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February 2008

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LEED FOR FLOORS



New energy efficient construction techniques demand new approaches to flooring. ■ By Bill Imhoff

MODULAR ACCESS FLOORS



Advanced Micro Devices Corporate Campus in Austin, Texas features InterfaceFlor carpet tiles on access flooring.

In Austin and across the country, commercial buildings are no longer being built like they used to be and are becoming greener by the day. For building owners, tenants, their communities—and the flooring contractors who are up to speed with new building technologies—that's a good thing.

According to McGraw-Hill analysts, in just three years the green building market will account for as much as 10% of commercial construction starts. This green growth offers great opportunities for everyone from product manufacturers, to specifiers and contractors.

Innovative products like modular access flooring, which is becoming more common in office projects, is versatile, green and offers a wide array of design options. Flooring contractors need to stay on top of these trends.

"There was a time when green buildings were seen by the industry as trendy, risky and unnecessarily expensive," says Timothy J. Norton, a LEED accredited architect with Carter & Burgess. "But those days are gone."

In cities like Austin and Dallas, building requirements are incorporating sustainable design to reduce energy consumption and environmental impact. "The green movement is huge," says Claire Balfour of InterfaceFlor. "The everyday person is really starting to think about what they build. Eventually, the LEED terminology will disappear because that will just be the way we build things, the industry standard."

Intertech Flooring, headquartered in Austin, has in the past five years managed more than two million square feet of LEED certified or pending projects. Teams from Intertech have also been on site at Advanced Micro Devices' (AMD) state-of-the-art design and administrative campus. There, sustainable flooring product choices and installation techniques

will be critical components in achieving the desired LEED certification.

The AMD project serves as a good example of the diverse flooring product knowledge and new installation techniques expected from today's flooring contractor.

Access Flooring Goes Mainstream

Access flooring is a modular system of architectural floor panels installed on pedestals above the structural floor to create an easily accessible underfloor space. Initially, these systems were widely used in clean rooms and in spaces with a lot of electronic equipment, such as control rooms and computer rooms. But with the arrival of the high-tech office, demand for access floors is rising rapidly. Owners need their buildings to be "technology-ready," with ample power, voice, and data services that are easily accessible.



Access flooring under construction.

"The old technology of the computer room now is going into the general office area, so power, voice and data can come right up to a person's desk from under the floor," says Bill Embrey, Intertech's director of access flooring.

Access flooring installations, like at AMD, typically include both the raised flooring, which itself has green properties, and the underfloor air and modular power distribution systems, which improve energy use, comfort control and air quality. In fact, the benefits of access flooring are so compelling that four of the AMD project's five buildings, totaling 653,000 square feet, feature it exclusively.

Underfloor Air Improves Quality, Efficiency

Underfloor air distribution systems deliver air through diffusers in the floor to maintain comfort and indoor air quality only in the occupied lower portion the room. These systems are increasingly popular alternatives to the traditional overhead systems, which condition the air in the entire room.

As access floor systems become more common, project managers and installers have to understand the much broader installation issues that encompass not just the floor, but what will be installed beneath it. They either install the underfloor

systems, or work hand-in-hand with HVAC contractors to ensure an integrated installation.

In the space between the access flooring and subfloor, AMD has ample room for its power, voice and data boxes and low-volume air diffusers. It also provides the flexibility to upgrade mechanical, electrical and electronic systems later on.

Raised Floor Options

Installers have to work with all types of access floor panels: all-steel, concrete, aluminum, and wood. While all-steel floor panels are lightweight, easy to handle, can carry a high load and are noncombustible, concrete floors are a good choice for offices and equipment rooms.

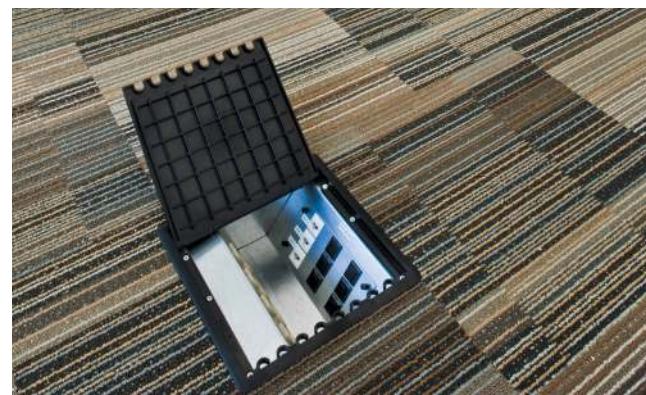
For the AMD project, Intertech installed the Haworth TecCrete system, panels of 1 1/8" thick concrete and steel, half of which is recycled content. "The TecCrete floor doesn't have the springy underfoot feel of a welded steel access floor and is much quieter than other options," says Embrey. "It actually feels like a concrete slab underfoot."

Adjustable height steel pedestals are located under the corners of each panel. Installers attach the pedestal base to the underlying concrete slab or steel deck by either mastic or mechanical fasteners. Then each corner of the panel is screwed to the pedestal head. "The system delivers a solid walking feel, and the laser leveling factors out any irregularities that may be in the concrete slab," says James Thompson of Haworth.

Better Appearance

Access floors can be finished in a number of different materials, providing nearly limitless design options. For offices, panels can be covered in carpet, vinyl, wood, or high pressure laminate. In clean rooms with floating floors, panels can be finished in a variety of conductive and nonconductive coatings. In some areas of the AMD project, architects Graeber, Simmons & Cowan opted to leave the concrete surface uncovered. "The exposed concrete surface on the TecCrete panel is beautiful enough to leave bare, which is something you can't do with conventional steel panels," Thompson says.

For the primary access floorcovering at AMD's Lone Star complex, however, the design team chose InterfaceFlor's Tac-Tiles, which support AMD's sustainable design goals.



Looking into an electrical box under access flooring.

"For this project, AMD purchased about 65,000 yards of carpet, which equates to 1,151 tons of carbon dioxide emitted or about one year's electrical use by 136 households," says Interface's Balfour. Interface adheres to a climate-neutral manufacturing philosophy, calculating how many greenhouse gases are emitted from its products throughout their life. The company then invests in carbon offsets. "The U.S. Green Building Council now is awarding LEED innovation credits to projects that use these climate-neutral products," says Balfour.

Intertech's director of production Jonathan Barton oversees the TacTile installation. "We started using this system in 2005," he says. "Because it is a completely different installation approach, we conducted training for our teams with an Interface tech rep. Installing carpet tiles is pretty simple and the glueless process makes installation even faster and cleaner than the traditional methods."

The TacTile installation contributes to several green properties that appealed to AMD designers. First, InterfaceFlor modular carpet is produced on a recycled backing called Glasbac RE. "This is post-consumer material, stuff that would otherwise have been in a landfill," says Barton. "It's ground up and made into backing that is 100% recycled content." In addition, the backing is produced on a 100% methane gas-driven machine.

Second, it generates minimal waste. Manufacturers are increasingly buying back their scrap for recycling and are designing patterns that minimize waste.

Third, TacTiles require no adhesive, which reduces the environmental footprint by 90%. Instead of glue, InterfaceFlor uses 3" square stickers that attach to the intersecting carpet

edges or corners of the carpet. The result is a free-floating application, not glued to the floor itself.

When a company relocates, the carpet tiles can be easily removed and reused.

Staying Ahead of Trends

As access floors migrate into general office spaces, the flooring contractor reaps benefits as well. Installation teams don't have to deal with adhesives and the potential for unpleasant vapors. They also make installation easier because installers don't have to spread an adhesive out and wait.

Intertech was fortunate to get involved with access flooring and other sustainable flooring options early on. The opportunities abound for flooring contractors willing to break out of traditional approaches and immerse themselves in mastering the complexities of green flooring.

"Architects are starting to look at manufacturers and contractors who know green, and those that don't get on the bandwagon will be left behind," says Balfour. "The norm is

going to be green building, and if you don't learn it, you will not have an opportunity to even bid on a project." ■



• THE AUTHOR

Bill Imhoff is president and CEO of Intertech Flooring, which is headquartered in Austin's growing high tech area. His firm has managed more than two million square feet of LEED certified or pending projects in central Texas in the last five years alone.



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Green building demands smart flooring choices. Begin your next project with the flooring company that leads the industry in LEED experience - Intertech Flooring. Our access flooring and LEED experts can guide you to the best flooring solutions for a healthy building, and healthier environment.

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