

Product Libraries for LEED v4 Material Credits

By John Mlade

Trends toward transparency and healthier materials are transforming the building materials landscape, to great fanfare from advocates of those approaches. However, these two related priorities have also caused quite a bit of confusion in the industry.

Designers looking for materials that meet the requirements of LEED v4 will quickly find that there are an incredible number of standards, hazard lists, screening tools, product certifications, certification bodies, and databases out there. And while manufacturers are scrambling to meet requirements for transparency and product optimization, a major challenge remains for designers trying to make sense of it all and readily utilize building products that satisfy LEED v4 materials requirements.



HPDs informed product selection for the Sagamore Spirit Distillery, an Ayers Saint Gross-designed project in Baltimore.

Photo: High Rock Studios

Harmonization is happening

But help is on the way! Key stakeholders in material health and transparency are actively involved in a harmonization effort to simplify the process for manufacturers, make selection and specification of healthy materials easier, and speed adoption of LEED v4 materials credits.

Although this process is under way, it will take a while for meaningful changes to improve the process for designers. This digest of key product libraries is intended help designers and specifiers make use of existing resources to pursue LEED v4 materials credits. These libraries are also likely to evolve as industry programs evolve, and we will update this resource. We also hope that this guide help manufacturers understand how to best position their products in the green building market.

How to use this guide



There are a number of ways in which these databases can be used to support sustainability goals, not just certification targets. This summary is geared towards LEED v4 and provides anecdotal guidance around library resources that are currently available.

Many other platforms and tools exist that aren't detailed here; Portico, Sphere E, Pattette App, Arazoo, MyResourceLibrary, SmartBIM Technologies EcoScorecard, Red to Green, Healthy Urban Places LBC Library, and Quartz, to name a few. While these platforms may appeal to design teams for specific functions or projects, the list of libraries that we address below are known to be the largest publicly available and most prominent platforms applicable to LEED v4.

Have other favorite product libraries that have helped you meet LEED requirements or hit sustainability goals? Let us know in the comments.

Also see our guidance on these specific credits:

- [Building product disclosure and optimization - environmental product declarations](#)
- [Building product disclosure and optimization - sourcing of raw materials](#)
- [Building product disclosure and optimization - material ingredients](#)
- [Low-emitting materials](#)

Leading product libraries for meeting LEED v4 requirements

(In no particular order.)

BuildingGreen Approved on Designer Pages

Cost to users: 15-day free trial, registration required; \$199/year; special pricing for firms and campuses

Cost to manufacturers: \$100–\$500 one-time setup fee in Designer Pages (manufacturers do not pay to have their products vetted by BuildingGreen)



Quality control: Products are vetted and selected by the BuildingGreen editorial team based on published green criteria for each product category



Why we use it: Long-time trusted source of information

Needs work: Access, navigation and filters remain tricky. There is not currently a way to search for products by LEED v4 credit or attribute (EPD, HPD, emissions, etc.)

Ease of use: Moderate–High

GreenSpec was one of the first widely used industry resources for selecting green materials. This product intelligence has now been moved into Designer Pages, where BuildingGreen runs its independent BuildingGreen Approved program by screening Designer Pages' database of 350,000+ products. Currently there are 192 BuildingGreen approved product categories representing tens of thousands of products.

BuildingGreen has led the industry for years in terms of keeping ahead of material concerns and providing information to support the pursuit of LEED v2009. However, compared to other databases, BuildingGreen Approved on Designer Pages doesn't yet provide many of the technical dimensions of conveying product ingredients in support of transparency, or a relative "thumbs-up/thumbs-down" approach to material health for LEED v4. Instead, each product is screened by BuildingGreen staff, based on published green criteria for each product category. Custom assessment comments are generated for each product and stamped with the BuildingGreen reviewer name and date.

Unlike other product libraries, BuildingGreen Approved does include searchable criteria for green attributes that are not LEED-specific. This includes features such as durability, light quality, and whether the product "provides connection with nature," which users can use to find products that support biophilic design goals.

Disclosure: BuildingGreen is the publisher behind LEEDuser.

C2C Certified

Cost to users: Free, no registration required

Cost to manufacturers: C2C certification fee is \$2,600 + \$1,000 annually, but additional fees for assessment and evaluation will vary and may be upwards of tens of thousands of dollars depending on the product type, volume, and specific assessor. The Materials Health Certification is growing in popularity and generally incurs a lower assessment fee.



Quality control: All listings are certified by C2C Products Innovation Institute and assessed by an Institute affiliate; recertification, with measurable improvement, required every 2 years

Why we use it: Accessible, easy to use, credible



Needs work: Limited number of building products listed

Ease of use: High

The [C2C](#) website is an easy-to-use portal into a rigorous multi-attribute certification. The main downside is the limited number of products available with [C2C](#) certification, although the number of certified products has been increasing rapidly in recent years. Nonetheless, products are easily searchable in the [C2C](#) interface, with 339+ products currently listed for MRc3 Option 1 and 192+ products for Option 2. Even so, many of the listed products that can provide credit in LEED v4 are furniture or furnishings and therefore may provide limited applicability for LEED projects that do not include furniture in the scope.

Declare



Cost to users: Free; no registration required

Cost to manufacturers: \$750-\$1,000 for full initial review + \$375-\$500 annually depending on the number of products. Bulk discounting is available.

Quality control: Reviewed by International Living Future Institute staff; product manufacturers must pay for a full review if changes are made to product formulation before label expiration unless Red List or proprietary ingredients are removed.

Why we use it: Labels are easy to understand, growing in numbers, and applicable across rating systems.

Needs work: The newly minted interface does what it needs to do! We'd like to continue to see more products in the program.

Ease of use: High

Declare is the in-house product certification label for the International Living Future Institute (ILFI), the creators of the Living Building Challenge and its associated Red List. The Declare registry has a growing number of products in its library (about 1,100 as of this post), and while clunky, is routinely improved for user experience. The database tracks products as they relate to Living Building Challenge standards, and has also added filters for LEEDv4 material ingredient disclosure and third party verification.

On the plus side, it doesn't have the clutter common to other libraries that track several certifications, standards, and categories. Many products on the Declare database may contribute to MRc4 Option 1 for Ingredient Reporting and those that also meet Red List requirements will likely apply to MRc4 Option 2 for Ingredient Optimization, although a Declare label is not a recognized compliance path for Option 2. All products listed on the Declare database are also listed on



Origin and BuildingGreen Approved. Declare is also a scored pathway on Google's Portico Tool and an approved program under the EPA EcoLabels and Standards for Green Products program.

Origin/Mindful Materials

Cost to manufacturers: Submitting product information is free for suppliers, users and third parties



Quality control: Suppliers may submit verified product information, or link directly to certification, audit, or declaration data sources using a growing number of APIs (Application program interfaces) to ensure data remains current

Why we use it: It is quickly becoming the most comprehensive source for building products

Needs work: While not currently in place, it is said that filters to support LEED v4 product applicability are currently in development.

Ease of use: High

Developed by Shanghai-based GIGA, Origin is a public database of materials information. GIGA is more of a software company than the companies behind other libraries profiled here. Origin has been responding quickly to market needs and the evolving materials landscape and receives direct data feeds from key product certifications and platforms including Declare, Cradle to Cradle, SCS Global Services, WaterSense, and Energy Star. It also hosts the Mindful Materials Library. Origin does not support user materials tracking, project libraries or preferences commonly used for sharing product selections between team members, although these functions may be accessed through a subscription to Matter, the product selection management platform also run by GIGA that uses the Origin product search database.

Pharos Chemical and Building Product Libraries

Cost to users: 14-day unlimited-use free trial, registration required; \$240 (\$20 monthly) – \$1,200/year depending on the number of active projects



Cost to manufacturers: Free for manufacturers to populate with product data

Quality control: It is the manufacturers' responsibility to update product information; data entries are time-stamped, chemical hazard information is continuously updated by Healthy Building Network.



Why we use it: Technical rigor of chemical database; comprehensive breadth

Needs work: Out-of-date product entries, LEED v4 searchability (the chemical library remains current)

Ease of use: Low-Moderate

Unlike other databases evaluated here, Pharos is a comprehensive resource spanning certifications, hazards, and chemicals/materials. The underlying scientific rigor is unparalleled with other libraries, but the real question is how designers will use the plethora of information available on this database.

Pharos has come a long way over the years. What used to be a very difficult platform to navigate has been tidied up with a more streamlined and easier-to-use interface including project and sharing options. While information is presented in a way that is within reach of non-scientific users, it remains more of a research tool with major benefits for manufacturers. This means it is more limited in utility as a tool for designers to select products compliant with LEED v4. Users can search for products with HPDs and for GreenScreen assessments, but not by LEED credit.

Healthy Building Network is in the process of shifting resources from Pharos Building Product Library to the Chemical Hazard Data Commons, a tool that is currently in Beta testing and has yet to be formally released. We look forward to the updates.

HPD Public Repository

Cost to users: Free, no registration required

Cost to manufacturers: Free (with creation of HPD)

Quality control: HPDs are posted exactly as they are published by manufacturers

Why we use it: The official repository of the Health Product Declaration Collaborative

Needs work: Navigation is challenging

Ease of use: Low-Moderate



The Health Product Declaration Collaborative launched the HPD Public Repository in 2016 to provide the industry a “single, authoritative source for publicly available HPDs.” The repository consists of all newly published HPDs as well as those published prior to its launch. Because of a direct and automatic feed from the HPD Builder, the repository is a go-to source for current and up-to-date HPDs.

Users may search the repository by CSI Division, CSI Section, Manufacturer, Product Name, HPD Version, and LEED v4 Option Compliance. However, navigation remains challenging with limited listings per page and inability to readily advance pages. Other hiccups such as a different set of results when searching for “03 54 16” and “03 54 16 Hydraulic Cement Underlayment” have yet to be ironed out.



Perhaps the most challenging feature is the requirement that an email address be typed in for every HPD that is downloaded.

SmithGroupJJR HPD Library

Cost to users: Free, no registration required

HPD Library (POWERED BY SMITHGROUP JJR)

Cost to manufacturers: Free

Quality control: HPDs are posted exactly as they are published by manufacturers

Why we use it: One of the largest HPD product libraries (730+ HPDs)

Needs work: The database functionality has a few quirks in terms of searchability, but these can be overcome for the determined user

Ease of use: Moderate-High

Searchable by CSI, manufacturer and product name, as well as level of disclosure, LEED v4 compliance, and whether there is full disclosure of intentional ingredients and known hazards, the SmithGroupJJR HPD database is specifically designed to help project teams select products with HPDs in support of LEED v4 projects (MRC4, Option 1).

A fully voluntary effort in support of product transparency in the building industry at large, SmithGroupJJR requested peer sustainable design colleagues and manufacturers submit their HPDs for inclusion, and manufacturers provided them. HPDs are posted to the database exactly as they are published, putting the onus of review on the user. There does not appear to be a system in place to replace updated or outdated HPDs. At the time we updated this tipsheet, the ability to filter by “current” HPDs was not working.

Unlike other libraries, this one is focused on the documentation (HPDs), not on products. That means that designers will need to do the additional work of finding HPDs and then connecting them to specific products that they want to specify.

UL SPOT



Cost to users: Free, registration required

Cost to manufacturers: Specific fees are undisclosed, but varies depending on type and volume of certification contract Included for UL customers, Other manufacturers pay to be placed. (ballpark \$1,000 for a product)

Quality control: All listings certified by UL

Why we use it: One of the largest EPD product libraries (700+ EPDs) and also includes Greenguard certification, which helps with low-emitting materials (EQc2)



Needs work: Overbearing registration process, filters for LEED v4 credits are clunky, and navigation is time consuming

Ease of use: Low

The UL SPOT database boasts of offering the most comprehensive and credible database available and offers a broader list of searchable rating systems and attributes than is found in most other product libraries. However, since the filter functions are not easy to use and time consuming to navigate, the utility of the database is diminished. Nonetheless, it maintains the largest collection of EPDs, totaling over 700. This stands in contrast to disclosure and transparency listings for LEED v4 MRc4 that currently total 7.

Many of the referenced standards, certifications, and evaluations are not directly pertinent to LEED v4 documentation but may still be valuable to projects. Many [VOC](#) compliant materials are commonplace but pointed searches to satisfy LEED v4 [TVOC](#) requirements may still be necessary. In addition, many products in the UL library are furniture and therefore only applicable to projects that have furniture included in the scope. It may be a good place to validate product information nonetheless.

The UL SPOT database is hosted on UL's Prospector platform. Prospector is geared towards B2B transactions for raw materials in the manufacturing supply chain, and as such, users of SPOT are required to take additional steps in registration to verify authenticity. For example, personal emails are not currently permitted, and if your business does not have a website, brochures outlining your services or actual referrals are required to be submitted to prove you are a legitimate business before being granted registration. This process is expected to change, along with the release of some other helpful updates and tools including "spot for Revit" and APIs with other registries and datasources, in the next version of UL SPOT in early 2018.

Sustainable Minds Transparency Catalog

Cost to users and manufacturers: Free to users, no registration needed. Manufacturers have a low-cost and variable annual subscription rate for listings based on the number of products and types of documentation.



Quality control: Sustainable Minds links to product information on the manufacturer's web site and disclosure documents either on the manufacturer's web site or program operator or rating system sites.



Why we use it: It is another tool that is useful for finding documentation for specific manufacturers or brands

Needs work: Products can only be found by manufacturer – no filters exist for product attributes

Ease of use: High

The Sustainable Minds (SM) Transparency Catalog can only be searched by manufacturer and not by certification or rating system applicability, and for this reason has limited utility in identifying products for use on projects, but may remain valuable to find documentation for specific products. When available, product data may be displayed for materials disclosure and certifications that support LEED v4, CHPS, Green Globes, WELL Building Standard, and the Living Building Challenge.

Since data isn't hosted by Sustainable Minds, it should be kept more current than some other databases and will remain as current as the source data, which is typically third party certifications, verifier, or manufacturer websites. To support accuracy, SM offers a disclosure validity alert service to manufacturers to keep disclosures current. In some cases, the link for specific brands may go to the manufacturer website, thereby requiring the user to do a secondary search for relevant information.

Like several other libraries, change is afoot and users should expect additional filtering, selection and other useful tools to select and specify products in the future.

Ecomedes

Cost to users: Basic catalog is free to use. Creation of open or private sites for syndicated data used for governmental purchasing can vary and may be \$15,000+



Cost to manufacturers: Variable subscription rate

Quality control: Product information is populated by manufacturers and is not reviewed

Why we use it: Another resource to triangulate product information

Needs work: It is geared towards operational procurement and currently has limited utility for LEED design teams

Ease of use: Low-Moderate

Ecomedes has been in existence longer than many of the other platforms and offers integrated solutions for governmental purchasing in which filters can be



deployed and only “approved” products shown and available to purchasing agents through a variety of different “sites.” Access to the actual database is free for casual users, although there aren’t a large number of building products (apart from roofing, lighting, and water fixtures) catalogued on the site.

Of the products that are catalogued, many are either Water Sense (required for WEp1) or Energy Star certified, but do not clearly translate to contributions to LEED v4 MR credits. Filters are available for EPDs (915 products) but others are only sparsely populated; HPDs (9 products), Declare Labels (16 products). Greenguard is a filter, but without being able to filter for Greenguard Gold, users must sort through the results to determine if the product emissions testing complies with LEED v4. Ecomedes hosts product information on the site, and also links to source websites, leaving data content accuracy to the manufacturers, certifiers, and third party verifiers. In some cases, there is no link and it only indicates that an EPD is available, for example. Ecomedes is in the process of connecting directly with [C2C](#), HPDC and Declare libraries.