

Can ESD tile be installed over old vinyl tile?

Once demolition of old floors begins, it cannot be stopped.

The biggest budget buster in any ESD flooring project is unexpected floor preparation costs—or any cost above the price of the material, adhesive and labor.

Most project managers lose sleep just thinking about floor preparation. And no wonder: Since you can't see what's under the existing floor, you never know the full extent of what needs to be done until the old floor has been removed. Worse, the removal process itself is destructive, often causing additional damage. Removing an old vinyl-tile floor can damage the floor's under-layment, crack the concrete or leave behind swirls of hard messy adhesive residue. Depending on the severity of the problem, floor preparation can cost as much—or even more—than the total material and labor costs for the new ESD flooring or conductive carpet tile.

Most ESD tile floor installations begin with the line item "remove old tile." By itself, removing old tile is a fairly simple process that involves lifting the old tile, scraping the adhesive, and then filling a couple of dumpsters. But what happens if the old tile won't come up easily? Or what if the old tile turns out to be old vinyl asbestos composition tile (VAT)?

Once the old tile is removed and disposed of, other dilemmas emerge:

- 1) What happens to the old adhesive? Do you level the floor by skim-coating over the old adhesive or do you remove the adhesive by shot-blasting? What if shotblasting can't remove the adhesive because it is too gummy?
- 2) How does unanticipated shot-blasting or skim-coating affect the project's timeline? What are the costs?
- 3) Will dust containment be necessary to avoid air quality issues in other parts of the building?
- 4) Can you afford to wait 72 hours for results from vapor/moisture testing of clean shot-blasted slab? If not, and moisture becomes a problem after the floor has been laid—causing tiles to lift, for instance—how will you handle the problem?
- 5) Based on the results from moisture/vapor testing, how much moisture mitigation is necessary? How will you go about moisture mitigation? And what is the cost?
- 6) Who will pay for all of these unanticipated costs?

The above list is by no means exhaustive. And these costs do not even take into account the expenses associated with losing the use of the space or the cost of shutting down or extending the downtime of a production operation. Unfortunately, regardless of how bad things get, once demolition begins, it cannot be stopped.

The point is, no one likes unexpected bad news and no one wants to pay for problems they thought someone else should have predicted.

The solution: Using the right conductive adhesives to install new ESD floors over old tile.

Given the unknowns associated with floor prep, no facility manager wants to gamble on seeing a project finished behind schedule and over budget. In the high stakes technology marketplace, there's little time for shutdowns. Few technology-reliant operations have the luxury of being able to wait extra time for their new ESD flooring installation. Never mind spending the time and money necessary to fix a problem after the floor is installed.

In the hope of finding a way around the floor prep problem, more and more facility managers are asking for ways to install new ESD flooring over old tile or old epoxy coatings. In response to their inquiries, several manufacturers have developed adhesive technologies that enable the installation of new ESD tile over old tile and epoxy.

ESD Adhesive Technologies

Old technology, carbon-loaded conductive adhesives are black. Because these adhesive were being asked to bond two essentially nonporous surfaces (vinyl or rubber over old vinyl), adhesive curing could require anywhere from several days to a week. Obviously, few companies can afford to wait that long for their new ESD flooring to cure. And curing is an invisible phenomenon. Once the floor appeared to be finished, production managers would insist on moving back into vacated spaces. Because the adhesive had not yet cured, bonding between the floors was usually inadequate and sometimes poor—and a compromised bond can never be improved without starting over. To top it off, compression from rolling carts and foot traffic, particularly if the new ESD floor was a

conductive carpet or vinyl tile, would often cause poorly cured viscous black adhesive to seep through the seams, getting on people's shoes and tracking all over the facility.

One solution to the black adhesive problem was the introduction of dry adhesives. Dry adhesives are packaged like one big six foot wide roll of double-sided tape. Though a good concept—in theory at least—the cost of dry adhesive is a big detractor. Dry adhesives cost between \$.75 and \$1.00 a square foot for the material, in addition to greater than normal costs for installation. The rolls are clumsy for installers to handle and the installation procedure requires extreme dust and dirt removal to avoid compromising the bonding strength of the tape-like membrane.

Adhere MC Conductive Releasable Adhesive solves the problem at a fraction of the cost

Recent advances over the past ten years in adhesive technology have resulted in a new adhesive that solves the floor prep dilemma—at a fraction of the cost of dry adhesives.

StaticWorx clear conductive releasable MC Adhere adhesive relies on conductive fibers, rather than carbon, for conductivity, so seeping black sludge is never a problem. Unlike old technology black adhesives, MC Adhere is free of VOCs and there's no odor during spreading and drying. Adhere MC is allowed to dry before tiles are placed so installers are able to install tiles easier and faster without the usual mess associated with wet cure carbon-loaded epoxy and acrylic adhesives.

With Adhere MC, tiles can be installed in small or large phases, right over the old floor. That means, the installation can take place in an occupied facility—in tight spaces with minimal movement of furniture or machines and without interruption to ongoing operations. Best of all, secured tiles and sheet flooring are ready for traffic almost immediately. Some clients, such as the FAA, move back into their space - literally - as each new conductive vinyl, antistatic carpet or conductive rubber tile is placed.

Although Adhere MC is releasable, it actually provides a permanent bond until there is reason to physically move or replace a tile. At less than \$.25 a square foot plus normal installation, MC Adhere can save thousands of dollars—and prevent unanticipated shutdowns and budget over-runs.

As one medical electronics manufacturing manager put it: "Our existing vinyl floor was in great shape and we were able to install ESD tiles right over it. I'd rather deal with the devil I know than one I don't. Just one week of unforeseen shutdown would cost this company \$1,000,000.00—and," he added reluctantly, "my job."

MillennialNet Case History: ESD rubber Tile Successfully Installed Over Poorly Loose VCT

In certain cases, Adhere MC enables clients like MillennialNet, a Burlington MA developer of wireless sensor networking systems, to cover old and poorly laminated vinyl floors without venturing into the *Pandora's Box* of demolition and floor preparation. Like many electronic manufacturers and developers, MillennialNet leases their space from a property management company so they scrutinize all facility purchases and upgrades. In the case of ESD flooring, Millennialnet did not want to make costly and possibly incalculable structural improvements to a building they did not own. Instead of removing the old floor, Steve Paulino, Millennialnet's facility manager, covered it with the combination of Adhere MC and StaticWorx Symphony Series conductive rubber tiles. He chose this solution because he knew he could ignore an obvious problem yet still provide his facility with a badly needed ESD flooring solution. For about the same cost as static mats, their development engineers can now handle static sensitive circuits on ESD flooring that is attractive, well secured and meets the most rigid ANSI/ESD quality standards. The best news: MillennialNet has the option of peeling up their investment and reusing their ESD tiles elsewhere if and when their lease expires.

Hundreds of clients—including the FAA, Hewlett Packard, Brooktrout Technologies, Lockheed, Benchmark Electronics, the United States Military and many others—have used Adhere MC to install ESD flooring directly over their old floors. Before you tear up your old floor, contact us to see if Adhere MC might be a better solution. 617-510-2296.

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