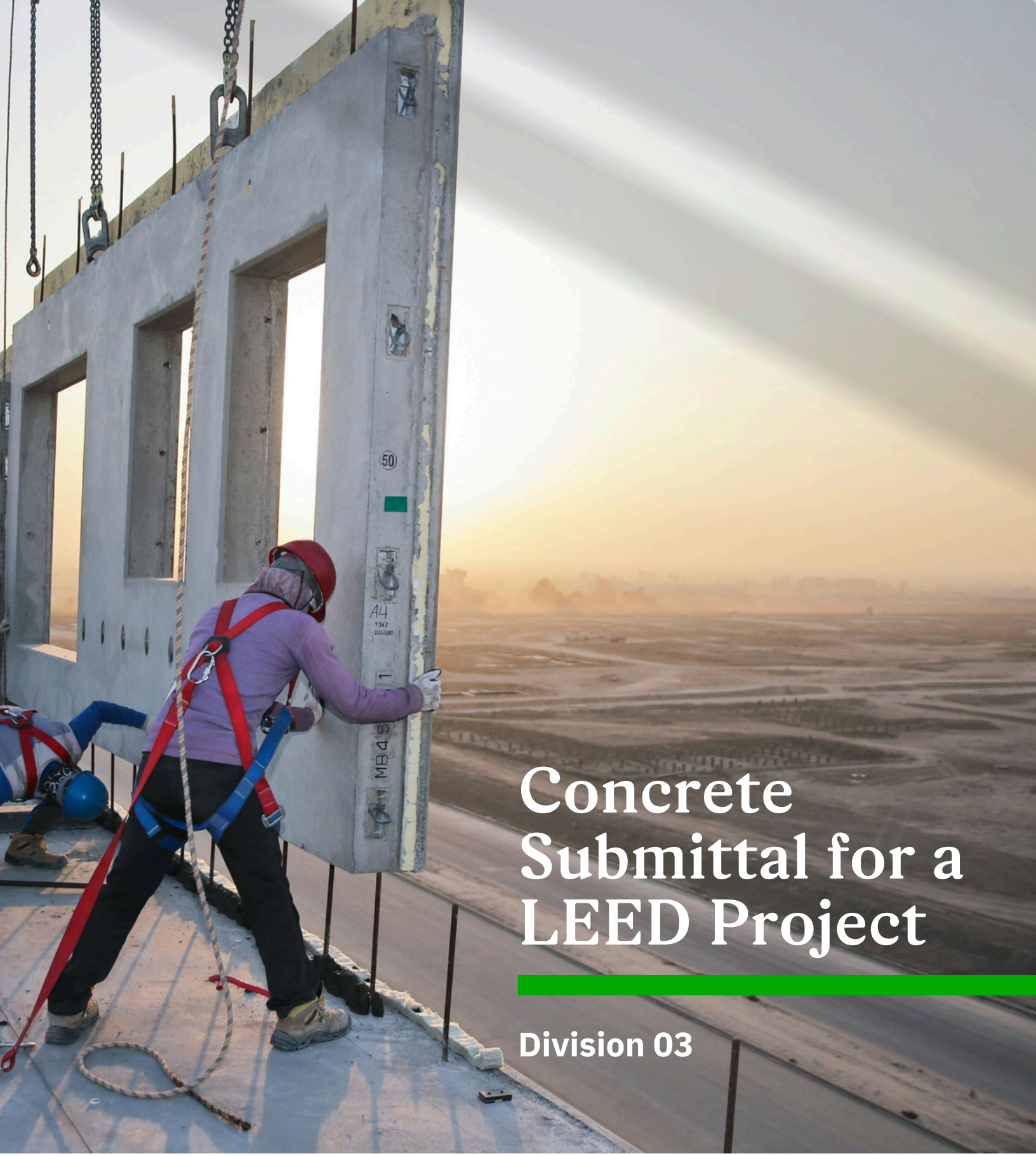


Concrete Submittal for a LEED Project

Division 03

Green Badger

getgreenbadger.com

Table of Contents

Green Badger

Introduction

Concrete is often a contributing product to multiple LEED credits, and can contribute by the concrete mix itself, as well as the associated rebar, wire-mesh, and sealants/topcoats that are applied.

Concrete divisions each play a key role through material selection, sourcing, and documentation.

03 01 00	Concrete Maintenance/Resurfacing
03 20 00	Concrete Reinforcing
03 30 00	Cast-In-Place Concrete/Structural
03 45 00	Precast Concrete
03 54 00	Concrete Floor Topping

Credit Contributions

Environmental Product Declarations (EPD)

National Ready Mix Concrete Association Industry Wide EPD; check with your supplier to see if your mix(es) fall under this EPD. It covers 7000 manufacturers in the United States and Canada. LEED project teams can use a qualifying EPD for each mix design. That means your concrete package may yield, 1, 2 or even 5 contributing products (i.e. a 2000 PSI, 3000 PSI and 4000 PSI mix designs will all count as separate products for EPD contributions in LEED v4/4.1.

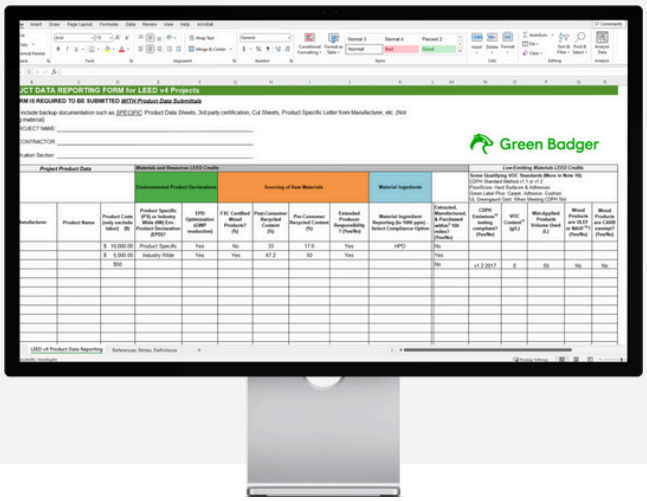
Three main providers of product-specific EPDs are Athena Sustainable Materials Institute's Concrete EPD Calculator, Building Transparency's EC3 Calculator and Climate Earth. They offer subscription-based web tools that allow companies to change mixes and create EPDs.

TEMPLATE

Submittal Cover Sheet

There is no industry standard for LEED submittal cover sheets. You can create your own, see if anyone on your project team has a standard template they've used in the past – or you can download our free submittal cover sheet template for submitting your product data.

CLICK HERE TO DOWNLOAD



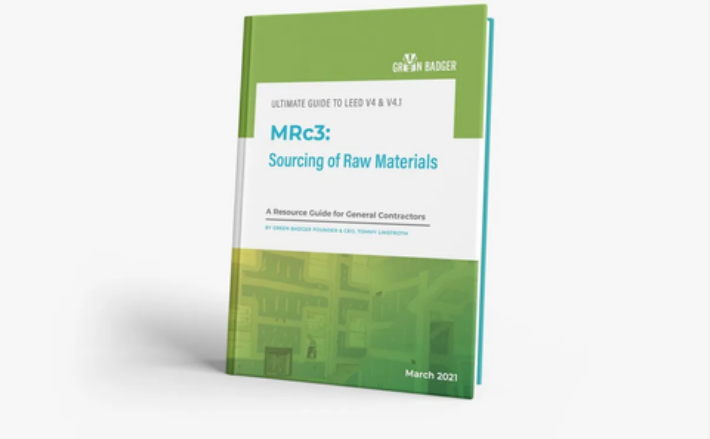
Sourcing of Raw Materials (SRM)

If your mix has fly ash or slag, report the percentage of recycled content and cost. Only upload the page showing the pre/post consumer recycled content, not the entire submittal. Unless the fly ash/slag is listed as a dollar item, enter the cost of the concrete mix and the pre-consumer recycled content percentage.

Recycled content is typically calculated based on the mix design. Below is an example of how to calculate concrete's recycled content based on the fly ash/slag content.

Most rebar and wire-mesh is made out of high percentage recycled content. Note: You'll need these costs broken out separately.

EBOOK



MRc3: Sourcing of Raw Materials

Sourcing of Raw Materials is a streamlined, more achievable version of the LEED v4 credit. It tends to be easier on new construction projects, but plenty of interiors projects are navigating this as well.

CLICK HERE TO DOWNLOAD

SRM continued...

Calculating Recycled Content from a Mix Design

If not provided, add up the total weight of the mix design - you can ignore water and add mixtures.

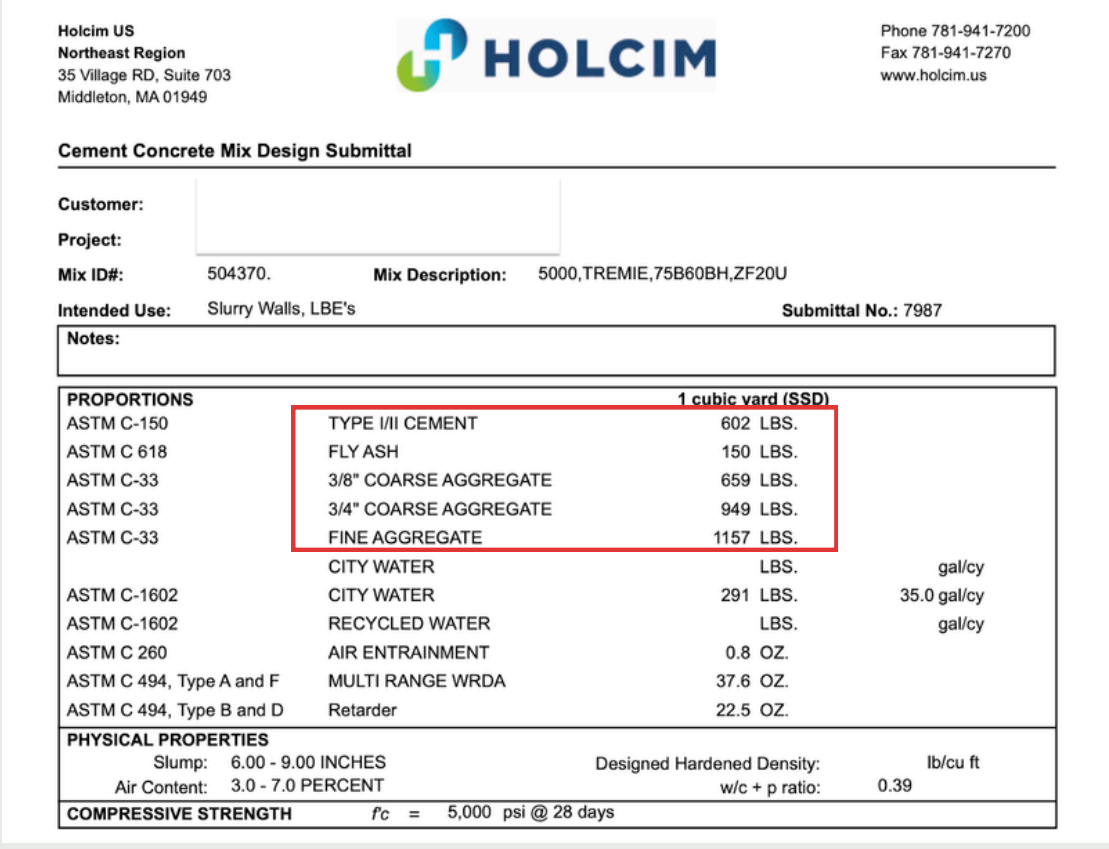
EXAMPLE

Type I/II Cement:	602 lbs
Fly Ash:	150 lbs
⅜" Coarse Aggregate:	659 lbs
¾" Coarse Aggregate:	949 lbs
Fine Aggregate:	1157 lbs
TOTAL MIX DESIGN	3,517 lbs

Total recycled content = 150 (fly ash) / 3,517 (total mix design) = 4.26 % Pre-Consumer recycled content.

Use the total cost of the mix design for material cost, and use 4.26% as your pre-consumer recycled content.

Each mix design likely requires its own calculation, as the ratios tend to be different.



Holcim US
Northeast Region
35 Village RD, Suite 703
Middleton, MA 01949

HOLCIM

Phone 781-941-7200
Fax 781-941-7270
www.holcim.us

Cement Concrete Mix Design Submittal

Customer:
Project:
Mix ID#: 504370. **Mix Description:** 5000,TREMIE,75B60BH,ZF20U
Intended Use: Slurry Walls, LBE's **Submittal No.:** 7987

Notes:

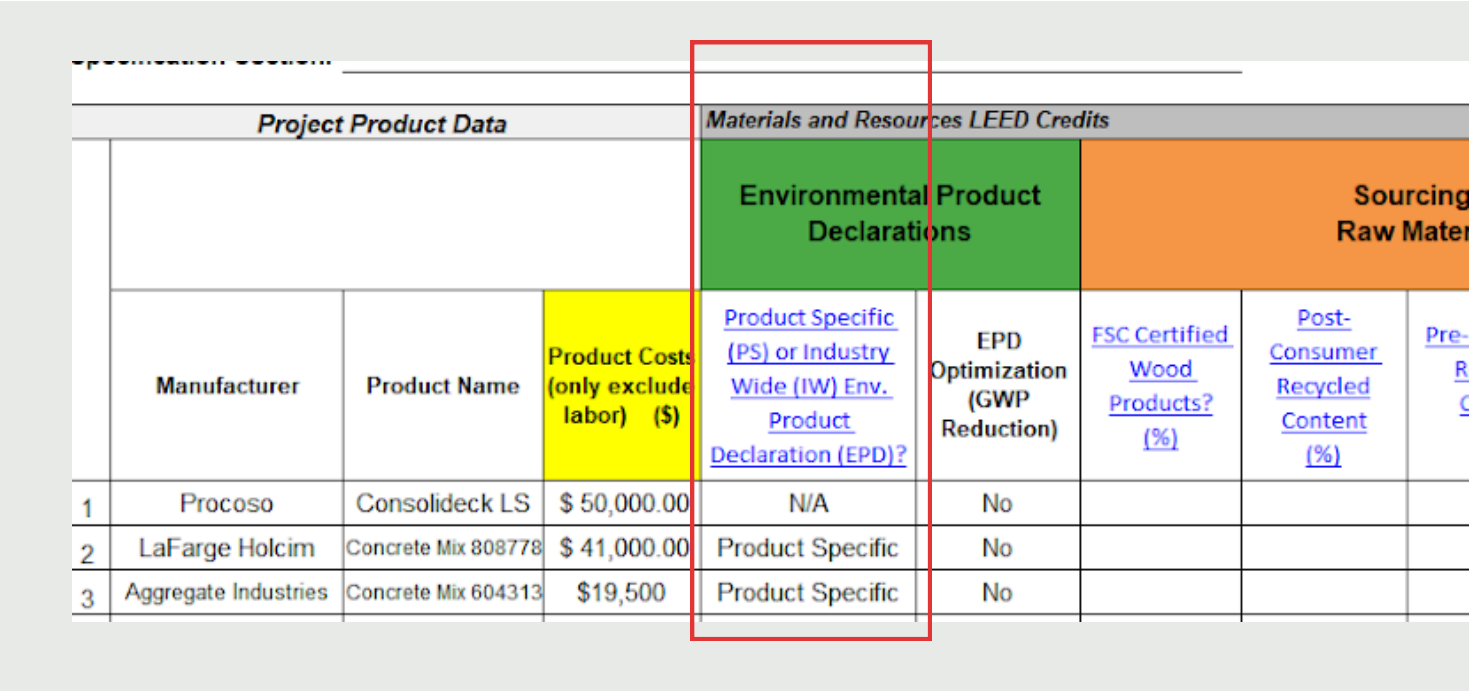
PROPORTIONS		1 cubic yard (SSD)	
ASTM C-150	TYPE I/II CEMENT	602 LBS.	
ASTM C 618	FLY ASH	150 LBS.	
ASTM C-33	3/8" COARSE AGGREGATE	659 LBS.	
ASTM C-33	3/4" COARSE AGGREGATE	949 LBS.	
ASTM C-33	FINE AGGREGATE	1157 LBS.	
	CITY WATER	LBS.	gal/cy
ASTM C-1602	CITY WATER	291 LBS.	35.0 gal/cy
ASTM C-1602	RECYCLED WATER	LBS.	gal/cy
ASTM C 260	AIR ENTRAINMENT	0.8 OZ.	
ASTM C 494, Type A and F	MULTI RANGE WRDA	37.6 OZ.	
ASTM C 494, Type B and D	Retarder	22.5 OZ.	

PHYSICAL PROPERTIES
Slump: 6.00 - 9.00 INCHES
Air Content: 3.0 - 7.0 PERCENT
Designed Hardened Density: lb/cu ft
w/c + p ratio: 0.39

COMPRESSIVE STRENGTH *f'c* = 5,000 psi @ 28 days

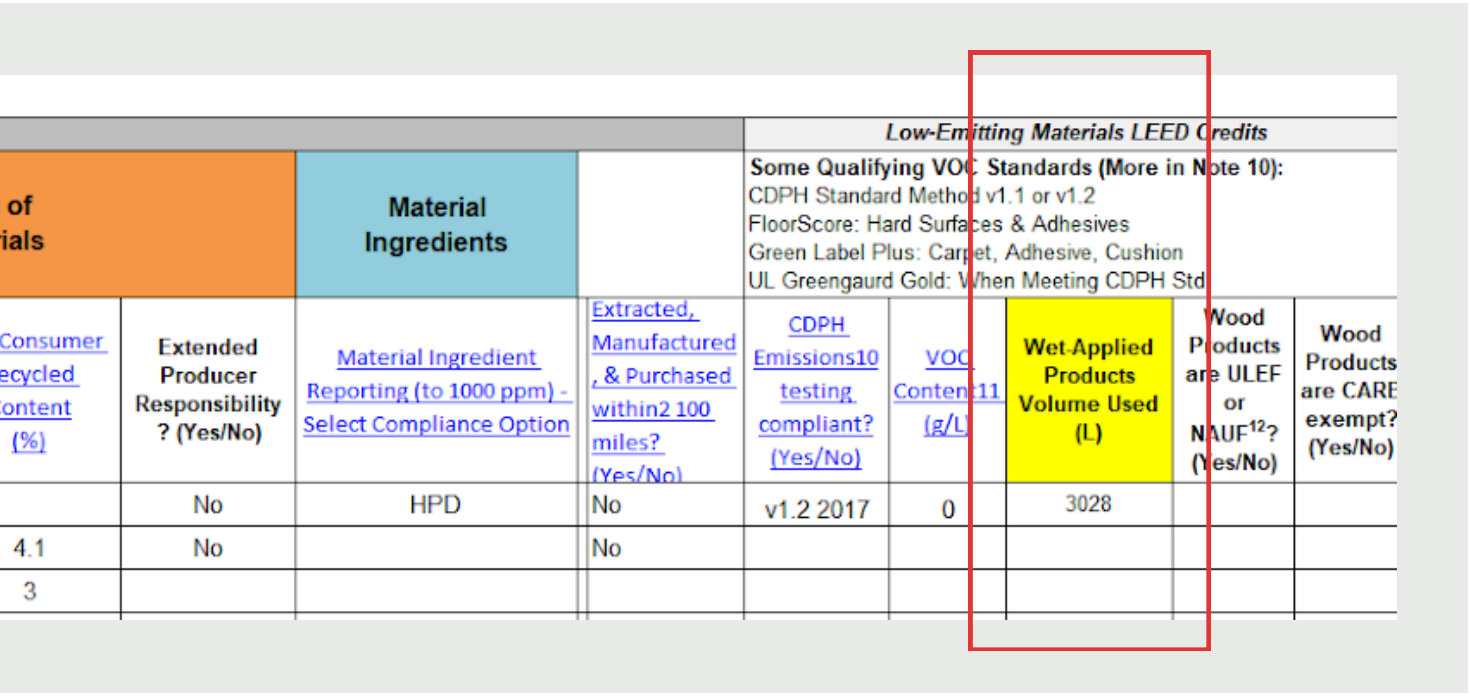
SRM continued...

Indicate on the cover sheet if the concrete mix has an Industry Wide or Product Specific EPD and any recycled content for fly ash.



	Project Product Data			Materials and Resources LEED Credits				
				Environmental Product Declarations		Sourcing Raw Mater		
	Manufacturer	Product Name	Product Cost (only exclude labor) ($)	Product Specific (PS) or Industry Wide (IW) Env. Product Declaration (EPD)?	EPD Optimization (GWP Reduction)	FSC Certified Wood Products? (%)	Post-Consumer Recycled Content (%)	Pre-R C
1	Procoso	Consolideck LS	$ 50,000.00	N/A	No			
2	LaFarge Holcim	Concrete Mix 808778	$ 41,000.00	Product Specific	No			
3	Aggregate Industries	Concrete Mix 604313	$19,500	Product Specific	No			

Also indicate if a wet-applied product has an emissions certificate, provide VOC content and volume used in liters.



				Low-Emitting Materials LEED Credits				
of rials		Material Ingredients		Some Qualifying VOC Standards (More in Note 10): CDPH Standard Method v1.1 or v1.2; FloorScore: Hard Surfaces & Adhesives; Green Label Plus: Carpet, Adhesive, Cushion; UL Greengaurd Gold: When Meeting CDPH Std				
Consumer ecycled ontent (%)	Extended Producer Responsibility ? (Yes/No)	Material Ingredient Reporting (to 1000 ppm) - Select Compliance Option	Extracted, Manufactured, & Purchased within2 100 miles? (Yes/No)	CDPH Emissions10 testing compliant? (Yes/No)	VOC Content11 (g/L)	Wet-Applied Products Volume Used (L)	Wood Products are ULEF or NAUF12? (Yes/No)	Wood Products are CARE exempt? (Yes/No)
	No	HPD	No	v1.2 2017	0	3028		
4.1	No		No					
3								

Material Ingredient Reporting (MIR)

Concrete itself does not tend to contribute to material ingredient reporting, but many topping/curing products do. Common products from Ardex, Bostick, Cemex, CTS, GCP Applied Technologies, Euclid Chemical, Kaufman, Laticrete, Master Builder Solutions, Prosoco, Sika, W.R. Meadows all have Health Product Declarations and may help you earn points.

Low-Emitting Materials (LEM)

Many of the products that help with Material Ingredients would also need to be captured in low-emitting materials. If the products are applied inside the weather barrier, they must be included. Examples include concrete and masonry primer, concrete sealants, curing compounds and anything that would be a flooring underlayment.

What you must include

For concrete floor topping materials; include anything inside the weather barrier in LEM - all paints, coatings, adhesives & sealants that will remain exposed to future occupants

What to watch out for

Large quantities of paints, coatings, adhesives & sealants that are not CDPH compliant

What you can ignore

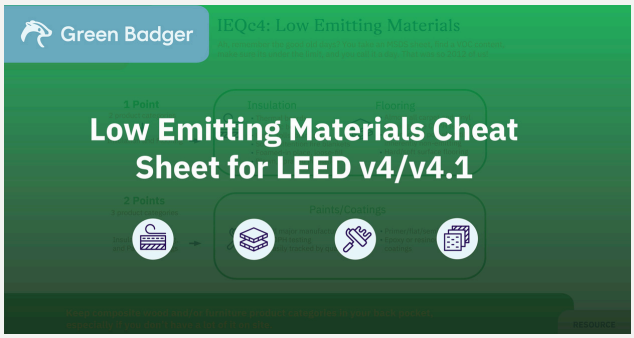
All materials under the slab; outside the weather barrier; additieves applied offsite, etc

CHEAT SHEET

Low-Emitting Materials Cheat Sheet

Access the Green Badger's recommendations for which categories to track to earn the LEED v4/v4.1 Low-Emitting Materials credit.

CLICK HERE TO DOWNLOAD



Coordinating on Concrete for LEED Projects: Key Contractor Actions

To support LEED goals, collaborate early with the architect and the design team to ensure concrete specifications align with sustainability and performance targets. Focus on these key areas:

Environmental Product Declarations (EPD)

- Confirm availability of EPDs before procurement.
- The NRMCA Industry-Wide EPD covers over 7,000 ready-mix producers—your mixes may be included.
- Work with suppliers to provide product-specific or industry-wide EPDs.

BLOG

Understanding Environmental Product Declarations: What is an EPD and how do I find them?

One of the first things to understand when tackling a LEED project or stepping into the world of healthy buildings is to understand the third-party documentation available to disclose the environmental impacts of building products.

CLICK HERE TO READ

SCMs and Mix Flexibility

Supplementary Cementitious Material (SCM) is used to partially replace Portland cement and lower embodied carbon.

- Reduce carbon footprint
- Improve strength and durability
- Lower heat of hydration (ideal for mass pours)
- Improve sulfate resistance and alkali-silica reactivity

Work with the design team to allow flexibility in mix design to meet performance needs.
SCMs like fly ash and slag are becoming less available in some regions but can contribute to pre-consumer recycled content.

SCM Type	Availability	Notes
Fly Ash	Declining	Coal phase-out leading to lower supply
Slag	Regionally Limited	Linked to steel production/imports
Silica Fume	Stable but Niche	High-performance use
Natural Pozzolans	Increasing	Sustainable replacements like metakaolin and pumice

Emerging alternatives include recycled glass pozzolans, calcined clays (e.g., LC3), and low-cement mixes using admixtures or carbon injection (e.g., CarbonCure). **LEED v5 does not require specific SCMs—only reductions in cement content or GWP.**

Set Global Warming Potential (GWP) Targets

- Coordinate with the design team and suppliers to establish GWP targets for each concrete mix type.
- Supports LEED v4.1 MR credits related to embodied carbon optimization and is important in LEED v5.

Low Emitting Materials (LEM) Credit

- While poured concrete itself is excluded from Low-Emitting Materials, all interior adhesives, sealants, paints, and coatings, wet-applied on site such as dyes, sealers, hardeners and toppings for concrete floors) must be accounted for if pursuing Adhesives & Sealants and/or Paints & Coatings categories.
- Ensure submittals for all interior wet-applied products meet LEED VOC limits and have emissions certificates.

Summary

Environmental Product Declaration (EPD)
Confirm and document EPDs with suppliers, check if your manufacturers' mixes are included NRMCA Industry-Wide EPD

Supplementary Cementitious Material (SCM)
Identify available SCMs; discuss mix flexibility; record pre-consumer recycled content and cost

Global Warming Potential (GWP) Targets
Help set and meet carbon goals for mixes

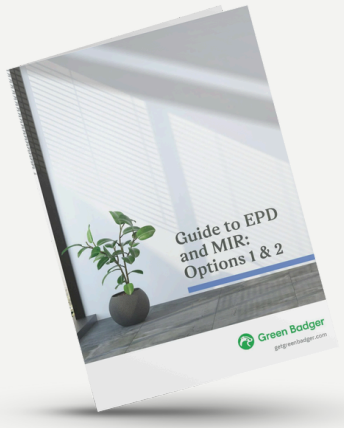
VOC Compliance/Low Emitting Materials (LEM) Credit
Ensure adhesives/ sealants/ paints/coatings are within LEED VOC category limits and have emissions certificates.

EBOOK

Guide to EDPs and MIR Options 1 & 2

The general contractor gets a generic spec that says "Obtain EPDs where available," but no strategy/guidance of where to look, or a spec that calls for a product with an HPD but it costs 20% more. That's where this guide comes in. It's a starting point for where to most easily and readily find products that meet the requirements for EPDs and MIR.

CLICK HERE TO DOWNLOAD



Brands/Products Contributing to BPDO Credits in LEED v4/4.1

Division	EPD	MIR
03 01 00 Concrete Maintenance/Resurfacing		Ardex, CTS, Custom Building Products, Euclid Chemical, Kaufman, Laticrete, Sika Corp., W.R. Meadows
03 10 00 03 15 00 Concrete Forming/Accessories		Prosoco, W.R. Meadows
03 20 00 Concrete Reinforcing	Commercial Metals Cascade Steel, Company, Gerdau, Nucor, Pacific Steel Group,Puget Sound Steel,	Arcelormittal, Nucor, H.B. Fuller
03 30 00 Structural/Cast-In-Place Concrete	National Ready Mix Concrete Association Industry, IW EPD covers 7000 manufacturers in N. America; Cemex, GCC, Portland Cement Association Masonry Cement, Quikrete, Lafarge Holcim, Laticrete, Tnemec	Cemex, CTS, GCP Applied Technologies, Euclid Chemical, Kaufman, Laticrete, Master Builder Solutions, Sika, W.R. Meadows
03 35 03 39 Concrete Topical Treatments/Finishing/Curing		Curecrete, Don Construction, Euclid Chemical, Hycrete, Laticrete, Sinak
03 40 00 Precast Concrete	See Industry Wide EPD	
03 54 00 - Concrete Floor Topping		Bostik, Custom Building Products, Laticrete, Proma
03 61 00 Cementitious Grouting		Kaufman