Transportation

Section 3.3: Manufacturing Phase

Section 3.4: Construction Phase

Section 3.5: Facility Operations Phase

Section 3.6: Deconstruction and Recycling



Section 4 and 5: Additional Information and Authorization

Additional manufacturer information re: transparency of information

Listings with other organizations such as BGI GreenSpec

Authorization/Self-Certification by the manufacturer or an authorized agent that the information provided is true and correct



- Search "Green" Product Information
- Evaluate the Green Characteristics of Products
- Choose the Products that Fit Your Project
- Obtain Spec-friendly Results

> [Start searching now!](#)

FIND A PRODUCT

Search

Free Search!

- MasterFormat Number - "09 90 00"
- Product Type - "Paint"
- [Browse](#)

LIST A PRODUCT

Start

Add a Product to GreenFormat!

- Click "Start".
- [Register](#) or [Log-in](#) to your account.
- Review existing entries or start a new one!

Questions?

FAQs

Terms of Use

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How GreenFormat works – List a Product

- Information about a product is **self-reported by product manufacturer**
- Log-in to secure portion of site to **complete questionnaire and publish** when ready
- **Update** at any time; prompted to confirm annually
- Listing fee to **support operation** of service
- **Support** for completing questionnaire available



List a Product

2.1.1 Third Party Certification - Whole Product Sustainability

This certification indicates that an independent third party has tested a product's compliance to a multi-attribute standard that attempts to cover all aspects of a product's sustainability. Comprehensive third party product information disclosures like [LCA](#) and Environmental Product Declarations (EPDs) that do not include specific criteria for acceptance are included in later sections.

	Certifying Organization	Level	Certification Number	Activation Date	Length of Term
Env. Preferable Products	Scientific Certification Systems, Inc. (SCS)		<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> months
Sustainable Choice	Scientific Certification Systems, Inc. (SCS)	Silver <input type="text"/>	41566	2 <input type="text"/> 3 <input type="text"/> 2004 <input type="text"/>	454 months
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> months

2.1.2 Third Party Certification - Forestry Practices

This certification indicates that an independent third party has tested a product's compliance to requirements of a recognized sustainable forestry standard.

This category contains questions that relate to LEED Credits. For specifics, see the [GreenFormat-LEED Relationships Table](#).

	Certifying Organization	Level	Certification Number	Activation Date	Length of Term
FSC Sustainable Source (FM)	Bureau Veritas Certification <input type="text"/>		A123	11 <input type="text"/> 6 <input type="text"/> 2008 <input type="text"/>	12 months
FSC Sustainable Source (CoC)	<input type="text"/>		<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> months



How GreenFormat works – Find a Product

- **Search** by Keyword or **browse** by MasterFormat number hierarchy
- Find products by **name, type, manufacturer** or **performance criteria** (e.g. certifications)
- Product information presented in **structured format**
- **Print** formatted reports of product information
- **Submit questions** about information reported and products listed



Find a Product

Interface FLOR carpet tiles

INTERFACEFLOR [manufacturer details and additional products \(5\)](#) »



DOWNLOAD RTF DOWNLOAD PDF EXPAND ALL

BACKGROUND

Product image • Product description • Contact information

PRODUCT DETAILS

2.1 SUSTAINABLE STANDARDS AND CERTIFICATIONS

2.1.1 Third Party Certification - Whole Product Sustainability

CERTIFICATION NAME	CERTIFYING ORGANIZATION	LEVEL	CERTIFICATION NUMBER	ACTIVATION DATE	LENGTH OF TERM
Sustainable Choice	Scientific Certification Systems, Inc. (SCS)	Silver	--	--	--
Other	SCS	Platin	01370	2007-09-30	12 months

2.1.4 Third Party Certification - Other Certification Categories

CERTIFICATION NAME	CERTIFYING ORGANIZATION	LEVEL	CERTIFICATION NUMBER	ACTIVATION DATE	LENGTH OF TERM
Other	climate neut	verifi	n.a	2008-01-01	12 months

2.1.5 Second Party Certification Program - Whole Product Sustainability

CERTIFICATION NAME	CERTIFYING ORGANIZATION	LEVEL	CERTIFICATION (OR STANDARD*) NUMBER	ACTIVATION (OR TEST*) DATE	TESTING ORGANIZATION*	LENGTH OF TERM
Cradle-to-Cradle	MBDC	Biological Nutrient	--	--	--	--
Environmental Choice/Ecologo	Canada	N/A	123456	2008-01-01	--	12 months

4.1 Stewardship • 4.2 Transparency of Information • Manufacturer Comments



Current Status



Allied organizations supporting testing and completion of development

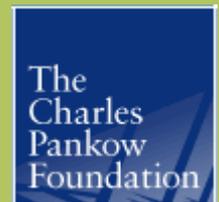
- BuildingGreen, LLC
- Charles Pankow Foundation
- McGraw-Hill Construction Sweets

Beta testing with manufacturers completed
Version 1.0 released at GreenBuild

Public Review and comments welcomed at
www.greenformat.com

Continuing to **work with building product manufacturers** to list products

Ongoing **revisions on regular schedule**



Resources

GreenFormat

www.greenformat.com

www.csinet.org/greenformat

Presenters

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THANK YOU !!

