



Utilizing Polished Concrete in LEEDS Projects

LEED-NC Points for New Construction & Major Renovations
(Based on version 2.2 for projects registering after June 26, 2007)

Polished Concrete Is A Key Way To Earn LEED-NC Points Through These Opportunities:

1. Improve thermal mass for reduced peak energy demand
2. Potential for reusing existing building materials
3. Inclusion of post-consumer and post-industrial recycled materials
4. Low VOC floor finishing materials
5. Low life cycle maintenance cost

1) **EA Credit 1: Optimize Energy Performance: (1 to 10 points)**

- a) The intent is to achieve increasing levels of energy performance to reduce the environmental and economic impacts associated with excessive energy use.
- b) Polished concrete creates a highly reflective floor, which can reduce energy consumption by reducing the internal loads of regulated (non-process) lighting.
- c) The thermal properties of concrete floors can reduce the cooling and heating loads within a building envelope. The attractive nature of polished concrete compliments the use of concrete flooring for its thermal properties.
- d) Because polish concrete is never waxed, stripped or buffed, energy consumed maintaining a polished floor is substantially lower.
- e) If the concrete floor has increased the energy efficiency of a building by 10.5 percent over the baseline building performance rating, then LEED-NC awards 1 point. Theoretically, 10 points could be awarded for a 42 percent increase in energy efficiency.

2) **MR Credit 1.1, 1.2, and 1.3: Building Reuse: (1 point each)**

- a) The objective is to extend the life cycle of existing buildings, conserve resources, reduce waste and reduce the environmental impact of new buildings.
- b) Concrete Polishing will maintain, restore and enhance the existing concrete slab. This eliminates the use of flooring materials to cover old concrete.
- c) In addition, concrete polishing may also replace a previously applied flooring system on an existing concrete slab. Instead of replacing the old flooring materials with a new flooring system, polish the underlying concrete slab.
- d) The number of points accrued depends upon the percentage of the floor reused through concrete polishing.

3) MR Credit 3.1, 3.2: Materials Reuse: (1 Point each)

- a) The goal is to reuse salvaged or deconstructed materials to reduce demand for virgin materials and reduce waste.
- b) Only permanently installed components of a building, such as concrete flooring, can be used in this calculation. The concrete floor can be refurbished or resurfaced by polishing it. This contributes to the reduction in demand for new virgin materials.
- c) In addition, concrete polishing may also replace a previously applied flooring system on an existing concrete slab. Instead of replacing the old flooring materials with a new flooring system, polish the underlying concrete slab.
- d) To gain the points, the project should utilize existing materials that cost at least 5 percent of the total materials on the project.

4) MR Credit 4.1, 4.2: Recycled Content: (1 Point each)

- a) The intent is to use products that incorporate recycled materials to reduce the use of virgin materials.
- b) Using fly ash (or other supplementary cement material) to replace the cement content is compatible with concrete polishing.

5) EQ Credit 4.1 Low Emitting Materials: Adhesives & Sealants (1 point)

- a) The goal is to reduce the quantity of indoor contaminants that are odorous, irritating and harmful to the comfort and well-being of installers and building occupants.
- b) To earn one LEED point, all paints, adhesives and coatings used on the building interior shall comply with the requirements of the South Coast Air Quality Management District rule #1113.
- c) The densifier (concrete hardener) applied to concrete during polishing has little or zero VOC's. It meets the requirements for sealers. Adhesives and coatings are not used in the concrete polishing process.
- d) Polished concrete floors are not stripped or waxed thus reducing the amount of potential contaminants released into the environment.
- e) Concrete finished floors are a good choice for allergy relief because concrete does not hold dust, mold, dust mites or pollens as compared to carpeting.

6) ID (Innovation in Design) (1–4 Points)

- a) This category awards points for exceptional performance beyond the LEED-NC requirements.
- b) Additional points may be earned because polished concrete has a long life cycle. A polished concrete floor outlasts and outperforms most other flooring types. It also has the capability of being refurbished (recycled) many times.
- c) Unlike carpeting, which can trap bacteria deep within its fibers and also foster mold growth, polished concrete requires minimal maintenance and helps improve the overall interior environmental quality of the building.
- d) These features contribute to a low environmental impact during the life of the floor.