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MCS: Interior Finishes

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For individuals with Multiple Chemical Sensitivity (MCS), selecting safe, healthy materials or products to furnish a home can be a challenge. Many materials that are labeled as environmentally friendly may not promote good indoor air quality (IAQ) (Wasley 2000).

For example, an environmentally friendly product may be produced from recycled materials to conserve resources, but this same product may be glued together with formaldehyde-based resins—unsafe for persons with MCS. Consequently, materials must be analyzed before they are selected.

There are safe, healthy interior materials or products for you to use in furnishing your home. You just have to do your homework before buying.

**Soft floor covering: carpet**

- Natural fibers: wool, cotton, or jute.
- Synthetic fibers: nylon, polyester, olefin, polypropylene.

Problems with carpet and materials
- Chemicals are used to apply carpet finishes such as stain resistance, etc.
- Some carpet pads and adhesives may contain chemicals.
- Poor maintenance will negatively affect IAQ.
- Dust, dirt, mold, and mildew will negatively affect IAQ.
- Carpet backing may or may not affect IAQ.
- Carpet backings made of natural fibers such as jute are best.

- The use of latex to adhere carpet to backing can cause poor IAQ.

Carpet installation methods to eliminate chemicals before a building is occupied.
- Unroll and air out new carpet in a clean, well-ventilated area.
- An individual with MCS should not enter the space during or immediately after the installation. This allows time for toxins to be emitted from the space.
- Open doors and windows to increase fresh air. This brings in fresh air for the installers and other occupants.

For 48 to 72 hours after installation
- Operate window fans and room air conditioners to increase the amount of fresh air.
- Ventilation systems should be in proper working order (EPA 1994, p. 21).
- After installation, create a maintenance schedule and use only chemical-free cleaning products.

Before you buy
- Do your research—on fibers, finishes, use of latex, and type of backing.
- Contact the manufacturer or use Internet resources (see next page).

**Soft floor covering: area rugs**

- Area rugs receiving heavy traffic should be washable.
- Area rugs receiving less traffic should be researched in a similar fashion as broadloom carpet.
Hard surface floor covering: wood
• Processed wood may contain formaldehyde and should be avoided (AIA 1997; Riggs 2002).
• Solid wood flooring with a natural latex finish (factory applied) is the best choice.

Hard surface floor covering: tile, stone, etc.
• Solid, inert, durable, and safe for interiors.
• Do not emit toxic gases into the interior (AIA 1997).

Resilient floor covering:
vinyl tile, sheet vinyl, linoleum
Vinyl tile and sheet vinyl
• Vinyl contains polyvinyl chloride (PVC).
• PVC is a problem and will affect IAQ.
• PVC emits VOCs (volatile organic compounds, which participate in atmospheric photochemical reactions).
• PVC is non-biodegradable.

Linoleum
• Linoleum is a natural, biodegradable product.
• Does not emit VOC gases into the air.
• A better choice in resilient floor covering (AIA 1997).

Wall coverings: paint
Some paints contain VOCs.
• VOCs improve durability, enhance the finish, and shorten the drying time (AIA 1997).
• However, VOCs negatively affect IAQ.

Some paints are low odor and low VOC.
• Low odor and low VOC paints are available (Hirshfields 2002; Diamond Vogel 2002).
• Some paints have a built-in protection that resists growth of bacteria and mold (Hirshfields 2002).

Wall coverings:
paper, fiber, or vinyl (PVC)
Paper and fiber
• Biodegradable wall covering, contains recycled content such as paper or fiber.
• Biodegradable wall covering is safe, healthy.

PVC-based (vinyl) wall coverings
• Vinyl is an easy-care product.
• Manufacturing process creates a toxic by-product.
• Vinyl emits VOC gases.

Adhesives
• Self-stick wall coverings have a higher VOC content.
• Traditional wallpaper paste does not contain VOCs and is safe. (AIA 1997; Riggs 2002).

Ceiling treatments
Gypsum board
• Gypsum board requires paint or another type of finish.
• Choose low-odor, low VOC paint.

Acoustical ceiling tile
• Ceiling tile does not require paint or another finish.
• Ceiling tile produced from recycled materials such as newspaper, mineral wool, perlite, or clay is available.
• Mineral wool acoustical tiles are good choices and available with mold and mildew resistance. (Armstrong 2003).
• Ceiling tile is less expensive than other ceiling treatments.

Some ceiling tile and sprayed-on ceilings
• These may contain hazardous materials such as formaldehyde, asbestos, or crystalline (AIA 1997; Riggs 2002).

Textiles
Textiles may include window treatments, upholstery, cushions, wall coverings, bed coverings, and more. These materials may pose problems for individuals with MCS.
• Synthetic fibers are produced from petroleum products and contain chemicals.
• Cotton is a natural fiber, but it is produced using the world's largest quantity of pesticides (Haberlein/d).
• Chemical finishes may be used on textiles.
• Organic and environmentally safe textiles are available.

Casegoods:
pressed wood, plywood, solid wood and veneers, plastic laminate
Pressed wood
• Pressed wood must be encapsulated (or covered) with a veneer or plastic laminate.
• Encapsulating stops VOCs from being emitted into the indoor air.

Finish on casegoods
• If an odor is present, VOCs are being emitted.
Maintenance

• Cleaning products should not contain either VOC or formaldehyde-related chemicals to maintain good IAQ.

Websites for more information
http://www.carpet-rug.com/index.cfm
http://www.vogelpaint.com
http://www.hirshfields.com/hpm_microban.html
http://www.armstrong.com/commceilingsna/article7901.html
http://www.carnegiefabrics.com
http://www.dtex.com
http://www.greenguard.org
http://www.greenseal.org
http://www.usgbc.org

References