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Architectural Concrete Solutions

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## **BOMANITE CUSTOM POLISHING LEED GUIDE**

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This guide is to assist the LEED accredited professional accrue points towards LEED certification of a particular building or project. The selection of a Bomanite Custom Polishing System is one of the easiest ways to achieve points due to the low material consumption required, the zero to low VOC content of products used in the process and the low maintenance required to care for Bomanite polished concrete. Bomanite polished concrete is highly sustainable with a very long lifespan, a very low life cycle cost and the ability to be completely recycled and used in a future project.

The Bomanite premise of polished concrete varies somewhat with the majority of other polished concrete systems or polished concrete related products manufacturers. There is a large difference in the application procedures when price is the sole determination of product selection versus quality. There is also a difference in the amount of polishing products consumed for a Bomanite polished floor versus that of vendors whose sole intent is to sell as much product as possible. The average Bomanite Custom Polishing project has more time spent on grinding in order to provide the best quality and is less reliant upon product chemistry to maintain shine and durability.

Bomanite defines polished concrete as having sand exposure in the concrete surface at a minimum, the concrete is treated twice with chemically hardening compounds (once to harden the weaker paste surrounding the aggregates and once to finish hardening while improving stain resistance) and polished in successive steps in a manner similar to a granite countertop or floor. The process uses successively finer diamonds to produce a tight, durable finish that maximizes the strongest part of concrete – the aggregates. The Bomanite process is much closer to highly durable Terrazzo than to chemically hardened cement paste. Capitalizing on the hard aggregate is what makes a Bomanite polished floor superior to other systems both in retention of gloss and durability.

### **THE BOMANITE CUSTOM POLISHING SYSTEMS**

#### **VitraFlor**

Vitrification implies a hardening of a product to a glass like state. Bomanite Vitraflor is our simplest system where un-colored concrete is ground and polished to a highly durable finish. Vitraflor is used both decoratively and for functional applications such as industrial or manufacturing facilities due to the lower installed costs. It can be augmented for oil and grease resistance if required for heavy manufacturing applications.

#### **Renaissance**

Concrete colored at the time of pour with a colorfast inorganic pigment, then ground and polished to a highly durable finish. It is used most commonly in areas where a colored polished floor is required but cost considerations limit the amount of post applied stains.

#### **Belcolore**

Concrete color hardened at the time of pour with a colorfast inorganic pigment, then ground and polished to a highly durable finish. More intense or bold colors are achievable with Belcolore than with integrally colored concrete. Additionally the floor has a more refined look with small quartz exposed in the surface which is far harder and more durable than typically installed concrete, the color hardening process improves the surface abrasion resistance over 50% in most cases.

### Patene Teres

Bomanite's most popular polishing system, Patene Teres is concrete that has been ground and polished to a highly durable finish with stains applied in the process. Vibrant to earth-tone colors in uniform or variegated looks are possible. Typically more decorative in nature than other systems, Patene Teres commonly incorporates multiple score lines and patterns into the floor with several colors of stain applied. The coloring process is done earlier than with other polishing systems on the marketplace as it is dyed with a SCAQMD qualified product within the process, not at the very end as most competitive systems do. This improves the durability of the color and makes the floor more natural in appearance than a concrete floor where the sand and stone is heavily tainted with color.

### Modena

Unique to Bomanite, this system is a trowel applied cementitious overlay that contains no VOC's polished to a highly durable finish. Modena is commonly used to renovate floors that are unacceptable candidates for polished concrete. It can be applied as thin as 1/8" or as thick as 3/4" dependant upon existing elevations. Modena has the same durable characteristics as the other systems and can be either highly decorative with aggregate exposure or simpler with light aggregate exposure similar to finely ground concrete.

## LEED NC 2.2 NEW CONSTRUCTION AND MAJOR RENOVATIONS

### MR Credits 1.1, 1.2 & 1.3 – Building Reuse – 1 point each

- In a major renovation if the existing concrete slab can be reused by removing any existing flooring or using the raw concrete and polishing it with **Vitraflor** or **Patene Teres**.
- If the existing slab is unacceptable for polishing it can be topped with **Modena** therefore extending the lifespan of the concrete.
- The ultimate number of points accrued is dependant upon the percentage of the concrete flooring reused and the elimination of the need to supply more concrete to the project.

### MR Credits 3.1 & 3.2 – Material Reuse– 1 point

- Using polished concrete eliminated the costs associated with demolishing the existing slab and disposal. Once again **Vitraflor**, **Patene Teres** and **Modena** when used help towards accrual of this point.

### MR Credit 4.1 – Recycled Content – 1 point

- Using concrete with a high reclaimed or recycled content can help contribute to this point. Reclaimed aggregate used in the concrete slab or as sub-base along with Flyash or other Supplementary Cement Material replacing cement content in the new concrete pour are both possible. Using **any** Bomanite Custom Polishing System to polish the high recycled content concrete will help towards accrual of this point.

### MR Credits 5.1 & 5.2 Regional Materials - 1 point

- Using products manufactured within a 500 mile radius of a LEED project may contribute to a point. Unfortunately due to the low applied consumption of products for the Bomanite Systems only **Modena** contributes substantial value to this point.

### EA Credit 1 Optimize Energy Performance - 1 – 10 points

- **All** Bomanite Custom Polishing systems reduce maintenance costs by as much as 80% over conventional flooring systems such as carpet or VCT.
- **All** Bomanite Custom Polishing systems dramatically improve light reflectivity which reduce the amount of lighting required and therefore energy consumed.
- Using concrete creates thermal mass which helps to stabilize a buildings heat requirement by storing energy.

**EA Credit 4.1 Low-Emitting Materials – Adhesives and Sealants - 1 point**

- **Vitraflor, Renaissance, Belcolore and Modena** Custom Polishing systems have zero VOC and no solvents in the chemically hardening product specific to their application and <50 VOC in the hardening and stain resistant portion.
- **Patene Teres** uses a staining product that contains 0- 300 g/l VOC dependant upon color selected. Consult with Bomanite Technical Services prior to specification.
- The entire Bomanite polishing process can be installed with 100% water based materials unlike other systems that may require the use of highly flammable solvents in their coloring products or stain resistant treatments.
- The use of **any** properly specified Bomanite Custom Polishing System can help towards accrual of this point.

**LEED NV Version 2.2 – Innovation in Design - 2 points**

- **All** Bomanite Custom Polishing Systems can contribute towards the accrual of this point.
- The Bomanite systems are all done slurry free (dry ground) with limited requirement for wash water and no potential for damage to onsite plumbing. The Bomanite applicators capture the dust and disposes of it correctly as per local regulations. This is far superior to wet grinding processes such as epoxy terrazzo flooring or other wet ground concrete processes.
- The **Modena** system can renovate an existing concrete slab that would otherwise be unsuitable for concrete polishing. This provides specifiers the ability to use polished concrete much as they would traditionally select a manufactured tile or other flooring system only without the maintenance requirements. It is more economical than typical terrazzo, is breathable which minimizes moisture vapor issues, can be colored in any color, lessens the amount of product brought to a jobsite compared to stone or tile and provides all the benefits of polished concrete as discussed above. It can even be installed over wood or steel in select circumstances.

The information provided in this document is to the best of Bomanite's knowledge. It is up to the individual specification professional to determine which points can be attained through the use of Bomanite Custom Polishing Systems. For specification assistance and product information visit [www.bomanite.com](http://www.bomanite.com) or contact Bomanite Technical Services.