
MR 2: Environmentally Preferable Products

Maximum points: 8

Intent

Increase demand for environmentally preferable products and products or building components that are extracted, processed, and manufactured within the region.

Requirements

Prerequisites

2.1 FSC Certified Tropical Wood. Meet the following two requirements, as applicable:

- a) Provide all wood product suppliers with a notice (see **Figure 6**, below) containing all the following elements:
 - i. a statement that the builder's preference is to purchase products containing tropical wood only if it is FSC-certified;
 - ii. a request for the country of manufacture of each product supplied; and
 - iii. a request for a list of FSC-certified tropical wood products the vendor can supply.
- b) If tropical wood is intentionally used (i.e., specified in purchasing documents), use only FSC-certified tropical wood products. Reused or reclaimed materials are exempt.

Note: A species of wood is considered tropical for the purposes of this prerequisite if it is grown in a country that lies between the Tropics of Cancer and Capricorn.

Credits

2.2 Environmentally Preferable Products (0.5 point each, maximum 8 points). Use building component materials that meet one or more of the criteria below. Except as noted in **Table 24**, a material must make up 90% of the component, by weight or volume. A single component that meets each criterion (i.e., environmentally preferable, low emissions, and local sourcing) can earn points for each.

- a) Environmentally preferable products (0.5 point per component). Use products that meet the specifications in **Table 24**.

*Note: Recycled content products must contain a minimum of 25% postconsumer recycled content, except as noted in **Table 24**. Postindustrial (preconsumer) recycled content must be counted at half the rate of post-consumer content.*

AND/OR

- b) Low emissions (0.5 point per component). Use products that meet the emissions specifications in **Table 24**.

AND/OR

- c) Local production (0.5 point per component). Use products that were extracted, processed, and manufactured within 500 miles of the home.

Table 24: Environmentally Preferable Products

| Assembly | Component | EPP specifications (0.5 point per component) | Emission specifications (0.5 point per component) | Local production (0.5 point per component) |
|--|---|--|--|---|
| Exterior wall | Framing/ wall structure | Concrete wall structure. Use 30% fly ash or slag wood/stone. FSC-certified or reclaimed or finger joints/ studs | NA | Eligible |
| Exterior wall | Siding or masonry | Recycled content, reclaimed, or FSC-certified | NA | Eligible |
| Floor | Flooring (40% of total floor area) | Linoleum, cork, bamboo, FSC-certified or reclaimed wood, sealed-concrete / recycled-content flooring, or combination | Carpet & pad all carpet & pad complies with Carpet & Rug Institute Green Label Plus program Hard flooring automatic 1/2 point for 100% hard surface flooring Hard flooring additional 1/2 point for using a product that is SCS FloorScore certified | Eligible Eligible Eligible (additional 0.5 point) |
| Floor | Flooring (90% of total floor area) | Meel specifications above to receive additional 0.5 point | | |
| Floor | Framing | FSC-certified or reclaimed | NA | Eligible |
| Foundation | Aggregate | NA | NA | Eligible |
| Foundation | Cement | Use 30% fly ash or slag | NA | Eligible |
| Interior wall | Framing | FSC-certified or reclaimed | NA | Eligible |
| Interior walls AND ceilings | Gypsum board | NA | NA | Eligible |
| Interior walls AND ceilings AND millwork | Paints and coatings | Recycled paint/primers Green Seal standard GS-40 | Use products that comply with all applicable standards in Table 25. | Not eligible |
| Landscape | Decking or patio material | Recycled content, FSC-certified, or reclaimed | NA | Eligible |
| Other | Cabinets | Recycled content, FSC-certified, or reclaimed AND composite materials must contain no added urea-formaldehyde resins | NA | Eligible |
| Other | Counters (kitchens and bathrooms) | Recycled content, FSC-certified, or reclaimed AND composite materials must contain no added urea-formaldehyde resins | NA | Eligible |
| Other | Doors (not including garage or insulated doors) | Recycled content, FSC-certified, or reclaimed | NA | Eligible |
| Other | Trim | Recycled content, FSC-certified, or reclaimed AND composite materials must contain no added urea-formaldehyde resins | NA | Eligible |
| Other | Adhesives and sealants | NA | Use products that comply with all applicable standards in Table 26. | Not eligible |
| Other | Window framing | Recycled content, FSC-certified, or reclaimed | NA | Eligible |
| Roof | Framing | FSC-certified | NA | Eligible |
| Roof | Roofing | Recycled content | NA | Eligible |
| Roof AND floor AND wall | Insulation | Recycled content of 20% or more | Comply with California Practices for Testing of VOCs from Building Materials Using Small Chambers: www.dhs.ca.gov/ehtb/WOCSSPractices.htm | Eligible |
| Roof, floor, wall (2 of 3) | Shafting | Recycled content, FSC-certified, or reclaimed | NA | Eligible |

Figure 6: Example Notice to Wood Products Suppliers

Notice to Vendors: [The company] prefers to purchase products that contain tropical wood only if they are certified according to the guidelines of the Forest Stewardship Council (FSC). Please provide the country of manufacture of each product you expect to supply to us. Also please provide a list of FSC-certified products you can supply.

Table 25: Standards for Environmentally Preferable Paints and Coatings

| Component | Applicable standard (VOC content) | Reference |
|---|---|---|
| Architectural paints, coatings and primers applied to interior walls and ceilings | Flats: 50 g/L Nonflats: 150 g/L | Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993 Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, January 7, 1997 South Coast Air Quality Management District Rule 1113, Architectural Coatings |
| Anticorrosive and antirust paints applied to interior ferrous metal substrates | 250 g/L | |
| Clear wood finishes | Varnish: 350 g/L Lacquer: 550 g/L | |
| Floor coatings | 100 g/L | |
| Sealers | Waterproofing: 250 g/L Sanding: 275 g/L All others: 200 g/L | |
| Shellacs | Clear: 730 g/L Pigmented: 550 g/L | |
| Stains | 250 g/L | |

Synergies and Trade-Offs

Products with low emissions of volatile organic compounds (VOCs) may improve indoor air quality. Such products are included in this credit rather than in the EQ section in order to consolidate information pertaining to materials selection, specification, and purchase.

A substantial amount of energy is used to transport materials from product manufacturing plants to home construction sites. Choosing local products will reduce the embedded transportation energy usage associated with construction.

Table 26: Standards for Low-Emissions Adhesives and Sealants (meet South Coast Air Quality Management District Rule #1168)

| | Applicable standard (VOC content, g/L less water) |
|--|--|
| Architectural applications | |
| Indoor carpet adhesives | 50 |
| Carpet pad adhesives | 50 |
| Wood flooring adhesives | 100 |
| Rubber floor adhesives | 60 |
| Subfloor adhesives | 50 |
| VCT and asphalt adhesives | 50 |
| Drywall and panel adhesives | 50 |
| Cove base adhesives | 50 |
| Multipurpose construction adhesives | 70 |
| Structural glazing adhesives | 100 |
| Specialty applications | |
| PVC welding | 510 |
| CPVC welding | 490 |
| ABS welding | 325 |
| Plastic cement welding | 250 |
| Adhesive primer for plastic | 550 |
| Contact adhesive | 80 |
| Special-purpose contact adhesive | 250 |
| Structural wood member adhesive | 140 |
| Sheet-applied rubber lining operations | 850 |
| Top and trim adhesive | 250 |
| Substrate-specific applications | |
| Metal to metal | 30 |
| Plastic foams | 50 |
| Porous materials (except wood) | 50 |
| Wood | 30 |
| Fiberglass | 80 |
| Sealants | |
| Architectural | 250 |
| Nonmembrane roof | 300 |
| Roadway | 250 |
| Single-ply roof membrane | 450 |
| Other | 420 |
| Sealant primers | |
| Architectural nonporous | 250 |
| Architectural porous | 775 |
| Other | 750 |



Corrections, Clarifications & Exemplary Performance Rulings LEED for Homes, Version 2008

Changes made to the Rating System as a result of errata are effective for all projects registered after January 15, 2009

This document includes corrections, clarifications, and new exemplary performance rulings for the LEED for Homes Rating System, Version 2008. Most of the rulings below are the result of formal Credit Interpretation Requests or Innovative Design Requests that have been processed. In these cases, the ruling number is given in parenthesis. Please see the CIR database for a full list of clarifications and rulings.

Rating System Errata

- Pg. XV, Exhibit 4 – Under the “Adjustment to award thresholds” column, the second to last row should be “+9”, not “+-9”
- Pg. XV – the equation in Exhibit 5 should be changed from: “ $2850 + [250 * (\text{number of bedrooms} - 5)]$ ” to “ $2850 + [250 * (\text{number of bedrooms} - 5)]$ ”
- Pg. 31 – note, 3rd sentence should be changed from “Ponds can be counted as open space if they border a walking or bicycle path” to “Areas around ponds can be counted as open space if they have usable, accessible recreational space such as walking or bicycle paths.”
- Pg. 37 – in the equation for Step 2, ETL should be ET_L
- Pg. 39 – gray concrete must have an SRI of 29 or greater to be awarded credit.
- Pg. 41, Table 9 – heading should be changed from “Percentage of buildable lot” to “Percentage of built environment”
- Pg. 54 – box for EA 8 should include “Prerequisite: EA 8.1”
- Pg. 70, Table 20 – change “Solar water heaters (backup)” to “Solar water heaters”
- Pg. 80, Table 24 – within “Floor: Flooring” component, the Low-Emissions requirement should be changed from “Hard flooring: additional ½ point for 100% hard surface flooring” to “Hard flooring automatic: ½ point for 90% hard surface flooring”
- Pg. 81, Table 25 – change first column heading from “Component” to “Types of Paints and Coatings”
- Pg. 81, Table 25 – within first column, first row should be changed from “Architectural paints, coatings, and primers, applied to interior walls and ceilings” to “Architectural paints, coatings, and primers, applied to interior elements”
- Pg. 83 – requirement in MR 3.2, part (a), second sentence should be changed from “Generate... per square foot of conditioned floor area” to “Generate... per square foot of building floor area.”
- Pg. 84, Table 27 – values in column 2 should be: 100%; 87.5%; 75%; 62.5%; 50%; 37.5%; 25%; and 12.5%. Values in column 3 should be: 0%; 12.5%; 25%; 37.5%; 50%; 62.5%; 75%; and 87.5%.
- Pg. 85 – left column, sixth box should be “EQ 8.2”, not “EA 8.2”.
- Pg. 86, Table 28 – first column, fourth row should be changed from “Energy & Atmosphere 6.1” to “Energy & Atmosphere 6.1(a) and 11.1”
- Pg. 86, Table 28 – third column, fourth row should be changed from “... achieves prerequisites EA 6.1(a) and 6.1(c) to “... achieves prerequisites EA 6.1 (a) and EA 11.1.

EA 7.2 – Pipe Insulation

Clarification: In order to earn this point, all hot water pipes not used for direct space heating (e.g. radiative floor heating) must meet the requirements of the credit, including sub-slab hot water pipes. (EA 07-16)

EA 8.3 – Advanced Lighting Package

Correction: The second part of the credit, "Install Energy Star labeled lamps in 80% of the fixtures" ought to be "At least 80% of all lamps in the home must be Energy Star labeled." This may affect the requirement of the credit where fixtures include multiple lamps.

Exemplary Performance: Projects can earn 1 ID point for the use of 90% ENERGY STAR fixtures (i.e. not just lamps) and 100% ENERGY STAR ceiling fans. (EA 08-18)

EA 11.1 – Refrigerant Charge Test

Clarification: If the project has a ground-source heat pump, this prerequisite is satisfied if system is pre-charged and sealed. (EA 11-04)

Materials & Resources (MR)

MR 1.2 / 1.3 – Detailed Framing Documents / Cut List & Lumber Order

Clarification: Projects with a pre-cut framing package (e.g. modular homes, kit homes) are awarded MR 1.2 and MR 1.3 automatically. (MR 01-41).

Clarification: This credit can be earned by projects with non-wood frames if the requirements are met for the relevant structural material. (MR 01-39)

Clarification: For gut-rehab projects, if 90% of the interior and exterior framing for the final LEED home (i.e., not the original home) is salvaged or maintained, both MR 1.2 and MR 1.3 should be awarded automatically. (MR 01-42)

MR 1.4 – Framing Efficiencies

Clarification: The requirements of this credit only apply to exterior framing.

Clarification: If the requirements are met in only 50% of the walls (by area), half credit can be awarded. (MR 01-29)

MR 1.5 – Off-Site Fabrication

Clarification: This credit should only be awarded if the walls, roof, and floor are all fabricated off-site. A combination of panelized walls, roof trusses, and floor trusses satisfies this credit. If only the walls are panelized, 2 points should be awarded under MR 1.4. (MR 01-40)

Clarification: This credit can be awarded to homes with pre-cut SIPs in the walls, roof, and floor. If SIPs are cut on-site, or only used in walls and/or roof, no points should be awarded for this credit; points may be awarded in MR 1.4 instead. (MR 01-37)

Clarification: This credit can be awarded to homes with concrete panelized wall systems if they are formed and poured off-site. (MR 01-36)

MR 2.2 – Environmentally Preferable Materials

Clarification: For part (a), the following product types also qualify: (MR 02-65; MR 02-58; MR 02-64; MR 02-63; MR 02-73; MR 02-39)

| Assembly | Component | EPP specification (0.5 point per component) |
|-------------------------------|----------------------------------|--|
| Foundation | Aggregate | Recycled content of 25% post-consumer (no credit for post-industrial recycled content) |
| Interior wall | Framing | Finger-joint studs |
| Interior wall AND ceilings | Gypsum | Recycled content of 10% post-consumer OR 95% post-industrial |
| Other | Cabinets | Bamboo w/ no added urea-formaldehyde resins |
| Other | Perimeter fencing (<i>new</i>) | Recycled content, reclaimed, or FSC-certified |
| Other | DHW supply piping (<i>new</i>) | Polypropylene or PEX |

Clarification: For the component "Other: Trim" – this only refers to interior trim, not exterior trim. (MR 02-57)

Clarification: For the component "Roof and Floor and Wall: Insulation" – this only refers to cavity insulation, not rigid insulation. (MR 02-59).

Clarification: For the component "Interior Walls and Ceilings and Millwork: Paints and Coatings", points may only be awarded if all of the paints and coatings used in the interior of the home meet the requirements. Pre-finished surfaces should be assumed to satisfy the emissions specification. (MR 02-84)

Clarification: For part (a), Cradle-to-Cradle (C2C) certification is an acceptable alternative for any component. Credit cannot be granted for being C2C certified and also meeting the existing criteria (e.g. recycled-content, reclaimed, FSC).

Clarification: For part (c), 90% of a given product must have its entire lifecycle within 500 miles to be awarded credit. For example, even the petroleum in insulation products must be verified as being sourced from within 500 miles of the project.

Clarification: Both ICFs and SIPs should be treated as two different components – framing and insulation. If the requirements for either or both components are met, points should be awarded accordingly. (MR 03-04)

MR 3.2 – Construction Waste Reduction

Clarification: Acceptable strategies for waste diversion include: (MR 03-13; MR 03-24)

- Recycling
- Third-party scrap reuse