



CHIEF ENGINEER

Official Publication of The Chief Engineers Association of Chicagoland
SINCE 1934

APRIL 2022

A PRIVATE

RACECOURSE

CONVERTS TO VRF

Keep Cold Winds at Bay: Eliminating Drafts and Cool Air in Heated Spaces

Facility Stair Safety: More Effectively Preventing Slips and Falls on High-Traffic Stairs

Facility Stair Safety: More Effectively Preventing Slips and Falls on High-Traffic Stairs

By Del Williams

In commercial facilities across the country, the most common technique for preventing slip-and-fall accidents on stairs is the application of non-skid adhesive tapes or epoxy coatings embedded with aggregate. The appeal of this approach is that untrained personnel can quickly and easily apply the protection. However, for high-traffic stairways, tapes can peel off (creating a trip hazard) and coatings abrade away quickly, leading to frequent reapplication every few months to maintain safety standards.

Now, a new category of durable high-tech epoxy is available as solution to effectively ensure superior stair tread footing, safety, and visibility for years without re-application. This option dramatically reduces the need for maintenance and replacement even in heavily traveled areas and can be quickly and easily applied on stair treads by facility personnel.

The Slip-and-Fall Epidemic

Slip-and-fall incidents are a leading cause of injury and a factor in many workers' compensation claims. "In general, falls and slips are responsible for 15 percent of all accidental deaths, the second leading cause behind motor vehicles and account for 25 percent of all reported injury claims," according to The National Institute for Occupational Safety and Health (NIOSH). "Injuries from falls of all types cause a variety of strains, sprains, fractures, contusions, concussions, back injuries, paralysis, as well as fatalities, particularly when the fall is from a height."

The risk of a serious fall on stairs inevitably increases when

(Continued on pg. 46)

'Heated' about your chiller's performance?

CHILL OUT

We've got you covered with
50 TECHNICIANS
and **85 YEARS**
OF EXPERIENCE!

- HVAC SERVICES
- MAINTENANCE
- DESIGN/BUILD SOLUTIONS
- RETROFIT SOLUTIONS



 **AIR COMFORT**

708-345-1900 | AIRCOMFORT.COM

NEWS

(Continued from pg. 45)

people are inattentive, looking at their smartphones, talking with others, or carrying items. The slip-and-fall hazard — both in terms of physical injury and potential liability — only increases when the stairs are wet and slippery, or the area is not well illuminated.

To dramatically improve facility safety, enhancing the traction, feel, and visibility of stair treads is the most effective means of reducing slip-and-fall incidents and injuries.

A Long-Term Safety Solution

Enhancing the traction of stair treads to improve safety is not a new concept. However, most options on the market are decidedly low-tech, such as applying non-skid adhesive tape or a coating with embedded aggregate to each tread.

“We have nice tile stairs throughout the property, and we could not find anything that would [adequately] stick to the porcelain,” says Harry Ramos, Head of Facilities at Bear Lakes Country Club in West Palm Beach. He notes that spiked golf shoes, rain, and hot, humid weather dramatically shortened the paint’s lifespan due to peeling and chipping.

According to Ramos, when a representative for a high-traffic paint suggested that a primer should be applied before the coating, it still proved unsatisfactory. “Golfers’ spiked shoes chipped the paint and after only a week it started to look worn,” he says.

Another common solution at many facilities is the application of a non-skid tape embedded with aggregate. However, if the adhesive does not adhere well to the surface, it can peel off and become a trip hazard within a few months. The aggregate in the tape is only lightly embedded on the surface as well, and in high-traffic areas can quickly wear away. In addition to reducing safety, poorly maintained stairs with worn coatings or peeling tape portray a shoddy, unprofessional image as well.

“We have many highly used stairs and were re-applying the paint or non-skid tape about once a month,” Ramos says. “After a while, we felt it was a waste of time.”

Fortunately, Ramos discovered a more durable epoxy paste consisting of 100 percent solids that, once applied, can last for years in high-traffic areas. The patented product from Form-A-Tread Company provides an extremely strong bond to a range of stair tread surfaces, with embedded aggregate to increase traction.

The epoxy paste can be used indoors or outdoors as well as exposed to chemicals, weather, and temperature extremes. 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.

In the case of Bear Lakes Country Club, Ramos applied the Form-A-Tread epoxy paste to improve safety and minimize



Form-A-Tread dramatically reduces the need for maintenance and replacement even in heavily traveled areas.

the possibility of members slipping on stairs given the hot, humid, and wet weather in Florida.

“The epoxy sticks to just about anything — including the porcelain tile — and really lasts. A year after we applied the epoxy to our stairs the original [tread] traction is still there, and I do not see any wear and tear. It looks like it was applied last week,” says Ramos.

In addition to the high traffic from members, the stairs also are power washed every three months without affecting the epoxy.

Ramos also appreciates how quickly the epoxy cures, which reduces the length of time that facility stairs are unavailable for use. “The epoxy dried enough that it could be walked on in only a few hours, even here in Florida. That meant we didn’t need to shut down the stairs for too long,” he says.

The high-strength epoxy paste is designed to be easy to apply to stair treads by even untrained personnel. In a kit supplied by Form-A-Tread, there is a 400 ml cartridge of material that can produce 25 to 40 linear feet of one-inch-wide tread,

Chicago Fire Protection

Union fire sprinkler and alarm contractor

- Estimates
- Engineering/Design
- Installation
- Maintenance
- Testing and Inspection
- Alarms and Communications
- 24-Hour Emergency Repair
- Project and Risk Management/Safety
- Strategic Business Relationships

Proud to be a VBP Certified Veteran-Owned Small Business (VOSB)

(773) 366-3477 • info@chicagofireprotect.com
www.chicagofireprotect.com

depending on the surface type. A special tool is then 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.

“The kit is easy to use and supplies everything you need. I applied the product the first time and then trained two members of my work crew how to do it within five minutes,” says Ramos.

For added safety, the 100-percent epoxy tread line does not shrink, and so provides a superior tactile sensation that creates greater awareness of footing when climbing or descending stairs.

The product is available in black and safety yellow to delineate the edge of each stair tread. To increase safety in low light, indoor facility settings, the company also offers a patented photoluminescent version of the stair tread safety product that glows in the dark, to provide greater visibility.

According to Ramos, the epoxy product not only improved safety and eliminated the need for constant re-application, but also had a more aesthetic look over time due to the lack of visible wear. He points out that this is important since paying members expect the facility to be safe, attractive and well-maintained.

“So far, it has been one year since the epoxy was applied and it looks like we applied it last week,” says Ramos. “I expect it to last in good condition for another 5-10 years.”

Facility managers like Ramos have long sought to improve the safety of stairs. However, the traditional methods of adding traction and visibility to stair treads are short-lived and high-maintenance. With advanced, durable, all-solid epoxy pastes that adhere to stair treads for many years, facility managers now have an easy-to-use tool that can improve safety for the long term.

For more information, call (610) 994-2138, email info@rgfmaterials.com or visit <https://form-a-tread.com>.

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

MAKE YOUR FIRE INSPECTOR HAPPY.

- Fire Alarm Inspection and service
- Sprinkler Inspections
- Fire Pump Testing
- Installation



CONTECH
THE FIRE ALARM COMPANY
(847) 342-9932
24 HOUR EMERGENCY SERVICE
LICENSE #IL127-001083