

ULTIMATE GUIDE TO LEED V4 & V4.1

MRc4 Option 2:

Material Ingredient Optimization

A Resource Guide for General Contractors

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Earning MRc4 Option 2 Material Ingredient Optimization in LEED v4.1

What is it about Option 2's that USGBC hates? If they make an Option 2 available, it is always the most complicated, cumbersome, and labor-intensive point available. In fact, if you want a good cheat-sheet, if there's an Option 2 available just run the other way. Option 2 of this credit in LEED v4 wasn't achievable, so they added an Option 3!

Thankfully, all of that is DOA for v4.1. Option 2 remains the same structurally, but the compliance thresholds have dropped significantly, and it puts this credit in the realm of possibly achievable.



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REQUIREMENTS



1 Point

Requirements for MRc4 Option 2 for LEED v4.1

1 Point: To get it, you need to use products that comply with one of the criteria I'll discuss for at least 5 permanently installed products sourced from at least three different manufacturers.

- Material Ingredient Screening and Optimization Action Plan (value at 50% by cost or ½ product)
- Advanced Inventory & Assessment (value at 100% by cost or 1 product)
- Material Ingredient Optimization (value at 150% by cost or 1.5 products)

Similar to EPD Option 2, this is the cliff-notes version so buckle up, pour a stiff one, and get ready for your crash course into green chemistry.

Alright, You need 5 products from 3 different manufacturers. These products need to either have a plan in place to reduce ingredient impacts OR show some actual reductions. Here's what this entails (if you don't care, just skip to the Strategies for achieving MRc4 Option 2 below).

What qualifies as a Material Ingredient Screening and Optimization Action Plan?

The manufacturer has screened the product to at least 1,000 ppm and has provided a publicly available inventory meeting the requirements of Option 1 - that's the easy part. If you have an HPD already, the first step in the right direction!

Next, the manufacturer must create a detailed action plan to mitigate or reduce known hazards using the principles of green chemistry. This action plan needs to describe the screening platform and then identify the specific green chemistry principles targeted for implementation, specific steps anticipated for implementation, proposed changes in formulation or manufacturing processes that are planned and specific dates and a full timeline for completion of all the steps described in the action plan.

If they do all that, their product counts as a whopping 0.5 contribution to earning this point.

REQUIREMENTS

What qualifies as an Advanced Inventory & Assessment?

The product needs a third-party verified HPD that was inventoried to 100 ppm. From there, you better be an expert in the GreenScreen Benchmark Assessment because it can't have any LT-1 or GHS Category 1 Hazards (whatever those are) or at least 75% by weight of the product is assessed using the GreenScreen Benchmark.

Fortunately, there are easy to understand options available that don't require a chemistry degree.

Declare labels designated as Red List Free that are third-party verified, or Living Product Challenge certified products that include a Red List Free Declare label.

Cradle to Cradle: Product has Material Health Certificate or is Cradle to Cradle Certified™ under standard version 3 or later with a Material Health achievement level at the Bronze level or higher.

What qualifies as Material Ingredient Optimization?

The product needs a third-party verified HPD that was inventoried to 100 ppm with no Benchmark 1 or LT-1 hazards AND 95% by weight assessed using the GreenScreen Benchmark.

OR

Cradle to Cradle Certification: Product has Material Health Certificate or is Cradle to Cradle Certified™ under standard version 3 or later with a Material Health achievement level at the Silver level or higher.

Living Product Challenge Certification: Products certified to the Living Product Challenge which includes achievement of Imperative 09: Transparent Material Health.

Strategies for Achieving MRc4 Option 2 Material Ingredient Optimization in LEED v4.1



If you managed to make it this far without pounding your head into a wall, let's figure out what all of those compliance options really mean.

First and foremost, ditch the chemistry degree. Let's focus on how to most easily find products that qualify. We suggest using the 3rd party labels to avoid having to figure out GreenScreen assessments and hazards.

That means use either products with Declare Labels that are Red List Free and 3rd party verified, Living Product Challenge labeled products (that achieved Transparent Material Health), or those that are Cradle to Cradle certified (or have a Material Health Certificate).

Now, there are only 47 products that meet the Declare requirements, and literally half of those are different carpets from Milliken and Mohawk, but those could get you started. You do only need 5 products.

A better bet would be Cradle to Cradle, which shows 200 compliant products, flooring from Tarkett, Shaw, Milliken, Nora, and Bentley Mills, ceiling grid from Armstrong, curtainwall from Kawneer, and Construction Specialty Louvers and Entrance mat systems. Almost all of these are Silver or higher, so you'll get credit for 1.5 products.

Here's the Math:

For flooring, there are a lot of options, but for today we'll use 2 different Shaw Eco-worx tiles (or Mohawk or Milliken), with Shaw adhesive, and Tarkett Baseworks wall base, and another rubber flooring from either Tarkett or Nora. Don't forget the flooring adhesives! There are 35 flooring adhesives that are either Cradle to Cradle certified or have a Material Health Certificate from XL Brands, Tarkett, Forbo, Shaw, Armstrong, and more.

For ceilings, I'll stick with Armstrong Prelude system for suspension, and 2 different Armstrong ceiling products including the popular Ultima+ and Perla acoustical ceiling tiles (remember there's always the mechanical room if you need the 2nd!),

and then finish it off if you need something else between Kawneer curtainwall, some louvers and entrance systems from Construction Specialties, or rebar from Nucor. And heck, if I'm still in need, there's always more flooring options for that mechanical room.

There you have it! You can easily get 5 products with just your flooring and ceiling products. And don't forget, these also counted for Ingredient reporting Option 1, AND most if not all have EPDs too. So you can achieve all three credits with these handful products.

Recapping the Strategy Roadmap

As you can see, there is a bit more wiggle room in achieving MIR Option 2 than EPD Option 2, but still not a lot. These products need to be intentionally selected early in the process.

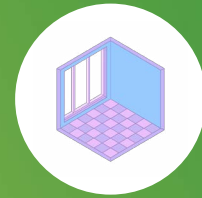
Even so, there are plenty of options with flooring and ceiling products if you're strategic about it, as most of them count for 1.5 products. This means that in the end, you really only need 4 individual products and you can spec those if you really want this point. Don't forget these products will all count under MRc4 Material Ingredient Reporting (Option 1), so you'll be halfway to earning that credit, or practically done if it is an interiors project.

Summary for MRc4 Option 2

How to earn 1 point:

- 1 point may be achievable, using a sum of 5 products across 3 manufacturers
- Take a scripted approach from Cradle to Cradle certified products and compliant Declare labels
- Spec/sole-sourcing these products will ensure compliance (and may not be an option on federally funded projects)
- This will also get you 50% of the way to earning MIR Option 1

Summary of Strategies



Insulation, flooring, gypsum board, ceiling tiles, paint, and doors/hardware



Roadmap the finish schedule with the architect



Get to 20 products quickly!