



## Shikkui building materials – LEED Statement

Shikkui building materials can contribute toward the following LEED credits:

Shikkui finishes	LEED category	Limix
<b>Materials &amp; Resources</b>		
2	MR 1 – Building reuse	2
2	MR 2 – Construction waste management	2
2	MR 4 – Recycled content	2
1	MR 6 - Rapidly Renewable Materials	1
<b>Indoor Environmental Quality</b>		
1	IEQ 4 - Low-Emitting Materials	2
<b>Innovation in Design</b>		
3	ID 1 - Innovation in Design	3

Please see explanations below.

**MR 1.1 & MR 1.2 - Building Reuse: Maintain 75% and 95% of Existing Walls, Floors and Roof**

Requirements: Maintain at least 75% and 95% (based on surface area) of existing building structure and envelope.

Shikkui Surface Coatings and Limix (2 possible LEED credits): All 6-dimensions (walls, ceiling and floor), interior and exterior can be renovated with Shikkui finishes and Limix tiles.

**MR 2.1 & MR 2.2 - Construction Waste Management: Divert 50% and 75% from Disposal**

Requirements: Recycle and/or salvage at least 50% of non-hazardous construction and demolition.

Shikkui Surface Coatings (2 possible LEED credits): long life-cycle of both powder type and paste type plaster allows storage and re-use of unused material for a long time. To re-use the material in paste form, seal the package to avoid air exposure. Plaster packaging can be recycled through conventional waste management practices. Both solid and powder forms of the plasters are 100% recyclable. Refer to recycling guidelines on page 2 for details\*.

Limix (2 possible LEED credits): Limix tiles are 100% recyclable. Refer to recycling guidelines on page 2\*.

**MR 4.1 & MR 4.2 - Recycled Content: 10% & 20% (post-consumer + 1/2 pre-consumer)**

Requirements: Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content.

Shikkui Surface Coatings (2 possible LEED credits): Shikkui finishes contain up to 50% of both pre-consumer recycled and rapidly-renewable content (eggshell powder).

Limix (2 possible LEED credits): pre-consumer recycled rapidly-renewable content (eggshells) comprise up to 50% of the product.

**MR 6 - Rapidly Renewable Materials**

Requirements: Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project.

Shikkui Surface Coatings (1 possible LEED credit): Shikkui finishes contain up to 50% of rapidly-renewable content (eggshell powder). Additionally, 3-4% of all finishes – seaweed extracts and plant fiber.

Limix (1 possible LEED credit): up to 50% rapidly renewable content (eggshell powder).

**IEQ 4.2 & IEQ 4.3 - Low-Emitting Materials (Paints & Coatings & Carpet Systems)**

Requirements: Low-emitting architectural coating applied to walls, ceiling and flooring.

Shikkui Surface Coatings (1 possible LEED credit): Zero-VOC products (walls and ceiling). ASTM D3960.

Limix (2 possible LEED credits): Zero-VOC product (walls and flooring).

**IDP 1 & IDP 2 – Innovation in Design**

Requirements: Extra credit points or exceptional performance points for going above and beyond LEED for New Construction Green Building Rating System requirements.

Shikkui Surface Coatings (3 possible LEED credits): kills bacteria, viruses, fungi and molds due to high alkalinity (Rating 10 of ASTM D3273+D3274). Absorbs CO<sub>2</sub>, VOC gasses and odor. Low labor-intensive and low material consumption. Very low to zero maintenance due to durability of the material. Up to 50% of Shikkui finishes contain pre-consumer recycled and rapidly-renewable content (eggshell powder). Fire resistant (Class A Rating of ASTM E84). Cradle to Cradle certified (Silver).

Limix (3 possible LEED credits): Neither thermal processes, nor chemical binders are used to create the solid and durable surface of Limix. Only high pressure in combination with the proprietary technology. Due to its non-baking process, various aggregates, such as paper, textile, glass or plants can be embedded into its surface. Kills bacteria, viruses, fungi and molds due to the product's high alkalinity. The technology allows up to 50% of the product to contain pre-consumer recycled rapidly-renewable content (eggshell powder). Cradle to Cradle certified (Silver).

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#### \* Post-use recycling of Shikkui finishes and Limix

##### **SHIKKUI SURFACE COATINGS**

There are 2 options of how to recycle and re-use Shikkui Surface Coatings:

**a.** Re-using quicklime [CaO], slaked lime [Ca(OH)<sub>2</sub>] or calcium carbonate [CaCO<sub>3</sub>] as Fertilizer and soil conditioner

**Procedure:** if possible, collect the used plaster, crush it into powder and use as fertilizer. Calcium [Ca] is an essential plant nutrient which plays a fundamental part in cell manufacture and growth. Most roots must have some calcium at the growing tips. Plant growth removes large quantities of calcium from the soil, and calcium must be replenished. In addition, lime makes soil less acidic; diatomite makes soil hold more water.

**b.** Using quicklime, slaked-lime or calcium carbonate as an agent for improving strength and stability of land (e.g. in preparation for construction projects).

**Procedure:** the same as of Fertilizer.

##### **LIMIX**

There are 3 options of how to recycle and re-use Limix tiles:

**a.** Re-using quicklime [CaO], slaked lime [Ca(OH)<sub>2</sub>] or calcium carbonate [CaCO<sub>3</sub>] as Fertilizer and soil conditioner

**Procedure:** put back into kiln to burn it to produce quicklime or slaked lime later. Both Quicklime and Slaked Lime can be used as fertilizers. Alternatively, crush Limix tiles into powder, mostly consisting of Calcium Carbonate and Slaked Lime. Calcium [Ca] is an essential plant nutrient which plays a fundamental part in cell manufacture and growth. Most roots must have some calcium at the growing tips. Plant growth removes large quantities of calcium from the soil, and calcium must be replenished. In addition, lime makes soil less acidic; diatomite makes soil hold more water.

**b.** Using quicklime, slaked-lime or calcium carbonate as an agent for improving strength and stability of land (e.g. in preparation for construction projects).

**Procedure:** the same as of Fertilizer.

**c.** Re-using in new Limix tiles (only for white Limix tiles)

**Procedure:** either burn in kiln to produce quicklime and then slaked lime, or crush used Limix tiles into powder to use in Limix production instead of Calcium Carbonate.

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