

WHO IS TO BLAME FOR RESILIENT FLOORING INDENTATIONS?

Mistakes made in flooring selection or during the installation process are the usual culprits of indentations in resilient floors.



It is seldom that hard-surface flooring indentations are the result of flooring material failure. The source of indentations can typically be traced back to installation error, installation system failure, point loads exceeding the flooring system limits or an extreme environment that compromises the flooring. Most important, the flooring manufacturer is usually NOT the culprit when delegating blame and looking for someone to pay for corrective measures.

My travels have taken me all over North America investigating floors that were initially considered, by an end user, architect or general contractor, as substandard flooring material due to indentation damage. I want to share some insights that give a clearer understanding of the nuances associated with hard surface flooring indentations since I have been able to identify, through on-site analyses, that flooring materials almost always perform as expected based on the manufacturer's product specifications.

Flooring manufacturer product literature always includes ASTM test results that define the limits of a flooring product by looking at point loads and the floor's recovery after exposure to that point load. This information, found in the performance specifications for a resilient floor, allows an architect or interior designer to understand the capability of a flooring material to bounce back from heavy point loads. This is important information when they specify a floor for an extreme environment that may require greater than typical resistance to indentations.



When load points for a resilient floor fall within the specified limits, flooring failure due to indentations is most often caused by installation errors. These errors include lack of floor prep, failure to roll the flooring after installation and proper selection and application of adhesive.

Using the right adhesive and doing the prep work before application is a big key to success in hard-surface flooring installation where point loads are extreme. A frequent problem is too much adhesive due to incorrect trowel notch or failure to remove a pre-existing adhesive before



Photo 1



Photo 2



Photo 3

proceeding with the installation. Photo 1 shows a severe indentation in a school that originally had carpet in the classrooms. As you can see by **Photo 1**, the surface of the flooring is severely damaged, but **Photo 2** confirms the correct overall width of floor protector had been utilized on the furniture in this school (minimum 1" in diameter). Finally, **Photo 3** shows the culprit...a lack of prep work seen by residual carpet trowel ridges left behind and the new adhesive spread over the top of the old ridges. The result is adhesive displacement where excess adhesive was pushed to the perimeter of a pressure point causing indentations in the new flooring.

Photo 4 is a simple case of the flooring installer not rolling the floor with the recommended three section roller after placing the flooring material into the adhesive. A close look at the area beyond the indentation damage shows the ridges as they would appear before rolling. As you can see in the photo, this indentation was caused by a point load that simply flattened the ridges. The required step that was omitted left the surface of the flooring appear to be indented, but in actuality, the flooring only followed the contour of what was underneath.



Photo 4

Photo 5 shows the indented surface of a floor in a hospital room under a patient bed. The flooring manufacturer’s literature called for the use of epoxy adhesive under the footprint of the bed to avoid indentations. Specialty adhesive is often required where point loads will be heavier and more abusive than usual so that the installation system can withstand the trauma of the environment. Taking the time to follow the flooring manufacturer’s instructions step by step is critical. **Photo 6** clearly shows the damage by the heavy point load of the wheels on the bed where, after investigating, it was



Photo 5



Photo 6

discovered that the adhesive specifications were not followed by the flooring installer.

Photo 7 is a classic case of a point

load exceeding the limits of the floor and leaving a real depression in the flooring material that never fully recovered. The problem could have been eliminated with more attention to point loads during the flooring specification process or if a glide cup had been used under the equipment to disperse the load and prevent permanent damage.



Photo 7

Last but not least, **Photo 8** shows the outcome when prep work is bypassed and holes in the concrete substrate are not patched. Indentations are typically permanent and are seldom the fault of substandard flooring material. Mistakes made in flooring selection or during the installation process are the usual culprits of indentations that cost a lot of anxiety, time and money to resolve. In almost every case, it is not the flooring

manufacturer who should foot the bill when indentations show up on a new flooring installation.



Photo 8