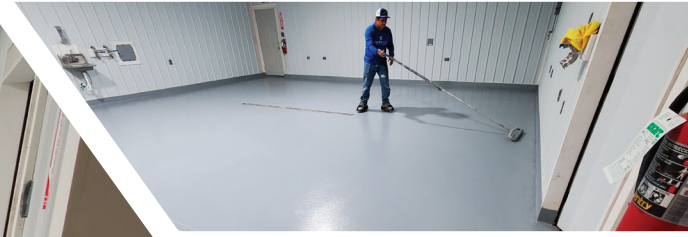




NEW FLOOR



OLD FLOOR

## Acidic Juice Corrosion

### PROBLEM - CLIENT PERSPECTIVE:

This fruit drink manufacturer was having issues with deteriorating concrete and failing epoxy floors at their main plant. The floors had become slippery and impossible to clean.

When building their new facility, they were looking for a flooring solution that would stand up to the harsh environment that requires regular coating replacement and concrete repair. They were also looking for a surface that had good non-slip properties and was easy to clean.

### CAUSE - STORY, PROJECT PAST HISTORY:

They have used epoxy flooring several times in the original facility and everytime within months they began to fail, often needing replacement in as little as 6 months. This client makes a variety of fruity THC infused lemonades. The acids and sugars in the fruit concentrate, as well as the water and detergents from daily cleaning cycles, are a big problem for older floor coating technologies like epoxies. In this case, the epoxy coating disbonded from the concrete, as well as failed from the surface, tearing apart, due to chemical erosion and physical wear. The failure of the floor coating also allowed the base concrete to be attacked by the acids and sugars, causing erosion of the primary slab near the floor drain, and creating slippery conditions. Also, the deteriorated concrete and food stuffs created conditions for microbial growth and microbial corrosion.

This type of failure is common with epoxy, as it does not chemically bond with concrete, and can lose its temporary adhesion bond and peel from the concrete, as in this case.

### ZIRCONIA SOLUTION

#### ComposiCoat XD™ Floor Finish

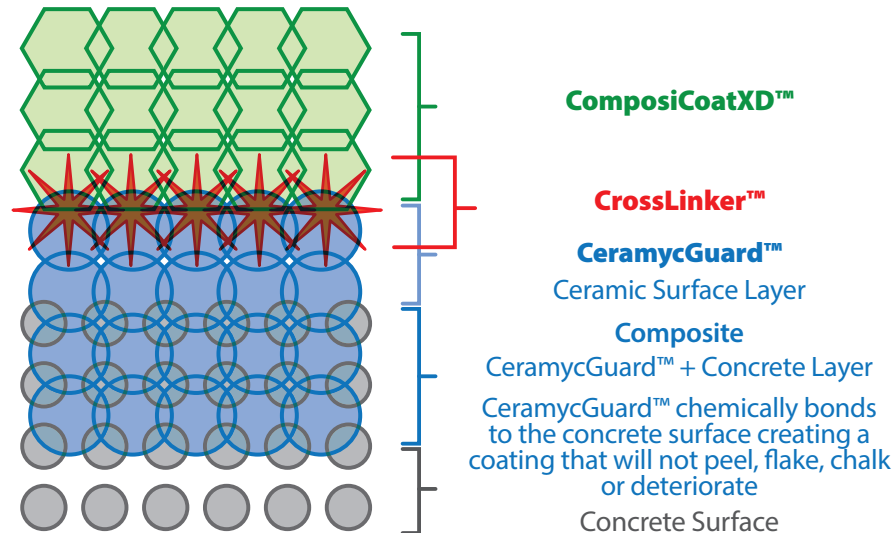
- Chemically bonded to concrete and will not disbond or peel
- Ultra-durable organic-ceramic composite surface
- Extremely chemical and wear resistant
- Easy to clean, and non-slip surface

#### ADDITIONAL BENEFITS

Zirconia's Ceramic Surface Treatments (CST) are "biologically impervious", preventing bacteria, fungi, and other microorganisms from growing. This ultra-durable surface is now non-permeable and easy to clean with less harsh "greener" cleaners.

**Continuing outcome:** More than a year after the install of Zirconia's chemically bonded ComposiCoat XD™ Floor Finish, the coating is performing perfectly. The facilities manager said he is very happy with the performance and the way it was installed, and he "does not ever expect it to peel or fail like his epoxy flooring in the plant." They are currently planning two new plants and have specified the ComposiCoat XD™ for their floor finish.

## How it Works:



## About CompositCoat XD™ Floor Finish

All TruComposite™ systems start with CeramycGuard™, a Ceramic Surface Treatment that uses alumina and zirconia silicates to renew and preserve concrete surfaces. This dense nano-ceramic polymer penetrates and atomically bonds to all available elements in the concrete, shielding the surface from the environment. CeramycGuard™ is not affected by wet/dry or freeze/thaw cycles, and will not peel, flake, chalk, or delaminate in any manner. CompositCoat XD™ is a topcoat over the CeramycGuard™ base layer, that starts with CrossLinker™ which chemically bonds to the CeramycGuard™ and provides a chemical link to the final coat of CompositCoat XD™, an ultra-durable urethane. Working together with CeramycGuard™, the CrossLinker™ and CompositCoat XD™ create a TruComposite™ coating system that is chemically bonded to the concrete. This means it cannot disbond or fail like traditional organic coatings like epoxies and urethanes alone.

The CompositCoat XD™ system chemically transforms porous, hard-to-clean concrete surfaces into a dense, organic-ceramic composite surface with these additional attributes:

Easy Cleaning • Near-Zero Porosity • Extreme Wear Resistance • Anti-Stain • Anti-Attachment  
Color Stability • Anti-Slip • Breathable • Biologically Impervious

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## About ZIRCONIA

Zirconia Ceramic Surface Treatments (CSTs) originated in Dr. Balaguru's laboratory over 20 years ago at Rutgers University. Since then, we have been continually developing CST technology to solve problems in infrastructure that cannot be solved by other means.