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MANN REPORT

THE CONSTRUCTION ISSUE

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TRUE GRIT: ELIMINATING COMMERCIAL PROPERTY FALL RISKS WITH LASTING, ANTI-SLIP COATINGS

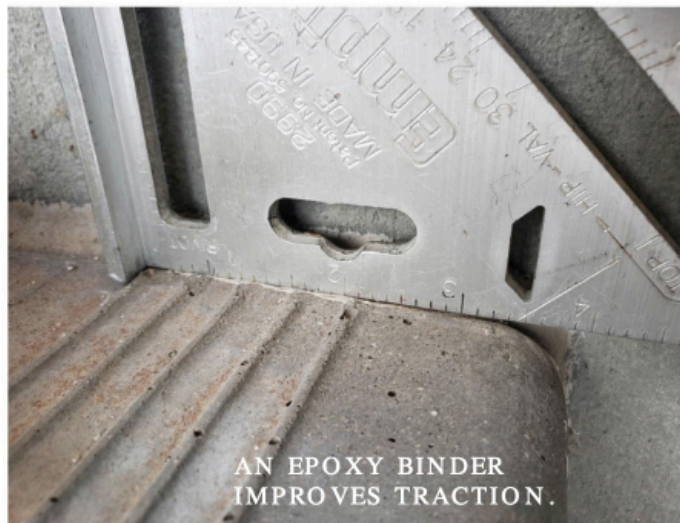
BY DEL WILLIAMS

Commercial property managers are responsible for keeping tenants happy and safe, which includes performing proactive maintenance to prevent potential slip and fall injuries in high traffic areas, stairwells and loading docks. Failing to do so can lead to litigation, higher tenant turnover and lower lease rates.

Unfortunately, anti-slip coatings used to increase traction on slick or slippery surfaces are a veritable grab bag of options. Some are designed to be applied only to specific substrates. Others require extensive surface prep to remove existing coatings and sealants. Many shrink after drying, do not adhere well or quickly lose embedded aggregate required to improve traction.

This can leave commercial property management firms and the painting contractors they employ unclear on the best anti-slip coatings to apply. Ideally the formulation could be applied to a wide range of substrates, resist shrinking and retain aggregate to improve traction and endure many years of wear. Given the large square footage and number of stairs involved in many projects at commercial properties, the time to complete any prep work and apply the coating should be minimized to keep costs down.

This was precisely the challenge commercial coatings contractor Roger



Williams, owner of Youngsville, North Carolina-based Williams Painting Service, faced when he was contacted by Kane Realty Corporation, a Raleigh-based real estate development company that has managed more than six million square feet of mixed-used space since 1978.

The property management firm wanted to improve the safety of four exterior parking deck stairwells at one of its signature properties. The stairwells run seven stories, with approximately 30 treads per stairwell. Because one of the stairwells is near an outdoor workout area, CrossFit enthusiasts regularly run up and down the concrete steps daily.

“We first had to determine what coating to use to improve traction on the stairs, which get slick when wet,” said Williams. The interior corner stairwells were under cover but exposed to the elements via large windowless openings on some of the walls. Rain, humidity and even perspiration made safely navigating the concrete steps more difficult.

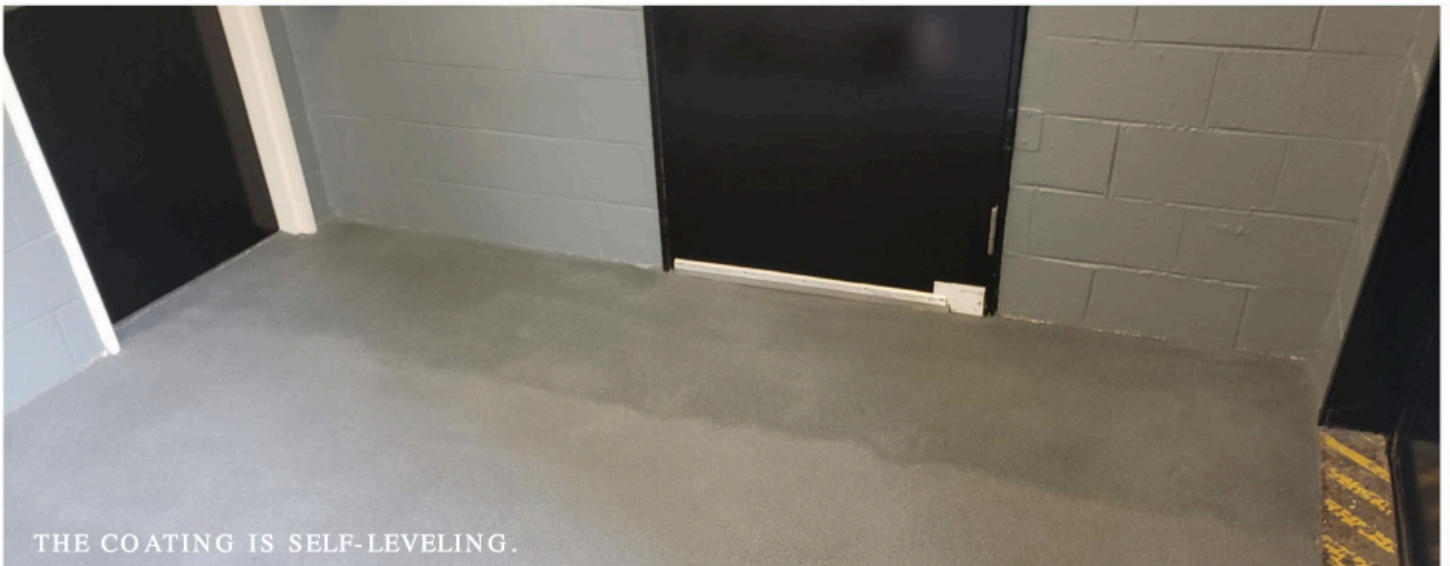
However, finding a safe, durable anti-slip solution for the application was a challenge, and several products he tested were inadequate.

“One product, which was very expensive, claimed it made wet surfaces ‘non-slip,’ but it did not work well on the steps. The surface of the tread was still slick when we poured some water on it,” said Williams. The only other choice was an epoxy formulation that required first stripping the concrete sealer from all the stair treads using muriatic acid.

“The steps were covered with several coats of concrete sealer, and with this particular coating you had to strip off the sealer first, which is a costly, messy ordeal that would have added a lot of time to the project,” explained Williams.

According to Williams, about this time, another property management company, JLL, contacted him about the North Carolina Mutual Life Insurance Company Building in downtown Durham, North Carolina.

JLL recommended a specific true epoxy binder with embedded aggregate the building engineer had discovered at a trade show. The coating needed to improve traction while maintaining the aesthetics of the main entry staircase, which was made of Chattahoochee stone. The building’s loading dock and a diamond plate lift surface also required



PHOTOS COURTESY OF FORM-A-TREAD

better traction for safety.

The non-skid coating Form-A-Tread SL (Self Leveling) is a combination of a low-to-medium viscosity epoxy binder consisting of 100% solids and a specialized aggregate broadcast on top. The coating can be used in a variety of surfaces including concrete, asphalt, metal, wood and other porous and non-porous substrates. The formulation along with the applied aggregate is designed for indoor and outdoor use and can last for years even when exposed to sunlight, chemicals, weather and temperature extremes.

The patented coating provides a very durable, slip-resistant surface on commercial flooring, walkways, ramps and other large areas with high pedestrian or vehicle traffic. The coating is easy to mix and apply by hand. Installation is fast and the surface is typically ready for use within hours.

“The SL coating is extremely non-slip. The heavy embedded aggregate sinks into the epoxy and doesn’t just sit on the top of the coating, so it is a very effective product. The finished result looks great, and the building engineer was very pleased with how it turned out,” Williams said.

While he was being trained to apply the SL coating, Williams realized it would also be ideal for Kane Realty’s stairwell project. Consequently, he coordinated with the chief building engineer to complete a proof-of-concept demonstration on some of the most challenging stairwell steps. Based on the results, he was given the go-ahead to apply the formulation in all four parking garage stairwells.

This epoxy paste formulation, called Form-A-Tread Original, is specifically designed to apply as stair tread striping on a variety of step surfaces. Like the self-leveling product, aggregate can be embedded in varying amounts to increase traction. The bond is so strong that a chisel or angle grinder is required to remove the stair tread line, an advantage in high-traffic areas.

“Form-A-Tread [Original] is the only product we found that adheres to sealed concrete steps without coming off,” said Williams.

For added safety, the 100% epoxy tread line does not shrink after drying and so provides a superior tactile sensation that creates greater awareness of footing when climbing or descending stairs. The stair tread striping can be easily applied by untrained personnel. Each kit supplied by Form-A-Tread includes a 400 ml cartridge of material that can produce 25 to 40 linear feet of one-inch-wide tread. A special tool is used to dispense and mix the material at the time of application in the correct ratio, eliminating the risk of human error.

The kit includes a patent-pending stencil system, so the one-inch-wide tread lines remain clean, neat and parallel. In addition to straight line treads, instructions such as “Exit Here” or a corporate logo can be applied using the material and a stencil. According to Williams, a crew of six was able to complete the coating application on every step of all four stairwells within four days.

“Three of my crew laid the form, one did the application, one spread the aggregate, and one removed the tape strip. Once we got into the swing of things, we were able to finish a seven-story stairwell each day,” said Williams.

Now, stair safety is no longer a pressing concern for Kane Realty’s chief building engineer or the cross-training tenants.

Williams is already receiving positive input from other commercial property managers in the greater Durham metropolis.

“There are many large buildings in the downtown area where I expect to use the product in the future. I consider it extremely useful wherever safety needs to be improved with superior traction, along with upgraded aesthetics,” concluded Williams.

Del Williams is a technical writer based in Torrance, California.