

## Lythic HardWear Floors: Beauty In a Hard World

### New Exposed Concrete Finish Is More Affordable Than Polishing

Lythic Solutions, Inc. has developed a new method of finishing exposed concrete floors that rivals the look of polished concrete at a significantly lower cost. The Lythic HardWear floor leverages the density added to the surface by use of Lythic Densifier to produce a **shine** without the time and expense of **diamond** polishing.

This approach is ideally suited to retail environments, offices, schools, and other places where the aesthetic, environmental, and low-maintenance benefits of exposed concrete are desirable, but budget is a concern.

According to Nathan Christner, President of Elegant Concrete Polishing, New Haven, CT, “When new, you can’t tell the difference between a 400 grit Lythic HardWear floor and a 3000-grit diamond polish.”

Christner was one of the first to use the Lythic HardWear process. He was able to save the general contractor significant energy costs finishing a floor in winter in an unheated building where the temperature was 40°F. “This couldn’t have been done with epoxy or other similar coating,” explains Christner, “because you have to maintain room temperature during an entire cure of 24-48 hours. This saved a significant amount of energy not having to heat the floor.”

The process is easily adopted by any professional concrete floor finisher. Typically, a fully cured concrete slab is deep-cleaned with sanding screens on an autoscrubber, using nothing but water. Previous coatings will also have to be removed to prepare the surface.

The floor is then densified by spraying with Lythic Densifier, a highly efficient colloidal silica densifier that reacts quickly and leaves no wet caustic residue to remove. It fills in the microscopic pore system in the concrete surface, hardening it and making it less permeable. Lythic Densifier is used at normal (4:1) dilution. Christner favors a high saturation rate (about 300 sf/gallon) and adds that it’s important to “pay attention to how the floor is soaking up the densifier, and give it more where it needs it. That way, the entire floor is brought up to a consistent level of densification.” The process is fast, too: the application is kept wet for 15 minutes and then allowed to dry (about 1 hour).



The exposed HardWear concrete floor in Killingworth True Value, Killingworth, CT, has a polish-like appearance and durability at much lower cost.



The floor is cleaned with a stripper pad on an autoscrubber using only water, to remove any excess silica, and allowed to damp dry.

It is then densified a second time using Lythic XL Densifier, a formulation with larger silica particle size, which deposits a protective layer of silica that can be burnished to a high sheen. Unlike conventional densifiers, Lythic Densifier and XL Densifier bond to both the concrete and to themselves, so a double application results in a high level of densification.

The floor is cleaned again with a stripper pad and water and allowed to dry completely. Lythic Protector is applied with a flat pad applicator. This colloidal silica-based finish dressing bonds additional silica to the surface and adds a thin, clear polymer coat for enhanced protection and color saturation.

The floor is burnished with a stripper pad to smooth out the Protector application, and then with a hog's hair pad, raising the surface temperature of the slab, which speed-cures the Protector application and brings out the final shine. Christner raised the surface temperature to 90°F, checking with an infrared temperature gauge for quality assurance.

By using the HardWear floor process, Christner was able to save his customer time and expense, with a result that was well suited to his retail hardware business. The floor looks attractive, is very abrasion resistant, and maintains easily.



Contractor Nathan Christner was able to finish the floor using the HardWear method in cold temperatures where epoxy would not have cured, saving major expense by not needing to heat the building during construction.

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**About Lythic Solutions:** Lythic Solutions, Inc. ([www.lythic.net](http://www.lythic.net)) is a concrete technology company formed by veteran concrete polishing professionals. Lythic Solutions is the maker of colloidal silica-based Lythic Densifier, Lythic Protector, and Lythic Cleaner. The company is dedicated to bringing to market advanced products for concrete polishing and other concrete finishing applications, improving the use of concrete as an affordable and sustainable finish material.

