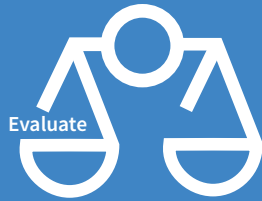


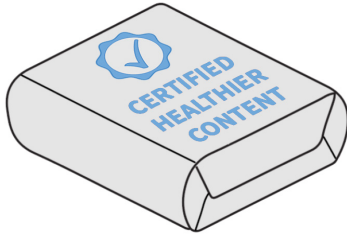


CERTIFICATIONS & DISCLOSURES

The diagrams included in this section provide a simplified overview of certifications and disclosures to enable students to assess building products and their impact on human health.



CERTIFICATIONS & DISCLOSURES



COMPARISON OF MATERIAL HEALTH PRODUCT CERTIFICATIONS AND DISCLOSURES

Certifications and disclosures can provide useful information in assessing product health. Certifications give a score, rating, or official endorsement that a product meets a certain standard, but very few ensure complete screenings of all hazards. They may look at a single attribute or multiple attributes. Disclosures do not include a rating or score, and instead provide information on product contents and associated hazards. Both certifications and disclosures can be self-declared by a manufacturer or verified by an independent third party. Below, you can find a comparison of some of the major disclosures and certifications.

	Type	Verification	Levels	Health Criteria				Public Data Availability	Adoption		
				Ingredient Disclosure	Hazard Toxicity	Avoidance Exposure	Emissions		LEED V4	WELL V2	LBC 3.1
HPD v2	Disclosure	Third-party optional	None	●	○	○	○	Full ingredient list, with two permitted exemptions	●	●	○
Declare	Disclosure	Third-party optional	None	●	●	○	●	Full ingredient list with roles, amounts, and hazards	●	●	●
Cradle to Cradle	Multi-attribute certification	Second-party*	Basic Bronze Silver Gold Platinum	●	●	●	●	Scorecard not disclosed	●	●	○
Blue Angel	Multi-attribute certification	Third-party verified	None	●**	●**	●**	●**	Scorecard not disclosed	●***	●	○
Nordic Swan	Multi-attribute certification	Third-party verified	None	●**	●**	●**	●**	Scorecard not disclosed	●***	●	○
BIFMA level	Multi-attribute commercial furniture certification	Third-party verified	Level 1 Level 2 Level 3	●	●	●	●	Scorecard not disclosed	●	●	●
CDPH Section 01350	Emissions certification	Third-party verified	None	○	○	○	●	Scorecard not disclosed	●	●	●

*Cradle to Cradle uses a proprietary standard.

**Health criteria are based on product type. For more information refer to Blue Angel and Nordic Swan websites (referenced below).

*** Can be only used toward "Green cleaning - purchase of sustainable cleaning products and materials" credit.

Notes

Citations
Atlee, Jennifer and Tristan Roberts. "Behind the Logos: Understanding Green Product Certifications," BuildingGreen, 2008, <https://www.buildinggreen.com/feature/behind-logos-understanding-green-product-certifications-0>.
"Blue Angel," Ecolabel Index, Accessed August 6, 2018, <http://www.ecolabelindex.com/ecolabel/blue-angel>

"Blue Angel, the German Ecolabel," Blue Angel, Accessed August 6, 2018, <https://www.blauer-engel.de/en>

"Learn About Level," BIFMA, Accessed August 6, 2018, <http://www.levelcertified.org/learn-about-level/>

"LEED Credits, New Construction," USGBC, Accessed August 6, 2018, <https://www.usgbc.org/credits/new-construction/v2009>

Lewis, Martha, and David Lewis. "Why Material Health Cannot Be an Afterthought." Presentation for Healthy Materials Lab online course, New York, NY, 2018.

"Nordic Ecolabel or Swan," Ecolabel Index, Accessed August 6, 2018, <http://www.ecolabelindex.com/ecolabel/nordic-ecolabel-or-swan>

"Product Health Reporting," Healthy Materials Lab, Accessed December 17, 2018, <https://healthymaterialslab.org/product-health-reporting>

"WELL," International WELL Building Institute, Accessed August 6, 2018, <https://www.wellcertified.com>

Yang, Frances and Sara Tepfer. Prescription for Healthier Building Materials: A Design and Implementation Protocol. Washington DC: AIA and ARUP, 2018.

Get what you need from a Health Product Declaration, *fast*.

Step 2

Check the disclosure threshold.

- CONTENT INVENTORY
Threshold (per material)
- 100 ppm
 - 1,000 ppm
 - Per GHS SDS
 - Per OSHA MSDS
 - Other

These appear in descending order of granularity. For example, 100 parts per million (ppm) looks at ingredients that make up at least 0.01% of the material. At each disclosure level below this, you get less data—so you might see fewer hazards listed simply because they weren't accounted for.

Step 4

Scan for GreenScreen red flags.

CONTENT IN DESCENDING ORDER OF QUANTITY
Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
GREENSCREEN SCORE | HAZARD TYPE

Here's how to do a quick hazard scan.

- 1) **Skim the inventory for these three GreenScreen scores:**
 - **BM-1:** The most hazardous chemicals known to science
 - **LT-1:** On hazard lists all over the world but haven't undergone a full GreenScreen assessment
 - **LT-P1:** Probably hazardous, but there isn't consensus
- 2) **Do a reality check.** The presence of a hazard doesn't mean someone will be exposed to it, let alone get sick. Use HPDs to weigh tradeoffs.
- 3) **Look out for "false positives."** Check our free guide to *The Five Hazard Warnings You Can Usually Ignore at BuildingGreen.com/5hazards*.

Step 5

Consider accessories.

Page 3 of the HPD

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

ACCESSORY PRODUCT OR MATERIAL NAME

PD URL

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES

Step 3

Look for "no."

Based on the selected Content Inventory Threshold:

- Characterized..... Yes No
Are the Percent Weight and Role provided for all substances?
- Screened..... Yes No
Are all substances screened using Priority Hazard Lists with results disclosed?
- Identified..... Yes No
Are all substances disclosed by Name (Specific or Generic) and Identifier?

This section tells you how thorough the manufacturer was in disclosing ingredients.

- 1) **Characterized:** Did they list each substance in the product? For LEED v4, this has to say "yes" (they don't have to be listed by name).
- 2) **Screened:** Did they list all the hazards associated with the substances? For LEED v4, this has to say "yes" (with exceptions).
- 3) **Identified:** The HPD lets manufacturers keep some ingredients proprietary. Remember: for LEED, you still have to characterize and screen most substances.

Step 1

Note the expiry date.

EXPIRY DATE*:

* or within 3 months of significant change in product contents

First, make sure the HPD is valid. Search for an update if it's expired.

That carpet might look squeaky-clean, but what about the adhesive? What about the stain-resistance treatments you're going to need? Check Section 4 to learn which accessories aren't accounted for in the product HPD.

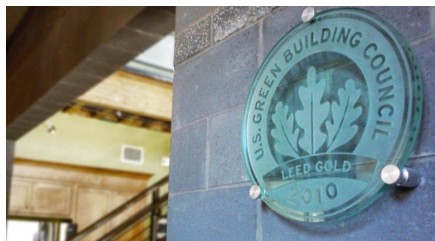
» Geek out on HPDs at BuildingGreen.com/HPD

Writing by Paula Melton | Graphic design by Julia Jandrisits



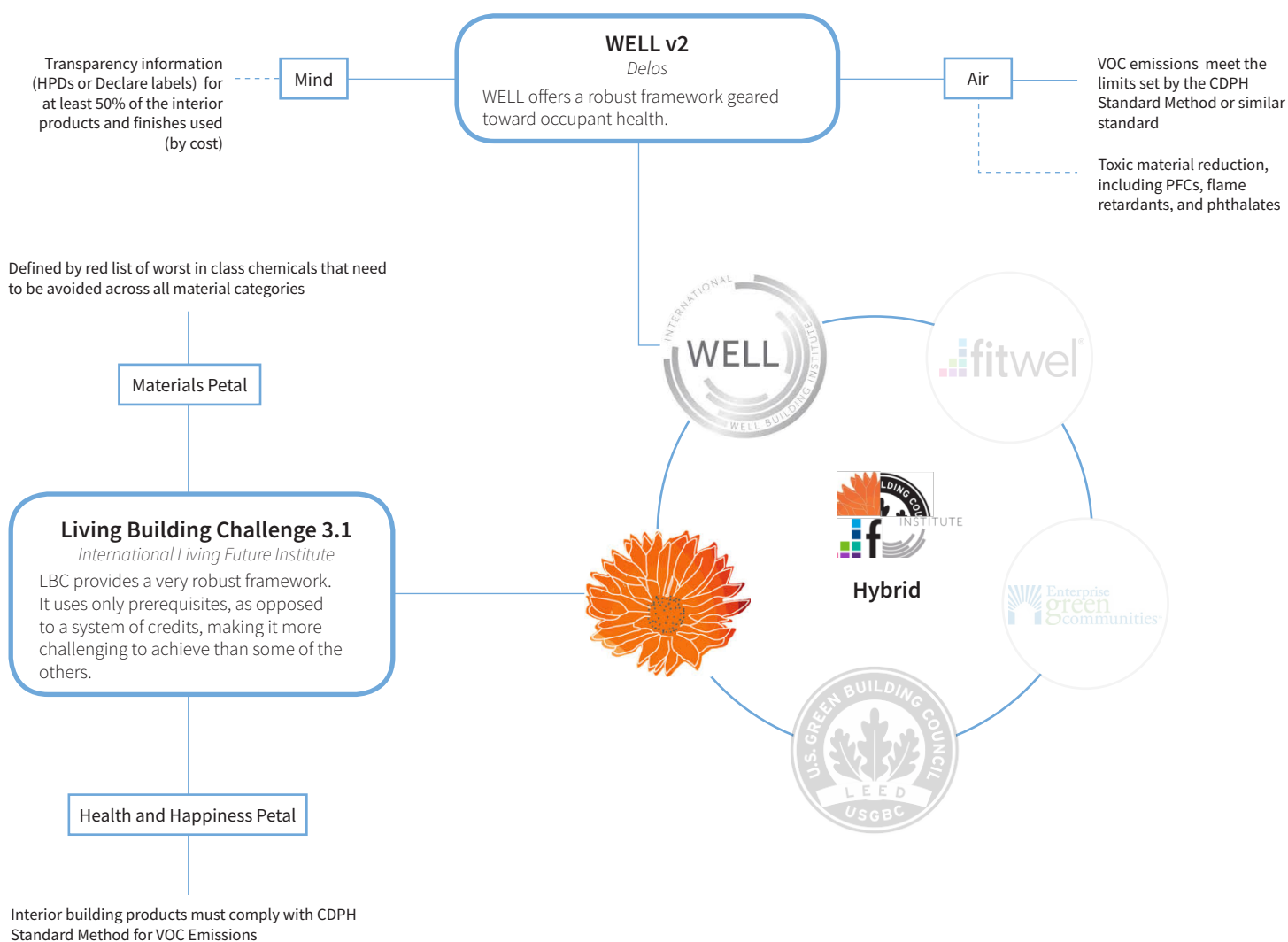


MAJOR BUILDING STANDARDS



COMPARING HEALTH CRITERIA OF MAJOR BUILDING STANDARDS

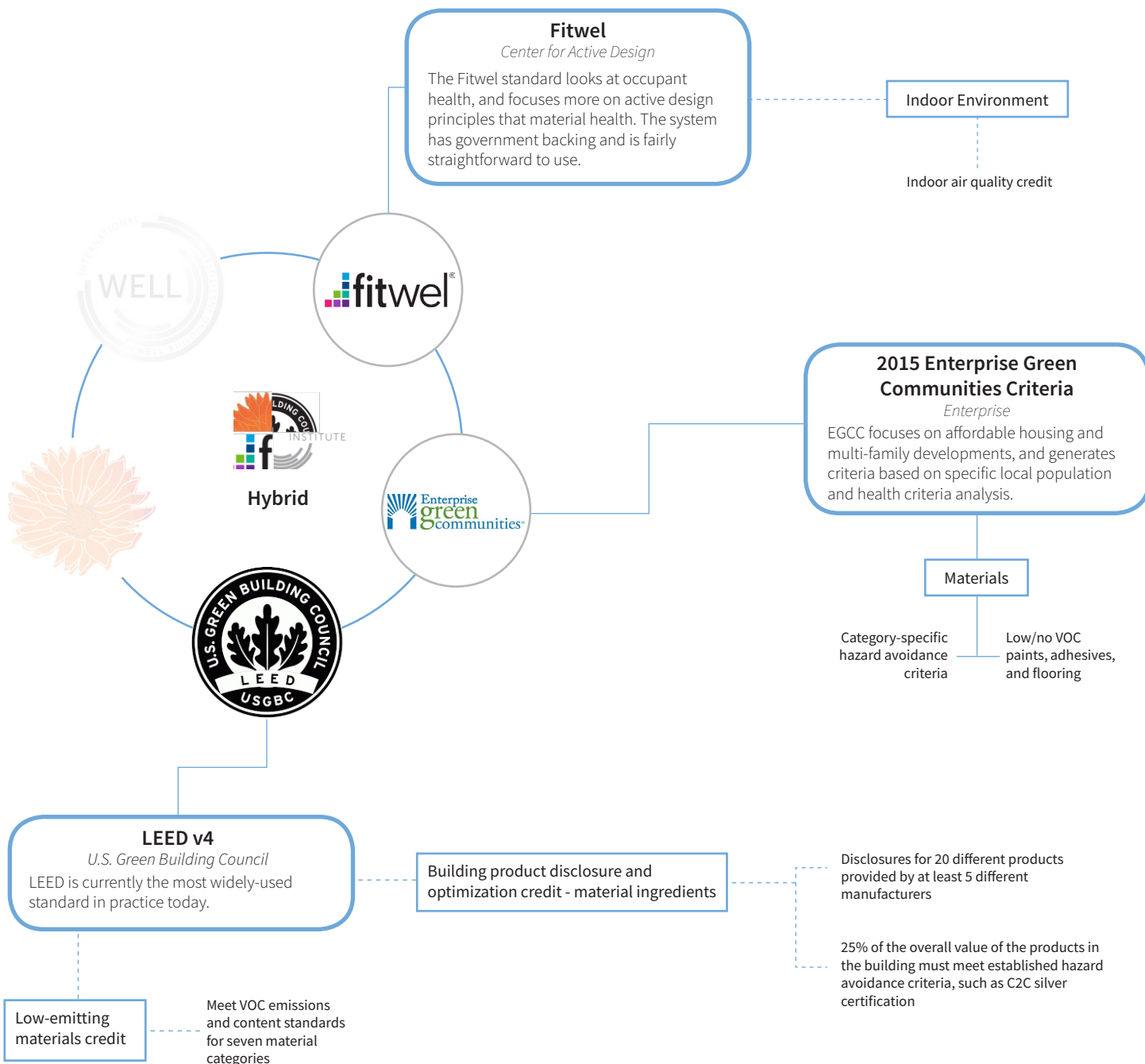
Comparing different standards' health criteria can help to see which framework might best define your goals, and also might help you to develop a customized hybrid of different standards. Below you can find information on five major standards and the ways in which they evaluate occupant and/or material health.



Key ————— Required component - - - - - Optional component



MAJOR BUILDING STANDARDS



Key	————— Required component	----- Optional component
------------	--------------------------	--------------------------

Citations
 "Building product disclosure and optimization - material ingredients." USGBC. Accessed November 19, 2018, <https://www.usgbc.org/node/2616399?return=/credits>
 Dinning, Jack. "Commonalities among Major Building Standards (LEED, LBC, WELL, EGCC, FitWel)." Presentation for Healthy Materials Lab online course, New York, NY. 2018.
 "Explore the Standard." International Well Building Institute. Accessed November 20, 2018, <https://www.wellcertified.com/en/explore-standard>.
 "Low-emitting materials." USGBC. Accessed November 19, 2018, <https://www.usgbc.org/node/2614095?return=/credits>.
 "Standard." Fitwel. Accessed November 19, 2018, <https://fitwel.org/standard>.





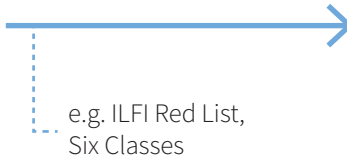
MATERIAL HEALTH FRAMEWORKS



INTEGRATING MATERIAL HEALTH FRAMEWORKS INTO YOUR PROJECT

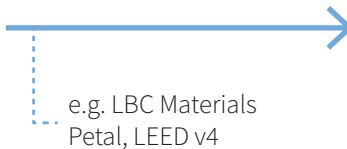
Whether one intends to seek certification from building standards such as LEED or the Living Building Challenge, these rating systems can provide a helpful target to guide health efforts. Below are ways to introduce the components of these frameworks into any project.

Hazard Avoidance and Red Lists



- Avoid classes of hazards, whether by chemical category (Six Classes) or hazard type (avoiding asthmagens, carcinogens, CMRs, PBTs, etc.).
- Use a red list to avoid specific chemicals of concern (i.e. ILFI Red List, Perkins + Will Precautionary List).

Transparency



- Exercise your buying power to influence the market. Contact manufacturers and request HPDs or Declare labels for their products.
- Use a tool such as the Mindful Materials library to search for products with ingredient disclosures.

Integrated Design/ Project Team Education



- Discuss health goals with design and construction teams early.
- Orient construction workers and allow them to take ownership over their practices.
- Work with and educate building occupants throughout the project's design, construction, and maintenance.

Citations

Brock, Geoff. "Defining Practices and Coordinating Subcontractors." Presentation for Healthy Materials Lab online course, New York, NY. 2018.
Hellstern, Chris. "Standards and Framework for Healthier Design." Presentation for Healthy Materials Lab online course, New York, NY. 2018.
Yang, Frances and Sara Tepfer. Prescription for Healthier Building Materials: A Design and Implementation Protocol. Washington DC: AIA and ARUP, 2018.



REQUESTING DISCLOSURES

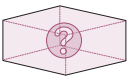


WHAT TO ASK YOUR MANUFACTURER

Architects and designers have the power to work with manufacturers in order to achieve their own health goals and to drive change on a greater scale. Jeff Frost, Material Specialist at Brightworks Sustainability and Co-Founder of mindful MATERIALS, suggests requesting three types of disclosure from manufacturers:

- material ingredient disclosures
- environmental disclosures
- emissions testing

In addition to the platforms mentioned below, many of these can be found through libraries like mindful MATERIALS and on the Healthy Material Lab website at <https://healthymaterialslab.org/material-collections>.



MATERIAL INGREDIENT DISCLOSURES

Material ingredient disclosures provide information on product contents and associated hazards. They can be self-declared by a manufacturer or verified by an independent third party.

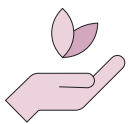
Examples:



Health Product Declaration
Health Product Declaration Collaborative
Available online through HPD Public Repository



Declare Label
International Living Future Institute
Available online through ILFI's Declare Product Database



ENVIRONMENTAL DISCLOSURES

Environmental disclosures such as LCAs (life cycle assessments) EPDs (environmental product declarations) provide information on the environmental impacts of a product during all phases of its lifecycle. While some LCA reports can run over 100 pages, EPDs can provide more concise environmental disclosure information.*

Examples:



Life Cycle Assessment Report
Typically requested directly from manufacturer; online databases like openLCA Nexus include some available for purchase



Environmental Product Declaration
International EPD System
Available online through the International EPD System's Database



EMISSIONS TESTING CERTIFICATIONS

Emissions certifications typically measure products' emissions of VOCs (volatile organic compounds), and certify that these levels are below a certain threshold. Some also measure additional chemicals of concern, such as formaldehyde. Many emissions tests use the standard procedures established by the CDPH "Standard Method" Section 01350. Jeff Frost mentions the following examples, which are two of many available certifications.

Examples:



GREENGUARD Gold Certification
UL Environment
Available online through the UL Spot Database



SCS Indoor Advantage Gold
SCS Global Services
Available online through the SCS Global Services Certified Green Products Guide

Citations

Frost, Jeff. "Where to Start?" Presentation for Healthy Materials Lab online course, New York, NY. 2018.

* "Tools for Changing the Building Materials Market," *In Better Building Materials Guide*, ed. Ashley White and Christopher Pyke. n.d., 68-130.