



Flooring materials, such as polyvinyl chloride (PVC) and some adhesives, can off-gas volatile organic compounds (VOCs), which have been shown to cause a range of health complications. Photo courtesy of ECORE International.

## Club Flooring Choices Can Affect Indoor Air Quality

**OVERLAND PARK, KS**—Although environmental awareness is rising among fitness facility operators, many of them remain unaware that flooring choices can affect indoor air quality and have the potential to negatively affect members' health.

"Awareness of indoor air quality is still sort of fresh in the industry," says Kurt Broadhag, president of K Allan Consulting, Long Beach, CA, a firm specializing in health club design and management. "When people think about indoor air quality, they usually think about the HVAC (heating, ventilation and air conditioning) system and ventilation."

A growing body of evidence suggests that ingredients commonly used in flooring materials, such as polyvinyl chloride (PVC), release volatile organic compounds (VOCs) that have negative effects on health and wellness. Since fitness facilities are in business to make people healthier, this disconnect is ironic, notes Donald DeMars, CEO of Donald DeMars International, West Hills, CA, a planning and design firm specializing in fitness and health care facilities.

"Here we are, professionals building

a building to make people healthy, but we're putting chemicals into the air," he says.

Increased attention to green building materials has made architects and designers more aware of potential hazards associated with VOCs, but that doesn't always trickle down to club owners, says Rich Campbell, executive vice president for sales and marketing at ECORE International, Lancaster, PA.

"For club owners, the effects of indoor air quality on the health of their members and business may be more easily overlooked," he says. "Many are likely unaware that the atmosphere of their facility may be exposing members to harmful chemicals that could lead to serious health complications. Volatile organic compounds emitted by common surfacing products, such as carpet, vinyl, rubber and adhesives, have been proven to result in a wide range of moderate to serious health concerns."

According to the U.S. Environmental Protection Agency (EPA), concentrations of many VOCs are up to 10 times higher indoors than outdoors. The EPA found that some resilient flooring materials and adhesives "off-gas" VOCs for a period of

time after installation. And the Healthy Building Network found that VOCs from flooring materials off-gas slowly and contribute to long-term problems.

Indoor VOCs can cause a multitude of health issues, including headaches, loss of coordination, nausea and irritation to the eyes, nose and throat. They also can damage the liver, kidneys and central nervous system. In addition, some VOCs have been shown to cause cancer in both humans and animals.

Although no federal standards exist for VOCs in non-industrial settings, many states are enacting legislation to regulate their use.

"In an increasing number of states, the use of VOCs is being legislated, and only in those areas are we even asked about the use of VOCs," says Steve Chase, general manager of Fitness Flooring, Indianapolis. "I'm not sure that club owners are aware of it, but we certainly are asked about it quite often by architects and designers. Fortunately, our products are eligible for LEED points for indoor environmental quality."

In lieu of comprehensive federal regulations, the Resilient Floor Covering Institute, an association of flooring

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## SUPPLIER SIDE



The Resilient Floor Covering Institute developed the FloorScore program, a third-party certification program to test products' effects on indoor air quality. Photo courtesy of ECORE International.

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manufacturers and suppliers, introduced the FloorScore program in 2005. It is a voluntary certification program for flooring products that meet indoor air quality requirements for low-emitting building materials. FloorScore includes a building materials emissions testing program that requires both independent laboratory testing and third-party certification to show compliance with California Section 01350 VOC emissions limits.

Many manufacturers are offering more environmentally friendly products in response to increased awareness about VOCs and indoor air quality. For example, products by ECORE International are FloorScore certified for low-VOC emissions, Campbell says. And the company's Everlast flooring with Nike Grind supports low VOC emissions and is PVC free.

Regupol America, Lebanon, PA, is seeking FloorScore certification to ensure its products meet or exceed current VOC guidelines, says John Aten, vice president of sales and marketing for Regupol. In addition, the company follows California guidelines for VOCs in adhesives, he says.

Centaur Floor Systems, Santa Barbara, CA, has several products that qualify for LEED certification. The company also developed recommendations to decrease VOC levels in flooring materials or adhesives in its maintenance system, says Carla Lieblein, marketing director of Centaur.

Broadhag recommends that club owners hire an architect to be sure flooring choices meet guidelines for VOC emissions.

"Health club owners tend to do their own buildouts, but the architect drives what's chosen for the project, and they have more awareness [about health issues and regulations]," he says. "As long as you hire a professional, you can depend on architects and designers to be up-to-date on regulations." —Stephanie Bloyd

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