

# As Sustainable as it is Gorgeous

For clothing designer/retailer Eileen Fisher, sustainability and authenticity were the winning combination.

Eileen Fisher is a women's fashion retailer with 42 stores in 15 states, headquartered in Irvington, N.Y., 20 miles north of New York City. Its new Eileen Fisher Lab store is an experimental retail concept that embraces sustainability.

For its premiere location, the company recycled 3000 square feet of space in the former Burnham Furnace works, a large 103-year-old building in Irvington. For a highly sustainable flooring surface, they refurbished the existing concrete

that was already there by polishing it into a gleaming showroom jewel.

## PROJECT DETAILS

### [PROJECT]

Eileen Fisher clothing store

### [PROJECT SCOPE]

Grind and polish a deteriorated concrete floor in 103-year-old building

### [LOCATION]

Irvington, N.Y.

### [SUBCONTRACTOR]

Greeneath Floors Inc.

### [PRODUCT MANUFACTURER]

Lythic Solutions

Environmentally responsible retailer finds hidden beauty in 100-year-old concrete.

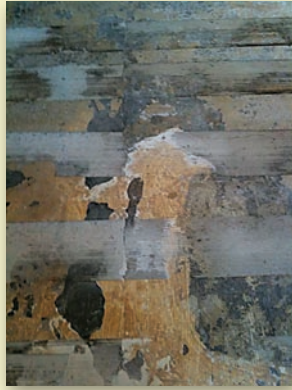
By Steven H. Miller, CDT, CSI

A Greeneath Floors crew gave the concrete floor at the Eileen Fisher clothing store a glimmering shine.

GREENEARTH FLOORS



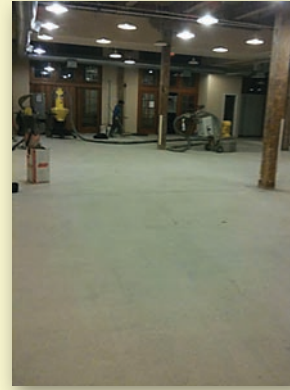
The slab in the 103-year-old building bore evidence of many past lives. It was of different colors, had cracks and heaves, and was covered in layers of mastic.



The crew removed up to ½ inch of concrete from the surface. This revealed the coarse aggregate, giving the final polished floor a look resembling terrazzo.



During the first grinding pass, the slab is ground in interlaced stripes to keep the depth even. Evidence of its deteriorated condition is plentiful.



The slab is smooth after grinding and is ready for densification and polishing. The crew used a colloidal silica-based densifier to speed up the process and to optimize the surface.



The completed polished floor is ready for customers.

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## ONLINE:

For more on Lythic Solutions and its products, visit [www.lythic.net](http://www.lythic.net).

“We’re a high-end retailer, and we wanted something different from our normal construction,” says John DiMeglio, project manager for Eileen Fisher. “We wanted more of a warehouse feel, so we decided to revitalize that slab.”

The concrete floor had a lot of history built into it. “It was three or four different colors,” recalls polishing expert Matt Johnson, owner of Savaspace Inc., Tuckahoe, N.Y., whose Greenearth Floors division worked on the project. The floor had apparently been excavated and partially replaced during various renovations over the decades. “It looked like three different pours at least, and it had pitched and heaved,” he said.

Before the job, Johnson showed the Eileen Fisher design team before-and-after photos from previous projects. He then described the kind of look and uniqueness he wanted to bring out of the floor.

“The variation, avoiding too much uniformity, and the character of the concrete made us choose to go that way,” says DiMeglio. “It fit perfectly with the feel we were trying to achieve in the space.”

The sustainability aspects of polished concrete sealed the deal. Densified concrete floors, polished or burnished, can be maintained with simple cleansers. “It was the ability to maintain this floor for 20 years without petroleum products that will pollute the environment,” says Johnson. “Most other floors need waxing and stripping, and all that goes down the pipe.”

### Starting with grinding

The slab’s surface required aggressive grinding to produce a single, smooth, flat floor. Johnson’s crew removed up to ½ inch of concrete off the surface. “We uncovered all sorts of things in the slab, including oyster shells, and even planks of tulip wood,” he says. Following grinding, areas of cracking and severe spalling needed to be treated with a polish-compatible concrete repair system. He chose Roadware 10 Minute Concrete Mender “because it does not distract from the overall look we were trying to achieve.”

Johnson chose environmentally responsible practices and products. For example, he prefers dry grinding to minimize pollutants. Wet grinding produces a messy slurry that has to be put into the local waste disposal system. Dry-grind dust can be recycled into fireproofing materials, roadbeds, and other applications.

Johnson used a sustainable densifier product. Lythic Densifier is virtually pure colloidal silica, a chemically purer form of silica than the sodium-, potassium-, and lithium-silicates found in most densifiers. It is also less alkaline than silicates, so it’s safer for workers to handle. When hardened, it does not produce a caustic residue that must be scrubbed off and disposed

of. Nothing goes into a landfill or toxic disposal site. Pure colloidal silica also eliminates the risk of a hard, discoloring surface deposit called “whiting,” a common problem with silicates.

The crew stained the floor gray to unify the varying shades of concrete, and then diamond-polished it to a high gloss. The grinding was time-consuming, but using the fast-applying and fast-acting colloidal silica densifier helped. They completed the job in one week. And the owner is very pleased with the speed and the result.

### Speed counts

Johnson has used the same densifier for many of his projects because of its sustainability, speed, and quality. Many of his high-end projects in New York City involve new slabs or topping coats, which normally impose a 28-day construction delay while the concrete cures.

For floors that will be only lightly ground before polishing for a “cream finish,” Johnson can cut the delay in half by applying colloidal silica densifier as a curing agent when the concrete is still wet. “In Manhattan, everything is about time,” he says. “When general contractors can wait 14 days instead of 28, they’re sold.”

Johnson can densify the fresh slab and cover it with plastic for three to five days. After 14 days, he does a light grind, and then sprays on more densifier to further optimize the surface. “Lytic is the only densifier I’ve found that will stick to itself,” he explains.

After applying the second densification, he protects the floor with Ram-board recycled cardboard and lets the GC in for the rest of interior construction. “The last thing before occupancy, we go back in and polish.” He believes this regimen of densifying early, and twice, with colloidal silica minimizes surface cracking in the slab.

For more deeply ground, exposed-aggregate floors, Johnson recommends always waiting 28 days. “The interior of the slab is more porous than the cream. Densifying in stages helps, but longer curing is still needed.”

Johnson does not expect his involvement with this project to end with the September 2009 opening of the store. “You can’t do a grind and polish and walk away,” he says. “You have to go back with conditioner and reapply a colloidal silica-based dressing applied after polishing.”

Johnson is passionate about concrete, and goes the extra mile to make every project a showcase. “If people want a five-year warranty, we like to maintain it and watch it for the first 12 months. It’s about getting the cleaning people to understand a polished concrete floor, and keep the harsh chemicals off it.” **CS**

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