

**LEED® - NEW CONSTRUCTION
GREEN BUILDING RATING SYSTEM
SIDE x SIDE COMPARISON**

Version 2.2

M&R 2.1 Construction Waste Management: Divert 50% From Disposal

Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or comingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.

M&R 2.2 Construction Waste Management: Divert 75% From Disposal

Recycle and/or salvage an additional 25% beyond MR Credit 2.1 (75% total) of non-hazardous construction and demolition debris. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.

M&R 4.1 Recycled Content: 10% (post-consumer + 1/2 pre-consumer)

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.

The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

M&R 4.2 Recycled Content: 20% (post-consumer + 1/2 pre-consumer)

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20%, based on cost) of the total value of the materials in the project.

The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

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MR 2 Construction Waste Management

Recycle and/or salvage nonhazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or comingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout. The minimum percentage debris to be recycled or salvaged for each point threshold is as follows:

Recycled or Salvaged	Points
50%	1
75%	2

MR 4 Recycled Content

Use materials with recycled content¹ such that the sum of postconsumer² recycled content plus 1/2 of the preconsumer³ content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project.

The minimum percentage materials recycled for each point threshold is as follows:

Recycled Content	Points
10%	1
20%	2

The recycled content value of a material assembly is determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

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M&R 5.1 Regional Materials: 10% Extracted, Processed & Manufactured Regionally

Use building materials or products that have been extracted, harvested or recovered, **as well as manufactured**, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

M&R 5.2 Regional Materials: 20% Extracted, Processed & Manufactured Regionally

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value. If only a fraction of the material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

EQ 3.2 Construction IAQ Management Plan: Before Occupancy

OPTION 2 — Air Testing

- Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the United States Environmental Protection Agency Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the Reference Guide.
- Demonstrate that the contaminant maximum concentrations listed below are not exceeded

CONTAMINANT	MAXIMUM CONCENTRATION
Formaldehyde	50 parts per billion
Particulates (PM10)	50 mg per cubic meter
Total Volatile Organic Compounds (TVOC)	500 mg per cubic meter
* 4-Phenylcyclohexene (4-PCH)	6.5 mg per cubic meter

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MR 5 Regional Materials

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% or 20%, based on cost, of the total materials value. If only a fraction of a product or material is extracted, harvested, or recovered and manufactured locally, then only that percentage (by weight) can contribute to the regional value. The minimum percentage regional materials for each point threshold is as follows:

Regional Materials	Points
10%	1
20%	2

IEQ 3.2 Construction Indoor Air Quality Management Plan—Before Occupancy

OPTION 2 — Air Testing

Conduct baseline IAQ testing after construction ends and prior to occupancy using testing protocols consistent with the EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition.
Demonstrate that the contaminant maximum concentrations listed below are not exceeded

Contaminant	Maximum Concentration
Formaldehyde	27 parts per billion
Particulates (PM10)	50 mg per cubic meter
Total Volatile Organic Compounds (TVOC)	500 mg per cubic meter
* 4-Phenylcyclohexene (4-PCH)	6.5 mg per cubic meter
Carbon Monoxide (CO)	9 part per million and no greater than 2 ppm above outdoor levels

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SS 7.1 Heat Island Effect: Non-Roof

OPTION 1

Provide any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots):

- Shade (within 5 years of occupancy)
- Paving materials with a Solar Reflectance Index (SRI) of at least 29
- Open grid pavement system

EQ 4.1 Low-Emitting Materials: Adhesives & Sealants

All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:

- Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits are listed in the table below and correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

EQ 4.2 Low-Emitting Materials: Paints & Coatings

Paints and coatings used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the following criteria:

- Architectural paints, coatings and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in Green Seal Standard GS-11, Paints, First Edition, May 20, 1993.

o Flats: 50 g/L

o Non-Flats: 150 g/L

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SS 7.1 Heat Island Effect—Nonroof

OPTION 1

Use any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots):

- Provide shade from existing tree canopy or within five years of landscape installation. Landscaping (trees) must be in place at the time of occupancy.
- Provide shade from structures covered by solar panels that produce energy used to offset some non-renewable resource use.
- Provide shade from architectural devices or structures that have a solar reflectance index² (SRI) of at least 29.
- Use hardscape materials with an SRI of at least 29.
- Use an open-grid pavement system (at least 50% pervious).

IEQ 4.1 Low-Emitting Materials—Adhesives and Sealants

All adhesives and sealants used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope¹:

- Adhesives, Sealants and Sealant Primers must comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. Volatile organic compound (VOC) limits listed in the table below correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

IEQ 4.2 Low-Emitting Materials—Paints and Coatings

Paints and coatings used on the interior of the building (i.e., inside of the weatherproofing system and applied onsite) must comply with the following criteria as applicable to the project scope¹:

- Architectural paints and coatings applied to interior walls and ceilings must not exceed the volatile organic compound (VOC) content limits established in Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993.

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EQ 4.3 Low-Emitting Materials: Carpet Systems

(Not applicable to tile products)

All carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.
All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
All carpet adhesive shall meet the requirements of EQ Credit 4.1: VOC limit of 50 g/L.

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IEQ 4.3 Low-Emitting Materials—Flooring Systems

OPTION 1

All flooring must comply with the following as applicable to the project scope. All carpet installed in the building interior must meet the testing and product requirements of the Carpet and Rug Institute Green Label Plus¹ program. All carpet cushion installed in the building interior must meet the requirements of the Carpet and Rug Institute Green Label program. All carpet adhesive must meet the requirements of IEQ Credit 4.1: Adhesives and Sealants, which includes a volatile organic compound (VOC) limit of 50 g/L.

All hard surface flooring must be certified as compliant with the FloorScore² standard (current as of the date of this rating system, or more stringent version) by an independent third-party. Flooring products covered by FloorScore include vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring and wall base.

An alternative compliance path using FloorScore is acceptable for credit achievement: 100% of the non-carpet finished flooring must be FloorScore-certified and must constitute at least 25% of the finished floor area. Examples of unfinished flooring include floors in mechanical rooms, electrical rooms and elevator service rooms.

Concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.

Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005

OR

OPTION 2

All flooring elements installed in the building interior must meet the testing and product requirements of the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.