

# LEED Information



The U.S. Green Building Council's core purpose is to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life.

What could be more natural than to combine the earth's natural materials into a versatile building material which stands up to the harshest of environmental conditions, is manufactured regionally, can be made with recycled material and is 100% recyclable at the end of its life-cycle, and does not emit VOC's? In fact Concrete Masonry Units (CMU) are considered to be by many, the most desirable of LEED building materials.



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## LEED Credits Available Based on Material Supplied by Michigan Certified Concrete Products, Inc.:

1.

### SS Credit 1 Site Selection:

Concrete masonry and segmental retaining walls enable designs that take advantage of small, irregularly shaped lots, where access to open area are often at a premium. Concrete masonry, because of its relatively small, modular size does not require large equipment for delivery or placement, nor are large staging areas required for construction.

### SS Credit 6.1 Storm Water Design (Quality Control):

Benefits of permeable pavements include reduced storm water runoff, direct recharge of underlying groundwater systems, partial treatment of pollutants in the runoff and increased useable space. Both permeable pavers and open cell pavers (Turf-Slab, Mini-Slab Enviro Pave) offer the option of replacing impermeable pavement with permeable pavement. Pavers can help earn one point each for reducing storm water and for treatment of storm water.

### SS Credit 6.2 Storm Water Design (Quality Control):

Benefits of permeable pavements include reduced storm water runoff, direct recharge of underlying groundwater systems, partial treatment of pollutants in the runoff and increased useable space. Both permeable pavers and open cell pavers (Turf-Slab, Mini-Slab Enviro Pave) offer the option of replacing impermeable pavement with permeable pavement. Pavers can help earn one point each for reducing storm water and for treatment of storm water.

### SS Credit 7.1 Heat Island Effect (Non-Roof):

Typical values for Solar Reflectance Index (SRI) are 35 for new gray concrete and 19 for weathered (unclean) concrete. This requirement can be met either by using light-colored concrete pavers in lieu of asphalt; or by using open-cell pavers, which can support grass or other plant materials in the pavers' open grid areas.

### EA Credit 1 Optimized Energy Performance:

Energy savings attributable to thermal mass inherent in concrete masonry construction contribute to this goal when used in conjunction with passive solar heating and/or ventilation cooling. Because concrete masonry has high thermal mass and specific heat, it provides very effective thermal storage. Masonry walls will remain warm or cool long after the heat or air-conditioning has shut off. This, in turn, can effectively: reduce heating and cooling loads; improve occupant comfort by moderating indoor temperature swings; and shift peak heating and cooling loads to off-peak hours. In addition, the reflective properties of concrete pavers may allow designers to reduce energy requirements for lighting in parking areas. Programs include DOE-2 and BLAST can accurately model concrete masonry's thermal mass and predict the associated energy savings.

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#### **MR Credit 1.1 Building Reuse**

##### **(Maintain 75% of Existing Walls, Floors & Roof):**

This credit is often obtainable when renovating buildings with exterior concrete masonry walls since concrete masonry is an exceptionally durable material, with a lifecycle measurably longer than many other building envelope products. Concrete masonry construction provides the opportunity to refurbish the building should the building use or function change, rather than tear down and start anew. Measurements are based on square footages of walls, ceilings and floors. Can be used in addition to MR Credit 1.2.

#### **MR Credit 1.2 Building Reuse**

##### **(Maintain 95% of Existing Walls, Floors & Roof):**

This credit is often obtainable when renovating buildings with exterior concrete masonry walls since concrete masonry is an exceptionally durable material, with a lifecycle measurably longer than many other building envelope products. Concrete masonry construction provides the opportunity to refurbish the building should the building use or function change, rather than tear down and start anew. Measurements are based on square footages of walls, ceilings and floors. Can be used in addition to MR Credit 1.1.

#### **MR Credit 3.1 Materials Reuse (5%):**

This credit is often obtainable when salvaged concrete masonry units in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

#### **MR Credit 3.2 Materials Reuse (10%):**

This credit is often obtainable when salvaged concrete masonry units in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

#### **MR Credit 4.1 Recycled Content**

##### **(10% post-consumer + 1/2 pre-consumer):**

This credit is obtainable based on the concrete masonry unit's mix design.

#### **MR Credit 4.2 Recycled Content**

##### **(20% post-consumer + 1/2 pre-consumer):**

This credit is obtainable based on the concrete masonry unit's mix design.

### **LEED Credits Available Based on Material Supplied by Michigan Certified Concrete Products, Inc.:** (continued)

#### **MR Credit 5.1 Regional Materials**

##### **(10% Extracted, Processed & Manufactured Regionally):**

This credit is obtainable based on the concrete masonry unit producer's relative location to the job-site.

#### **MR Credit 5.2 Regional Materials**

##### **(20% Extracted, Processed & Manufactured Regionally):**

This credit is obtainable based on the concrete masonry unit producer's relative location to the job-site.

#### **EQ Credit 4.1 Low-Emitting Materials**

##### **(Adhesives & Sealants):**

This credit is obtainable based on sealers used in coating ground face concrete masonry units when used on interior walls.

#### **EQ Credit 4.2 Low-Emitting Materials**

##### **(Paints & Coatings):**

This credit is obtainable based on sealers used in coating ground face concrete masonry units when used on interior walls.

#### **ID Credit 1 Innovation in Design:**

Potential contributions of concrete masonry include; decreased life cycle environmental impacts due to concrete masonry's low embodied energy compared to products such as steel and aluminum, long life, durability, low maintenance needs, increased acoustic performance, improvements to indoor air quality by reducing or eliminating the need to paint or adhere finishes by choosing architectural or prefaced concrete masonry units, improvement to indoor air quality due to reduced potential for mold growth (concrete masonry does not provide a food source for mold), and ease of cleaning should mold growth occur, efficient use of materials through strategies such as partial grouting of masonry or prestressed masonry, increased fire safety when used with a balance fire protection design.

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