

Commercial CONSTRUCTION

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Polished Concrete Gaining Ground in Retail, Hospitality

Eneref Institute reports how Ferrari sports car designer Pininfarina as well as others specifies hygienic polished concrete for San Francisco's Keating Hotel.

Stepping into a room with freshly cleaned carpet or radiantly polished tiles probably goes farther than any other factor in making us feel as though we have just walked into a clean, germ-free space. However both carpet and tile require constant and costly maintenance to stay shipshape. This is one reason why a new flooring trend is afoot for retailers, restaurants and hotels, which all serve the public in a way that makes cleanliness crucial to sales.

Concrete, long relegated to industrial facilities, is getting a facelift due to a new sustainable flooring technology that turns concrete floors into something that looks like polished marble, is easy to keep clean and is good for the environment. This new technology is polished concrete; a multi-step fine grinding process that transforms an existing concrete floor surface into an entirely new floor with a sheen. Polished concrete floors can cost less than half as much to maintain as vinyl composition tile because VCT requires the laborious process of stripping the old wax off and then hours of buffing and shining the new wax.

And polished concrete can be as bright as a glass mirror. "You can actually walk up to the showroom and see

the blue sky shining in the floor, that's how shiny it is," said Richard Smith, Ag-Pro's general service manager in Arkansas, who installed the floor in two of its John Deere retail showrooms.

But even in hotel rooms, where car-

pet the design and construction of the San Francisco Keating Hotel without the usual hotel room carpeting. Pininfarina met with architects and hotel designers in Europe to discover the biggest issues they had with hotel rooms. The number one concern was the cleanliness of the rooms.

"Carpet often looks dirty," said Francesco Fiordelisi, the corporate and product communication manager for Pininfarina, "what takes the most time in terms of cleaning a room? If the room has carpeting, it is the floor."

"Our floor system was chosen to be an easy and thoroughly cleanable surface, thus eliminating any germs that get into and stay within carpet. Addi-



Chemical densifiers used in polished concrete flooring seal off any pores that water or contaminants can penetrate giving a sanitary surface.

pet has been king, Ferrari sports car designer, Pininfarina, has just completed

tionally, our flooring is non-allergenic, catering to allergy-sensitive guests"

said Keating Hotel owner Edward Kaen.

Retailers who need to squeeze every penny out of repairs and maintenance budgets are finding that floor tile has become a costly burden. Typically the coat on top of VCT is burnished and buffed to maintain its shine. But periodically the coat builds up and requires that it be stripped off, and the process begins again.

Polished concrete, on the other hand, is inherently easy to clean. The polishing process reduces the surface area, or pores, that dirt can get trapped in. The floor has a very flat, smooth surface texture, so the dirt stays on top. It even requires less soap.

Retailers have long known that a gleaming, clean floor helps customers feel better about their store; restaurants prefer polished concrete because it's more sanitary. VCT can hold dirt and bacteria that hide in the joints between tiles. And polished concrete is considered especially safe from slip and fall accidents.

Because of the shiny surface, a polished concrete floor actually holds up better to wear and tear than even straight concrete. The national trucking company, Con-Way Freight, replaced its straight concrete floors in two truck maintenance facilities with polished concrete.

According to Ed Arciniaga, construction manager for Con-Way Freight, the new polished concrete floor was impervious, not only to normal wear and tear, but also to the kind of abuse you'd expect from a trucking company's maintenance operations.

You can do more on the polished

concrete floor without worrying about whether or not you are going to damage your floor coating. One reason the floor is so resilient is that the concrete is treated with chemical densifiers to resist the absorption of liquids. The resulting surface has an increased mass and compression strength and elevated pH levels that reduce acid activity and penetration.

Both the installation and maintenance of polished concrete floors have positive environmental benefits. According to The Eneref Group, polished concrete floors contribute to potential LEED points in at least three categories. In the energy and atmosphere category, polished concrete could contribute to LEED points because they don't set VOC vapors into the atmosphere and because the sheen actually increases the room's ambient light. In the materials and resources category, the technology increases the lifespan of the already existing concrete floors.

To maintain air quality during the installation process, high-efficiency HEPA vacuums should be used while grinding. That way, virtually no dust is released into the building, preventing any contamination as well as keeping the work environment healthy and dust free.

Sometimes epoxy is used instead of polished concrete, but that can have negative consequences. For example, with epoxy, retail store customers are not able to get back on the floor right away, as with polished concrete. Work done at night still allows a store to open in the morning. Epoxy needs time to cure. Even large polished concrete floors can be completed in just days, and operations are never really inter-

rupted during the flooring process.

Typically polished concrete floors are swept and mopped a couple of days, depending on the environment. The very busiest big-box retail stores clean their polished floors more than once a day, but a low-volume retailer may clean the floor as infrequently as once every two weeks.

The annual estimates for cleaning and maintaining a nice bright shine on polished concrete run as little as .09 to 25 cents per square foot depending on what level of shine you want to maintain, compared with 60 cents to \$1.05 for VCT. The payback for installation is recovered quickly because of the low maintenance cost.

Water is much friendlier to polished concrete than to tile, as one retailer realized after some water pipes broke and flooded the floor. The moisture began to wreck havoc on the tile. During a flood, tiles begin to push upward and eventually the tiles needed to be replaced. ●



This article is an excerpt of the future Eneref report which assesses the impediments to building zero-energy urban communities in the US. A companion film documentary, The Eneref Project, will seek to demonstrate to key decision-makers how zero-energy communities can be commercially viable.