

## **In step with Carpeting**

Whatever your flooring needs, carpeting has them covered

*By Kathryn Sellers*

Carpeting is covering more hospitals floors these days, and for good reason. Not only does it offer slip resistance and physical and emotional warmth—which make a great first impression—designers have made great strides in construction, performance, styles and aesthetics. Here are some of the ways that carpeting is advancing, and, in the process, fitting the bill for more facilities.

### **Carpet capabilities**

The carpet industry is listening to what the customer wants, and it shows. New tufting machinery, computerized from design to machine, allows detailed cut and loop patterns, high-and low-pile heights, and up to 56 colors. Detailed, tufted patterns look like intricate woven goods are possible, and colors can be changed very quickly. Weaving loom technology is advancing for more color and design possibilities. This enables the industry to offer custom-designed products with a much quicker turnaround time.

Designers may take stock items and adjust the color to blend with other furnishings in the interior, or start from scratch with an idea for the pattern and—and along with the carpet designer—completely build a new pattern with their own coloration. Ideas can stem from hospital logos, wallpaper or fabric patterns, a design theme throughout a facility or geometric designs following the architectural features, such as curved walls or circular windows. Carpet manufacturers have adjusted their production to allow for smaller minimum orders and rapid sampling.

### **Fiber news**

Nylon continues to be the primary yarn used in health care carpeting, although olefin is continuing to gain popularity. Even with less resiliency, olefin provides cost-effective products for areas where rapid replacement is anticipated and budget is a strong factor.

The use of solution-dyed nylon is growing rapidly, because it is known to be hard-wearing, resilient and resistant to harsh cleaning, which is particularly important in the health care environment. Solution-dyed means that the color pigment is dispersed throughout the molten polymer as the fiber is made. Its colorfastness in the presence of large open windows—common in lobbies—is appealing. Fiber performance characteristics are tailored for specific applications to vary the luster level, the texture and soil-hiding ability. Added treatments for stain and soil resistance, antimicrobial and antistatic, are constantly improving.

### **What's new in backings?**

Standard latex back-coated carpets—using woven polypropylene fabrics for backings—have dominated the carpet market for a long time. For carpet to be glued, a unitary SBR latex back-coating is often used, offering high tuft-bind properties.

Latex-backed carpet is suitable and reasonably priced for many applications. However, specific performance needs for distinct traffic areas have led to a variety of new choices. For instance, polyurethane backings are

water-resistant and offer good density, more comfort underfoot, and sound insulation. They also minimize raveling and delamination, resist moisture presentation, add dimensional stability, and are good for spaces with heavy foot and roller traffic.

In addition to providing better ergonomics, cushion backing heightens the perceived value of carpet, because it feels plusher and softer. These products are used in glued-down installations in corridors and in lobbies.

Some new backings prevent the penetration of wet spills through the carpet to the cushion and subfloor. The products allow for a more complete cleanup of wet spills, minimize the wicking of stains, and reduce the possibility of unpleasant odors from underneath.

### **Narrow/modular trends**

Six-foot-wide carpet is increasing in use and is available in many designs with a variety of backing systems. The narrow width may provide cost savings where many hallways or other narrow spaces exist. But careful planning is needed to avoid more seams.

Where there is extensive use of electronic cabling in offices and areas with multiple computers, facilities might consider raised access flooring with attached-cushion modular tiles. Manufacturers offer low profile (2 5/8" high) systems, using as little vertical space as 2 1/2", a value when the ceiling height is only eight feet. Different size configurations and depths can accommodate extensive wiring and even duct work.

Modular tiles have increasingly distinctive designs. When the facility demands accommodation of flat electronic wiring, the facilitation of removal and installation, and /or flexibility in design and replacement, modular tile may be the best choice. The ability to rotate tiles where paths or soiling occurs is sometimes a better alternative than a complete replacement.

### **How to choose?**

The designer/specifier may know the coloration, texture and the basic physical characteristics required for a new building or a renovation; but how does he or she know if that carpet is the right one for the anticipated traffic and wear?

A specification guideline created by the Carpet & Rug Institute can help. From a classification table the end-use area is found and a guideline is suggested for choosing carpet in the moderate, heavy or severe levels of use. The designer or facility planner will then tell the manufacturer that this carpet will meet or exceed the appearance retention rating for the appropriate moderate, heavy or severe classification.

An example of a severe rating would be: for short term, greater-than-or-equal-to 4.5; and long term, greater-than-or-equal-to 3.5. There would also be a requirement that the carpet would meet or exceed the pile density of 4,000 ox./cu. Yd. This chart and rating scale helps to ensure that the carpet will endure heavy or severe traffic. The specification guidelines appear on CRI's Web site at [www.carpet-rug.com](http://www.carpet-rug.com).

### **What about IAQ?**

The carpet industry has made great strides in understanding how its product affects the indoor environment. In the late 1980s the carpet industry used peer-reviewed scientific research (by academic institutions, independent laboratories, and the industry) to scrutinize its products and understand their role in indoor air quality. The research showed that new carpet is one of the lowest emitters in the realm of building products and furnishings.

To minimize emissions even further, testing programs were initiated for carpet, carpet cushion and floor covering adhesives. The programs assist buyers or specifiers of all three products by identifying those that have been tested and meet stringent IAQ requirements.

During testing, samples are collected from the manufacturer's production process and are tested individually by an independent laboratory for chemical emissions, using sophisticated, dynamic, environmental chamber technology. Over time the standards have been made more stringent. Carpet, separate cushion products, and floor covering adhesives are tested for volatile organic compounds and must meet the emission criteria to display the "green label."

Why is this program valuable to health care personnel? Patients/residents and employees are assured that responsible, environmentally friendly products bearing the green label were chosen for the entire carpet installation.

A list of the products bearing the label also appears on the CRI Web site. Buyers should also follow the choice of a tested, low-emitting product with good installation practices (using carpet industry standards—CRI 104 Standard for Commercial Carpet Installation). Lastly, ensure that the old carpet is vacuumed before removal and the subfloor underneath is vacuumed to minimize airborne dirt and provide adequate fresh air ventilation during the installation process.

### **Upkeep methods**

After you choose the right carpet, you need to maintain it. The first step is dirt prevention. Outside conditions greatly affect the interior. Mats outside entrances can offer added dirt removal from shoes and help to prevent accidental injuries. The most common liability case is a slip-and-fall accident on slick floors or tripping over an obstruction. These slip-and-fall accidents (average cost per accident, over \$4,000) account for 33 percent of hospitalized injuries and 9 percent of fatalities.

Carpet is ideal inside entrances to keep dry soil and moisture at the front door, but it is important to use entrance mats or carpet that can be vacuumed daily, cleaned regularly, or removed, alternated, and cleaned offsite. Soil from the mats can be spread into the building. Mats and/or carpet are most effective when covering an area about 6 to 15 feet into the entrance, or about two to five footsteps.

Carpet, when maintained on a regular basis, is beneficial because it retains dust until it is vacuumed. Having all operating systems in good working order is also good preventive care. Replace air filters often, and inspect air ducts and intakes. Repair sources of moisture that damage ceilings and floor coverings.

You should implement a schedule-driven carpet maintenance program, planned from the blueprint of the building. This provides more effective cleaning and usually adds cost-effectiveness. Entrances and heavy traffic areas will be marked on the blueprint so that they get the most care.

The old 80/20 rule goes into effect here—spend 80 percent of the effort in 20 percent of the area. The 20 percent that needs the most vacuuming and cleaning includes entrances, corridors with more traffic, and transition areas between hard surfaces and carpet.

### **Schedule vacuuming**

Vacuuming is schedule-driven, and staff should not wait until the carpet looks dirty. Vacuuming must be performed slowly and methodically with commercial equipment that has strong suction, rotating adjustable brushes