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Are hard surface floors really greener?



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More and more long-term care and similar facilities are now installing hard surface flooring including tile, cement, terrazzo, etc. instead of carpeting.

Of course, floor-covering types have always varied in popularity, but this move toward hard surface flooring has now continued for a number of years.

Among the reasons often cited for this change is that hard surface flooring is less costly, lasts longer, and is easier and cheaper to maintain than carpeting. However, while it cannot be denied that hard surface flooring is likely to last longer than carpeting, there are studies that question if it is actually easier and more cost effective to maintain.

Another reason mentioned for the trend toward hard surface flooring is the belief that it is healthier overall for building users and, therefore, more environmentally friendly. For instance, just a few years ago a Canadian interior designer who specializes in green interiors recommended to her clients that they remove "their old, unhealthy carpet" and, if nothing else, just paint the subfloor below. Apparently, this was deemed healthier and greener than carpeting. The reasons for her advice were that carpet fibers harbor dust mites, mold, mildew, soil, and fleas, and that these contaminants can become trapped in the carpet and are not removed by vacuuming. Further, the designer indicated that cleaning carpets with a carpet extractor removes

only surface-level soiling, leaving behind deeply embedded contaminants that can become airborne due to foot traffic, thereby negatively impacting indoor air quality.

It is reasoning like this that has driven the surge in the use of hard surface flooring — many building owners and managers see this as a healthier and more environmentally responsible option for their facilities. But upon closer look, carpeting may actually be the greener choice after all.

Carpets and Contaminants

The view that carpets house contaminants that can be stirred up by foot traffic and damage indoor air quality is an old perception. In fact, it was a good 40 years ago that Sweden led the way in removing carpeting from schools because of this belief — with surprising results. As schools removed their carpeting, the number of allergic reactions reported by children and others went up virtually in direct proportion.

We now know that carpeting actually holds and traps contaminants, keeping them from becoming airborne — something that hard surface flooring clearly cannot do. While it may seem counterintuitive, carpets actually protect indoor air quality, which is one of the key goals of operating a facility in a more environmentally preferable manner.

This finding was recently confirmed by a 200-page study released in 2014 by the Airmid Healthgroup. The study involved six chambers; five of these were carpeted with different types of carpeting, while one had a hard surface floor. Under controlled conditions, the carpets were contaminated by introducing aerosolized dust mites and cat allergens into the chambers. A so-called “room disturbance” was then created in each chamber with the goal of causing the dust mites and allergens to become airborne. Once this happened, the chambers were analyzed, revealing the following key results:

The different carpet types varied in their effectiveness at protecting indoor air quality, but “in general, all were [more effective at protecting indoor air quality] as opposed to [the] hard surface floor.”

Some types of carpet fibers, including nylon (the most common type of carpet installed in the United States), were more effective than others.

The study did point out one caveat: Carpets must be cleaned regularly in order to effectively protect indoor air quality. This means vacuuming with high-performance vacuum cleaner to remove dry soiling and the use of hot-water carpet extractors to deep clean the carpets on a regular basis (a cleaning method that the researchers specifically recommended).

Of course, proper cleaning and maintenance are required to care for hard-surface flooring as well, and this too can contribute to indoor air quality. The only problem is that many of the cleaning processes and products used to clean and maintain hard surface flooring — such as dust mopping, stripping, refinishing, etc. — have an adverse impact on indoor air quality.

So, are hard surface floors truly a healthier, greener option for facilities versus carpeting? It appears this belief, to use an old expression, may no longer hold water.

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