Feet First: Best Practices to Ensure Safe Flooring

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According to OSHA, slips, trips and falls constitute the majority of general industry accidents. They cause 15 percent of all accidental deaths, and are second only to motor vehicles as a cause of fatalities.

But just because flooring is constantly underfoot doesn't mean it's also constantly top-of-mind. "Many people give little thought to the flooring they work and walk on each day until an injury happens," says Chuck Haun, Director of Field Sales & Technology, Milamar Coatings, L.L.C. [1], a company that specializes in the formulation and distribution of high performance adhesives and coatings. And while

there are “a variety of conditions that affect the friction on floors surfaces,” says Haun – spills being a major culprit – the wrong floor type or coating can lead to defective flooring surfaces as well.

Construction Project

Concrete floors are ubiquitous in manufacturing facilities, but cracks, holes and deteriorated joints can compromise the safety of a facility. According to Wade Christensen, vice president of Niagara Machine [2], provider of industrial surface preparation equipment, many people fail to notice the hazards created by floors because their safety focus tends to be more on equipment. But oftentimes in the case of flooring, equipment damage is not the only consideration.

“A spalled joint, one where the edges of the joint have started to break, not only can damage forklifts, but repeated heavy equipment traffic can actually worsen the problem,” adds Niagara’s Mike Trotta. But Trotta also points out additional problems created by concrete floor imperfections. “Many facility managers are aware of the trip hazards created by cracks and holes in concrete floors. The problem is they fail to notice bacteria and dirt containment points that these flaws create.” These collection points are a problem for any facility as they can collect dirt —compromising cleanliness and production processes.

According to Christensen, the answer to these problems is to use semi-rigid polyuria or epoxy repair materials. “The process of filling a joint is relatively simple,” he explains. “First, the crack needs to be chased using a saw. Then the semi rigid polyuria is applied to the crack; this is usually done using a two-part cartridge that automatically mixes the two substances.” Christensen stresses the importance of making sure the crack is slightly overfilled. After the material has been applied, it must be given a brief period of time to dry. Once this is done, the applicator needs to scrape off the excess using a razor.

A New Coat

Another issue that can face concrete flooring is when the user looks more at its highly polished visual appearance without researching the potential liabilities of certain coatings. According to Haun, while highly polishing concrete does flatten the surface and make for a nice glossy floor, “it does become extremely slippery when water, oils, or grease is spilled onto the surface.” Another mistake Haun sees is occurring in food processing, where facilities are using a fine rounded silica and then applying a sealer over the silica. “When animal or vegetable fats fall onto the surface, it becomes akin to an ice rink. Angular, sharp quartz or aluminum oxide makes a better broadcast media as it provides more angles for grip and thus better slip resistance.” Haun recommends coatings with aluminum oxide in the surface, along with a thin coat of a chemical resistant Urethane coating, like Milamar’s PolyMax PM-500, to provide a durable non-stick surface. “In high traffic areas, we recommend using Aluminum Oxide in the final sealer coat to prevent a longer surface life,” he adds.

Another coating that offers slip resistance in polished concrete applications, says

Christensen, is a UV Cured Coating. As an additional benefit, this process can reduce installation time, as it does not require the number of grinding steps with increasingly higher grit sized abrasives. “The process begins the same way as polishing; using metal abrasives to grind the floor.” Next, rather than continuing to grind, the installers apply the protection system by pouring it on the floor and spreading it with squeegees. “Then the installer will shine a high-powered UV light on the material, causing it to instantly cure. A second coat can be applied for optimal results.”

Adds Christensen, “Not all floor repair work has to be a major project.”

Links:
[1] http://www.milamar.com/Default.aspx?SiteID=6
[2] http://www.niagaramachine.com/