

MR- CR(2) - CONSTRUCTION

INTENT

To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

POTENTIAL TECHNOLOGIES & STRATEGIES

Raw material extraction has a direct environmental impact on karst ecosystems. For example, conventional logging is the largest source of deforestation in Latin America and subtropical Asia, accounting for more than 70% of resource depletion; mining operations clear another 18% of the world's forests. Unmanaged extraction practices can cause not only deforestation but also degradation of water sources, habitat loss, threats to rare and endangered species, releases of toxic chemicals, and the infringement of indigenous peoples' rights.

SOURCING OF RAW MATERIALS

REQUIREMENTS

Responsible Sourcing of Raw Materials (1-2 points) Use products sourced from at least three different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 15%, by cost, of the total value of permanently installed building products in the project (1 point). Use products sourced from at least five different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 30%, by cost, of the total value of permanently installed building products in the project (2 points). 182 U.S. Green Building Council.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	Option 1	Option 2
HPI building product disclosure and optimization calculator or equivalent tracking tool	X	X
Corporate sustainability reports for 100% of products contributing toward credit	X	
Documentation of product claims for credit requirements or other USGBC-approved program		X

BEHIND THE INTENT

Raw material extraction has a direct environmental impact on Earth's ecosystems. For example, conventional logging is the largest source of deforestation in Latin America and subtropical Asia, accounting for more than 70% of resource depletion; mining operations clear another 18% of the world's forests. Unmanaged extraction practices can cause not only deforestation but also degradation of water sources, habitat loss, threats to rare and endangered species, releases of toxic chemicals, and the infringement of indigenous peoples' rights.

This credit encourages the use of responsibly sourced and extracted materials through reporting and demonstration of responsible extraction practices. Corporate sustainability reports (CSRs), based on widely recognized frameworks and standards, can shed light on product supply chains and identify sources of raw material extraction. CSRs have become increasingly popular among all types of businesses, from retail organizations to product manufacturers. As sustainability goals become more prominent, CSRs provide frameworks that allow transparency and environmental impacts to be assessed, improved, and compared with other companies.

In addition to seeking the responsible sourcing of virgin materials, teams are also encouraged to reduce raw material usage by selecting reused and recycled materials. Teams may also follow leadership performance standards and certifications that encourage local sourcing. To recognize the rapidly changing marketplace conditions for product and material reporting, this credit has an additional "USGBC-approved program" criterion designed to recognize any leadership certification programs that may be developed in the future.

By increasing the demand for transparency in mining, quarrying, agriculture, forestry, and other industries, this credit rewards environmental impact reductions that go beyond the individual project and have positive effects on the sources of project materials.

STEP-BY-STEP GUIDANCE

Select which option(s) to pursue. Projects can earn a maximum of 2 points by achieving the requirements for both options, and products may contribute to both options simultaneously. Early product research can help the project team capitalize on opportunities for products contributing to multiple credits and options.

The required scope of this credit is permanently installed building products, excluding mechanical, plumbing, electrical, (MEP) and specialty equipment and items purchased for temporary use on the project. Furniture is not considered permanently installed and is not required to be included in the credit. However, furniture as well as other optional MEP products may be included, provided they are also included in the other two cost-based credits. MR Credit Building Product Disclosure and Optimization—Environmental Product Declarations and MR Credit Building Product Disclosure and Optimization—Material Ingredients. For more information see MR Overview, Qualifying Products and Exclusions.

- Option 1 Raw Material Source and Extraction Reporting is for projects that have products consisting of materials from manufacturers that have reported sustainable sourcing and extraction methods according to an acceptable framework as indicated in the credit requirements. Products must be sourced from the minimum number of manufacturers as specified in the credit requirements.
- Option 2 Leadership Extraction Practices is for projects that have products and/or constituent materials that meet at least one of the responsible extraction criteria listed in the credit.

Option 1. Raw Material Source and Extraction Reporting

STEP 1. SPECIFY AND SELECT COMPLIANT PRODUCTS

Specify products from manufacturers that can provide reports of raw materials from their suppliers.

- To meet the credit requirements, reports must include information on the following:
 - Raw material supplier extraction locations
 - Commitment to long-term ecologically responsible land use
 - Commitment to reducing environmental harms from extraction and manufacturing processes
 - Commitment to meeting voluntary standards or programs that address responsible sourcing

STEP-BY-STEP GUIDANCE +

- The reports may be available in the form of a corporate sustainability report (CSR) (see Further Explanation, *Review Material Reporting and Corporate Sustainability Reports*). ➔
- Include performance requirements or sole-source compliant products as applicable to the selected options in the project specifications. To ensure compliant purchases, consider creating a Division 1 General Requirements, specification for sustainability criteria that meet MR requirements. Reference that section to distinguish it from other sections that cover products and materials.
- Similar products from the same manufacturer can be counted as separate products if they have distinct formulations but not if they are aesthetic variations or reconfigurations (see MR Overview, *Defining a Product*).
- Research sourcing disclosure reports for contributing products. Third-party verified reports—also called externally assured reports—are counted at full value for credit compliance; self-declared reports are counted at half value. Retain all reports for credit documentation.
- For a material procured directly from a raw material supplier, such as timber from a forest products company or stone from a quarry, verify that any reporting meets the requirements.
- For a product made by a manufacturer that uses raw materials extracted by others, ask the manufacturer or supplier to provide documentation of compliant reporting.

STEP 2. TRACK PURCHASES THROUGHOUT CONSTRUCTION

Track purchasing of products throughout the construction of the project. To review progress toward credit achievement, regularly enter information into the MR building product disclosure and optimization calculator or an equivalent custom tool.

- The best source of documentation is the manufacturer or the organization that manages the reporting program. Reports are typically available online, but in some cases, it might be necessary to contact a company representative. Documentation may also be available from third-party verifiers that compile the information of many companies in one place. Use formal correspondence to request CSRs or other documentation indicating that the required information has been disclosed if it is not readily available.
- Continually track substitutions and change orders to ensure that replacement products meet the credit requirements.
- Check in periodically with team members (particularly owners, architects, interior designers, contractors, subcontractors, and suppliers) to verify progress toward credit achievement and address any gaps in credit compliance.

STEP 3. CALCULATE COMPLIANT PRODUCTS AND MATERIALS AND COMPILE DOCUMENTATION

Using the data collected in the tracking tool, calculate the number of compliant products, using Equation 1 (see Further Explanation, *Calculations*). ➔

- In this option, compliance is based on the number of products, not their cost.
- Collect sourcing disclosure reports. Retain the reports for all materials that contribute to credit achievement.

STEP-BY-STEP GUIDANCE +

Option 2. Leadership Extraction Practices

STEP 1. RESEARCH PRODUCTS

Specify products that meet one or more of the criteria listed in the credit requirements.

- Different components or ingredients in an assembled product may contribute to different credit criteria.

- Each product, component, or ingredient that meets several criteria receives credit for each criterion met. For exceptions see Further Explanation, *Calculating FSC Credit Contributions*. ➔

Review preliminary design concepts and identify opportunities to use and procure biobased, qualified wood as well as salvaged and recycled-content materials and products covered by extended producer responsibility, especially for applications that use either significant quantities of materials or small amounts of high-cost materials.

- The amount of biobased content in a product is determined by the manufacturer according to ASTM Standard D6866. Testing per ASTM Standard D6866 may be necessary to determine the fraction of biobased content if it cannot be determined by other means (see Further Explanation, *Documentation for Wood and Biobased Products*). ➔

STEP-BY-STEP GUIDANCE +

- Wood must be certified by the Forest Stewardship Council (FSC) unless it is considered reused, salvaged, or recycled. Look for versions that hold an FSC chain-of-custody certificate. Material covered by both FSC and the Sustainable Agriculture Standard, such as nonwood forest products and bamboo, may be certified under either FSC or Sustainable Agriculture Network standards (see Further Explanation, *Materials Review Considerations*). ➔
- Extended producer responsibility (also known as a closed-loop recycling program and as product take-back) puts a used product back into the production stream (see Further Explanation, *Extended Producer Responsibility*). The program can be sponsored by the product's manufacturer or other service. ➔

STEP 2. TRACK PURCHASES THROUGHOUT CONSTRUCTION

During construction, coordinate a review of the construction product submittals to ensure that the selected products meet credit requirements. To review progress toward credit achievement, regularly enter information into the MR building product disclosure and optimization calculator provided by USGBC or an equivalent custom tool regularly to track progress toward credit achievement.

- Continually track substitutions and change orders to ensure that replacement products meet the credit requirements. Any product substitutions should be carefully reviewed by the design team and contractor for compliance.
- Because these requirements are not typical for all construction teams and suppliers, conduct a LEED-specific preconstruction meeting to review the credit requirements in detail and stress their importance.
- Check in periodically with team members (particularly owners, architects, interior designers, contractors, subcontractors, and suppliers) to verify progress toward credit achievement and address any gaps in credit compliance.

STEP 3. CALCULATE PRODUCT AND MATERIAL COSTS AND COMPILE DOCUMENTATION

Use Equation 2 to determine the total value of compliant products (see Further Explanation, *Calculations*). Compliance is based on products' cost. ➔

- Structure and enclosure materials may not constitute more than 30% of the value of compliant building products. Once the cap on structural material is met, these products can no longer contribute toward the credit but must be included in the denominator of Equation 2.
- Some products may meet multiple criteria or are part of assemblies (see MR Overview, *Determining Material Contributions*).
- Collect documentation. For certification programs, provide documentation for all products.

REQUIREMENTS

NC, CS, SCHOOL, RETAIL, NC, DATA CENTERS, WAREHOUSES & DISTRIBUTION CENTERS, HOSPITALITY, NC, BSA/ISCAR

Responsible Sourcing of Raw Materials (1-2 points)

Use products sourced from at least three different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 15% by cost, of the total value of permanently installed building products in the project (1 point).

Use products sourced from at least five different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 50% by cost, of the total value of permanently installed building products in the project (2 points).

- Extended producer responsibility. Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility. Products meeting extended producer responsibility criteria are valued at 50% of their cost for the purposes of credit achievement calculation.
- Bio-based materials. Bio-based products and materials other than wood must be tested using ASTM Test Method D6866 or equivalent method ISO 16620-2, or be certified to the USDA BioPreferred Voluntary Labeling Initiative that includes verification via ASTM 6866 testing. Exclude hide products, such as leather and other animal skin material.
 - Bio-based products that meet the criteria above, value at 50% of cost multiplied by the bio-based content of the product for the purposes of credit achievement calculation.
 - Bio-based products that meet the Sustainable Agriculture Network's Sustainable Agriculture Standard in addition to the testing requirements above, value at 100% of cost multiplied by the bio-based content of the product for the purposes of credit achievement calculation.
- Wood products. Wood products must be certified by the Forest Stewardship Council or USGBC-approved equivalent. Products meeting wood products criteria are valued at 100% of their cost for the purposes of credit achievement calculation.
- Materials reuse. Reuse includes salvaged, refurbished, or reused products. Products meeting materials reuse criteria are valued at 200% of their cost for the purposes of credit achievement calculation.

Recycled content. Products meeting recycled content criteria are valued at 100% of their cost for the purposes of credit achievement calculation.

- Recycled content is the sum of postconsumer recycled content plus one-half the preconsumer recycled content, based on weight.
- The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

For credit achievement calculation, products sourced (fabricated, manufactured and purchased) within 100 miles (160 km) of the project site are valued at twice their base contributing cost, up to a maximum of 200% of cost.

CONNECTION TO ONGOING PERFORMANCE

LEED O+M MR prerequisite Waste Performance, MR prerequisite Purchasing Policy, and MR credit Purchasing: A similar credit having some of the above requirements for existing buildings is required for the O&M v4.1 rating system and is a strategy that can help achieve MR prerequisite Waste Performance, MR prerequisite Purchasing Policy, and MR credit Purchasing.

REQUIRED DOCUMENTATION

Documentation	Option 1	Option 2
MR building product disclosure and optimization calculator or equivalent tracking tool	X	X
Corporate sustainability reports for 100% of products contributing toward credit	X	
Documentation of product claims for credit requirements or other USGBC-approved program		X

Follow LEED v4 reference guide documentation requirements with the following modifications:

- Documentation requirements for Option 1 are no longer applicable.
- Instead, submit the LEED v4.1 MR building product calculator and documentation of product claims for credit requirements for either 15% by cost or 30% by cost threshold.
- For products that have been verified for LEED by GBCI, include ID numbers in the building product calculator. Additional documentation is not necessary to be included to LEED Online.

REFERENCED STANDARDS

International Standards ISO 14021:1999, Environmental Labels and Declarations—Self Declared Environmental Claims (Type II Environmental Labelling): iso.org/iso/catalogue_detail.htm?csnumber=23146

Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises: oecd.org/daf/internationalinvestment/guidelinesformultinationalenterprises/

U.N. Global Compact, Communication of Progress: unglobalcompact.org/cop/

International Standard ISO 14040:2006, Environmental management, Life cycle assessment principles, and frameworks: iso.org

EXEMPLARY PERFORMANCE

Purchase at least 45%, by cost, of the total value of permanently installed building products that meet the credit criteria.

TERMS AND DEFINITIONS

Bio-based material commercial or industrial products (other than food or feed) that are composed in whole, or in significant part, of biological products, renewable agricultural materials (including plant, animal, and marine materials), or forestry materials. For the purposes of LEED, this excludes leather and other animal hides.

Chain of custody (CoC) a procedure that tracks a product from the point of harvest or extraction to its end use, including all successive stages of processing, transformation, manufacturing, and distribution

Enclosure the exterior plus semi-exterior portions of the building. Exterior consists of the elements of a building that separate conditioned spaces from the outside (i.e., the wall assembly). Semi exterior consists of the elements of a building that separate conditioned space from unconditioned space or that encloses semi-heated space through which thermal energy may be transferred to or from the exterior or conditioned or unconditioned spaces (e.g., attic, crawl space, or basement).


