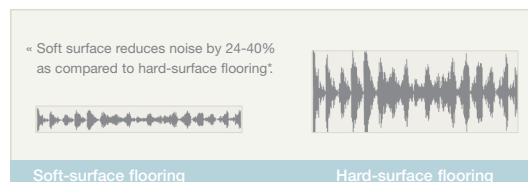


# Carpet In Schools: Creating High-Performance Learning Environments

Carpet is an interior finish that greatly enhances school at a great value compared to furniture and other finishes. Schools take advantage of the design value that carpet brings to halls and classrooms, yet it is a flooring solution that addresses many more important issues for schools in addition to appearance. This paper will address the critical areas – comfort, health, performance, design, environmental – where carpet excels as the flooring solution of choice for any education setting.

## COMFORT

Creating a comfortable classroom setting will greatly impact the overall learning environment. Carpet addresses several of the factors that contribute to the ideal classroom.



- **Acoustics** – Playground noise, chatter from other rooms, the school’s HVAC system, or any other noise from outside of the classroom is a distraction to students. Noise makes it difficult to hear the teacher’s instructions, making concentration difficult. A study by the American Society of Interior Designers reveals that carpet enhances acoustics within the classroom by absorbing sound. In fact, carpet is over 10 times more efficient in absorbing sound than other flooring options.<sup>1</sup>

- **Safety** – By providing better traction, carpet leads to less occurrences of slips and falls. Seventy-seven percent of teachers believe that carpet prevents slips and falls, creating a much safer classroom for students.<sup>2</sup> Should a fall occur, a carpeted floor provides a much softer surface that decreases the likelihood of injury. As a non-glare surface, carpet also reduces stress from eyestrain.

- **Leg Fatigue** – Soft floor materials like carpet can result in less postural discomfort when standing compared to hard surface flooring.<sup>3</sup> Not only does this impact a teacher’s heart rate, it also leads to a better perception of their own comfort level after being on their feet for more than two hours.<sup>4</sup> A more comfortable teacher is better equipped to incorporate enthusiasm, excitement and attention into their teaching efforts.

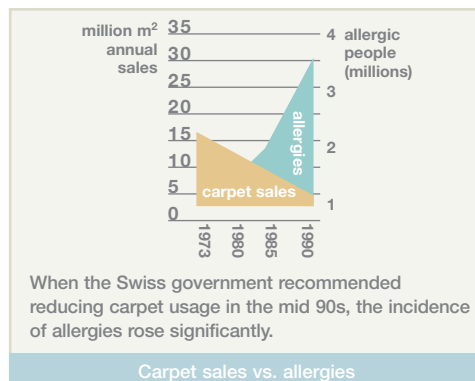
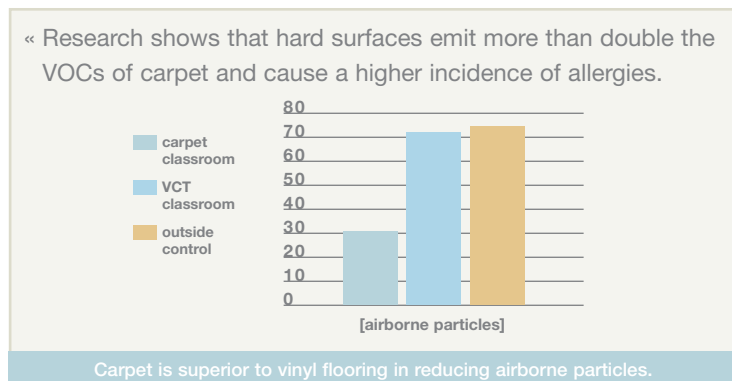
## HEALTH

In addition to creating an environment that promotes learning, schools must ensure the well-being of students by preventing volatile organic compounds and mold growth.

- **Indoor Air Quality** – Carpet traps airborne allergens within its face fiber, keeping them contained until they are removed via regular vacuuming and maintenance. On the other hand, walking on hard surface flooring disrupts allergens that are resting on the floor and sends them into the breathing zone.<sup>5</sup> After carpet was banned in public buildings in Sweden and replaced by hard surface flooring, the number of allergic reactions increased. This affirms carpet’s ability to help reduce airborne particulates.<sup>6</sup>

- **Mold Prevention** – Clean carpet does not support the growth of mold, even at elevated humidity levels. Facilities that effectively control moisture levels and employ a proper maintenance schedule will not have mold issues. Studies show that HVAC systems, when run improperly, are the biggest source of mold spores.<sup>7</sup>

- **Volatile Organic Compounds** – Carpet is one of the lowest emitters of volatile organic compounds (VOCs) among building materials, even lower than paint. The low level of VOCs emitted by new carpet drop significantly after 24 hours. VOCs will drop even faster with fresh air ventilation. Green Label Plus certified carpets are optimized and tested to meet the indoor air quality guidelines outlined in California’s Collaborative for High Performance Schools.



## PERFORMANCE

Cost of maintenance and a surface's ability to be cleaned must be factored into any purchase.

- **Life-cycle Costs** - The initial cost to purchase performance carpet is higher than other surfaces. When installation and maintenance costs are factored in to the purchase, however, carpet is the more cost effective solution. Carpet is actually up to 65 percent less expensive to maintain than hard surfaces, with hard surfaces needing more than twice the number of cleanings compared to carpet. Hard surface cleaning supplies are also about seven times more expensive than necessary supplies for carpet.<sup>8</sup>
- **Pattern and Color** – A low density, tight loop construction carpet is the most functional choice for a school environment. Choosing the right color will help maintain the product's appearance for the long-term. Multicolored or dark colored designs will retain its appearance longer and wear better in high-traffic areas. Together with patterns, multicolored carpet will disguise soiling, keeping floors looking fresh for many years.
- **Backings** – Though unseen, a carpet's backing is a crucial factor in its design and performance. Backings offer moisture and antimicrobial protection to protect your facility and those that are there to learn. A lifetime warranty offers further protection against issues such as edge ravel and delamination.

## DESIGN

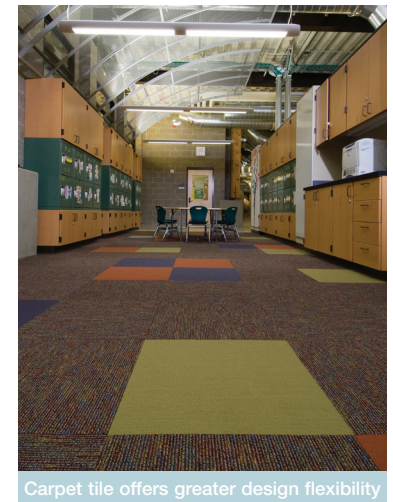
Carpet brings design and vitality into a space through its color, pattern and texture.

- **Aesthetics** – Carpet can be a subtle enhancement to any environment or it may play a dominant role in the overall design of a space. It plays an important, cost-effective role in creating and enhancing interior aesthetics. Carpet brings additional color into a space and can bring depth and texture to the floor for added visual interest.

## ENVIRONMENTAL



Carpet using Shaw's EcoWorx backing systems and Eco Solution Q nylon have the added benefit of being completely recyclable and contribute to LEED Certification.



Carpet tile offers greater design flexibility

- **Recyclability** – Carpet that is recyclable can be remade into carpet over and over again. This reduces the amount of raw materials used in the manufacturing process and adds more recycled content to products. Recyclable carpets do not add to landfill waste.
- **LEED** – Carpet contributes toward LEED for Schools certification through the U.S. Green Building Council. Carpet adds toward points for Recycled Content, Innovation in Design, Low Emitting Materials, and Regional Materials, among others.

Research and studies point to the overall comfort, ease of maintenance and performance benefits that carpet brings to learning environments. As a cost-effective floor covering, carpet provides a wealth of benefits to enhance classrooms at a great value.

<sup>1</sup> American Society of Interior Designers, "Sound Solutions," 1996.

<sup>2</sup> Beth Schapiro & Associates, "National Survey of Public School Teachers," 2001.

<sup>3</sup> Redfern MS, Cham R: "The influence of flooring on standing comfort and fatigue," American Industrial Hygiene Association Journal, vol. 61, no. 5, pp. 700-708, September - October 2000.

<sup>4</sup> Rys, Malgorzata and Konz, Stephan: "Standing Work: Carpet vs. Concrete." In: Proceedings of the Human Factors Society 32nd Annual Meeting 1988. pp. 522-526.

<sup>5</sup> Asbury, G. Cleaning and Foot Traffic Emissions Analysis. Test Number 0072198. Professional Testing Laboratory, Inc., Dalton, GA. unpublished data. 16 pages. May, 2002.

<sup>6</sup> Shishoo, R. and Borjesson, A.: "Allergy claims 'unproved.'" Carpet and Flooring Review (January 5, 1996).

<sup>7</sup> Berry, Michael A.: "Final Report of the HydroLab Project 2001: Flooring, Humidity, and Mold Growth" Carpet and Rug Institute, 2002.

<sup>8</sup> "Life-cycle Cost Analysis for Floor Covering in School Facilities" Institute of Inspection, Cleaning and Restoration Certification, 2002.