

Low-Moisture Carpet Cleaning Methods

Problems can result during carpet cleaning, and when they do, they can be costly. Usually, the biggest danger is “overwetting,” which most often occurs when using older carpet extractors or poorly adjusted machines that suck water out at too low a pressure during the extraction process. But it also can occur when shampooing carpets or bonnet cleaning, especially when too much shampoo is applied.



Moisture that comes from overwetting is more likely to travel downward and condense under the carpet than evaporate into the air. And when it reaches a carpet’s backing, any number of problems can result:

- There may be a separation of the carpet’s secondary backing, essentially ruining the carpet.
- Some older carpets use jute as a backing. Excessive moisture may cause these fibers to shrink or tear.

- The dye in the carpet can bleed and cause discoloration.
- If the carpet remains wet for several days—more than 72 hours by many estimates—there is a good chance that mold and mildew will develop.

All of these problems are cause for concern, but the growth of mold and mildew can be the most serious because of the poor indoor air quality and health repercussions that can result. There are more than 100,000 different types of mold and mildew, and we are exposed to them all the time. Some have no effect on us, but others release toxins, and these can cause allergic reactions and illnesses, most specifically asthma.

According to the American Lung Association (ALA), more than 25 million Americans have been diagnosed with asthma. Some school districts have seen as much as a 160 percent increase in childhood asthma in the past 20 years, causing more than 14 million missed school days. And, it is estimated that more than 14.5 million work days are lost because of asthma, much of it the result of airborne mold and mildew spores.

Once a mold problem develops in carpet, removing it can be a problem. Cutting off mold's food supply, which is essentially the moisture that caused it, is the best line of defense. For professional carpet cleaners, this suggests that using low-moisture carpet cleaning equipment and systems is not only the best defense but the best

offense as well, preventing the formation of mold and mildew in the first place.

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“There are many ways to clean carpets,” says Steve Williams, Senior Vice President for Research and Development at U.S. Products, manufacturers of professional carpet cleaning, floor care, and restoration equipment. “The method used is often dependent on the condition of the carpet, how soiled it is, how large an area is to be cleaned, how quickly the work must be done, and how much time is allowed for the area to dry.”

According to Williams, with some carpet cleaning methods, especially shampooing and bonnet cleaning, the skill and diligence of the carpet cleaning professional can be crucial. They can determine just how well the job is performed and how much moisture is released into the carpet.

Some low-moisture methods, and their pros and cons, include these:

Absorbent Dry Compounds. This is the “driest” way to clean carpets because no moisture is used at all. Dry compounds containing detergents or solvents are sprinkled on the carpet. After up to 30 minutes of dwell time, these detergents or solvents dissolve oil films on carpet fibers, freeing the soil to be vacuumed out along with the compounds. Often this method is used in schools or public facilities where drying time is at a minimum. There is no danger of overwetting

with this method, but, although it can produce satisfactory results, some professionals find the method labor intensive and often more thorough carpet cleaning methods will eventually be necessary.

Foams. Foams contain very little moisture, making it unlikely that overwetting can occur. The foam is generated inside extraction equipment by mixing cleaning solution and air under pressure. It is brushed into the carpet fibers and then vacuumed out. But, with this method, Williams says that the low moisture content may be too little to remove soil in the cleaning process. "Additionally, some foams may not vacuum out, which can interfere with later attempts to clean the carpet using other methods," adds Williams, "and the chemicals can actual 'trap' new soil into the carpet's fibers."

Shampoo and Bonnet. Though different, both of these systems use a rotary brush machine to clean carpets. With the shampoo method, cleaning solution is released into the carpet through an opening in the rotary brush, which converts it to foam as it penetrates carpet fibers. There is a possibility that carpets can be damaged with this method by distorting carpet fibers. Experienced operators are essential. The chemicals used can deodorize carpets, retard future soiling, brighten the carpets, and speed drying.

With bonnet cleaning, an absorbent pad, or bonnet, is attached to the rotary machine. A detergent is sprayed over the carpet, or the pad is soaked in a detergent solution and then rotated over the area to be cleaned, removing soils that adhere to it. After employing either

system, the carpets are vacuumed to remove any remaining soils or chemicals.

“Both of these methods are commonly used in commercial office buildings, especially in hallways and meeting rooms,” says Williams. “They’re quick, require just a rotary floor machine, and, if done properly, introduce only low moisture. But problems can occur, especially if low-quality detergents are used. The professional may need to reclean certain areas to remove stubborn soils, causing increased moisture and overloading the carpets with residues that accelerate resoiling.”

Hot-Water Extraction. “In most cases, even if other carpet cleaning systems are used, carpets will eventually need to be cleaned using the hot-water-extraction method,” says Williams. “Most experts will agree that this is the most effective and often the safest way to clean carpets.”

With hot-water extraction, a prespray is used to loosen the soil followed by hot water injection into the carpet under high pressure and then removed—along with loosened soil. The heat of the water is important. Studies dating back more than 100 years report that the effectiveness of the cleaning increases as the heat exceeds 200 degrees Fahrenheit. Additionally, the heat can facilitate drying—decreasing the possibility that too much moisture will be left in the carpets.

A decade ago, many carpet extractors used too much water to clean carpets—as much as two or three gallons per minute—or had poor vacuum capability as mentioned earlier. The result was often overwetting. But, in the past few years, some manufacturers have introduced low-moisture extractors that use as little as .8 gallons of water per minute. Some of these units also incorporate agitators that gently loosen soil. “Not only is less water used, minimizing the chances of overwetting the carpets, but less chemical is used as well,” Williams says. “This also makes it a ‘Greener’ way to clean carpets.”

Carpet Industry Addresses the Issue

In what may be one of the most important events affecting the professional carpet cleaning industry in decades, the Carpet and Rug Institute (CRI), Dalton, Georgia, has developed a new testing and “Seal of Approval” certification program for evaluating carpet cleaning extractors. The system uses X-ray fluorescent (XRF) technology to measure soil removal as well as the extractor’s effectiveness recovering water from carpets.

The certification criteria include the issue of water recovery in carpet extraction equipment specifically because of the potential for mold to develop. Additionally, CRI believes too much water left in the carpet negatively affects its appearance and can damage carpet fibers.

Five truck-mount machine manufacturers but only one manufacturer of portable hot water extraction equipment received the CRI seal of

approval. “This program is significant for a variety of reasons,” says Williams. “It’s pushing the industry to develop more effective cleaning equipment to meet the cleaning needs of the customer and because several carpet manufacturers plan to require [as part of their carpet warranties] that CRI-approved products and equipment be used.”

This is a significant development for the entire carpet industry as well as the manufacturers of hot water extraction equipment. But, the best thing is that the consumer wins with better maintained carpet along with a longer carpet life and better appearance.

As most of the cleaning industry becomes Greener, reducing cleaning’s affect on the environment, we can expect the use of low-moisture carpet cleaning systems to become much more commonplace. Not only are they healthier—minimizing the chance for mild or mildew to develop—they also help increase the life cycle of carpeting, protecting our customers’ expensive carpet investment.