



## Building Air Quality

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### Carpet and Indoor Air Quality

In office buildings, both new and old carpeting can be a problem. New carpets can contain synthetic compounds, from mildew resisters and stain proofing chemical, to the fabric itself. Some chemicals within the carpet may off-gas during the early stages following installation, giving the "new carpet smell".

Older carpet, while it doesn't usually emit significant chemical gases, can be a host to biological and bio-chemical activity. This is increasingly likely if the carpet is in frequent contact with moisture, such as in leaky buildings or where the carpet is frequently shampooed. Another potential problem is with carpet dust, which may contain a variety of contaminants. This can be a serious problem, particularly in schools containing small children, since the greatest portion of the population in schools (children) are short and therefore closer to the source of contaminants.

There have been many articles written about carpet, particularly regarding the issue that its emissions might be a health problem. Some of these discussions have been created by test methods and experiments, which were performed unscientifically. Some tests performed by private laboratories, and involving the use of animals, were not able to be validated or replicated by US Government scientists. Eventually, the EPA announced to the Environment, Energy, and Natural Resources committee of the U.S. House of Representatives that "we were unable to replicate the severe toxicity described by Anderson Laboratories." But in response to dramatic press conferences and media coverage, the damage was already done.

Subsequently, the US EPA completed a dialogue with carpet floor covering industries, unions, public interest groups, and other Federal agencies to explore ways of reducing the emission of volatile organic compounds (VOCs) from new carpet and related installation materials, such as carpet cushion and adhesives. The dialogue was initiated as a pollution prevention program. As a result of this voluntary process, the carpet industry agreed to test new carpet floor covering materials for total VOC emissions and is exploring ways of lowering emission of VOCs from carpet products.

### Evaluation of New Information

The Carpet and Rug Institute (CRI) has gone on record as stating that "the carpet industry is committed to improving the quality of indoor air and reducing the emissions of volatile organic compound (VOCs)."

Since 1992, CRI has allowed carpet, which has been tested and meets the criteria for low chemical emissions, to carry the green and white CRI logo. This tells consumers that the product type has been tested by an independent laboratory and meets the necessary conditions.

### Tips for Building Managers

When installing new carpet, the following precautions are suggested:

- Talk to the carpet supplier. Ask for information on emissions from carpet.
- Ask the supplier to unroll and air out the carpet in a well-ventilated area before installation.
- Ask for low-emitting adhesives if adhesives are needed.
- Consider vacating the immediate premises during and immediately after carpet installation. You may wish to schedule the installation when office workers are out.
- Be sure the supplier requires the installer to follow **The Carpet and Rug Institute's installation guidelines. [HTML link this]**
- Open door and windows (if possible). Increasing the amount of outside air delivered to the space will reduce exposure to most chemicals released from carpet. During and after installation, use fans and

building mechanical systems (HVAC and exhaust) to exhaust fumes to the outdoors. Operate them during installation, and keep them running for 48 to 72 hours after the new carpet is installed.

- Contact your carpet supplier if objectionable odors persist.

Ensure that the building's custodial staff understands and follows the manufacturer's instructions for proper carpet maintenance

### **The Importance of Maintenance**

Regular carpet maintenance is essential to preserve a carpet's initial appearance. Regular and effective carpet cleaning with a well-designed vacuum cleaner, which uses a high-efficiency air filtration bag, can be very effective at removing indoor air contaminants from a building's occupied space. In addition, the removal of spots when they do occur, can help to avoid stains and the potential for fungal growth.

Carpeting should be cleaned using hot water and high-efficiency extraction methods. When deep cleaning through this method, it is very important that all of the moisture, the cleaning agent used, and the soil be extracted from the carpet. Follow-up procedures should ensure that the cleaned carpet is fully dried in 12 to 18 hours time. This too, will prohibit the potential growth of microorganisms.