



FAQs: Flooring & Carpeting

What should I consider when selecting flooring materials?

Floors cover the majority of the area in a residence or other facility, and Americans spend 90% of their time indoors, in direct or indirect contact with flooring materials. Thus, it is important to consider not only the appearance, cost or durability of flooring choices, but to also consider their relative sustainability and safety. Some flooring materials are known to contain and emit chemicals harmful to human health.

For example, plywood laminate floors (including medium-density fibreboard, veneer flooring, and “engineered real wood” flooring) can emit high levels of volatile organic compounds (VOCs) from the resins used to glue them together. VOCs are chemicals, such as formaldehyde, that readily evaporate into the air that children can inhale, and which are associated with a number of adverse health and developmental effects. Another flooring material to avoid, if possible, is PVC tiling (often referred to as simply “vinyl tiling”). Vinyl tiles also emit VOCs, as well as phthalates, into the air.

What are some safer flooring materials?

Solid hardwood floors are more eco-healthy than laminate wood floors, as they are not “engineered” or held together with glue. However, if possible, select hardwood that has been sustainably sourced, and use least toxic installation methods (see below). Other more environmentally sustainable choices are bamboo and cork. However, these choices may be manufactured in a way that leads to exposure to toxic chemicals. For example, bamboo flooring may include formaldehyde-containing laminating resins, depending how it is made.

If you are interested in tiles, linoleum tiling, in general, is a more eco-healthy option than vinyl (PVC) tiling. Ceramic tiles are another good choice. Ceramic floor tiles are waterproof and not very porous, making them easy to clean, and an unlikely surface for the growth of mold, mildew and other allergens. Although more expensive than carpeting or vinyl flooring, ceramic tiles are more durable and last longer. Thus, fewer replacements are needed, which means less money spent on new floors or fixes, and less material and energy needed for production. Unlike carpeting, ceramic tiles are a hard surface to fall on, but installing no-slip tiles that have grit baked into the surface of the tiles during manufacture will help to reduce slips and falls. Additionally, area rugs can be placed over hard flooring surfaces to make rooms cozier and safer for early walkers.

When purchasing any flooring materials, look for a Floorscore® certified product or for UL GREENGUARD certification. These seal certifications indicate that the flooring material has been tested for compliance with strict indoor air quality emissions standards. Both certifications are incorporated into EPA’s Sustainable Design Requirements, and are recognized by the U.S. Green Building Council LEED Rating System.

What should I consider about wall-to-wall carpeting?

Wall-to-wall carpeting provides a soft surface to cushion impacts and ease tumbles, but it can also trap pesticide and household cleaning residues, and lead dust and dirt. Additionally, chemicals can off-gas from carpet and the adhesives used to hold carpet in place - these toxics can have negative impacts on children’s developing bodies. Throughout their lifetime, carpets

release VOCs and are likely to trap moisture, thus degrading indoor air quality. Children, especially younger children, spend most of their time near or on the ground and breathe in the dirt, dust and mildew that accumulate in the carpet. Exposure to these substances can lead to lung complications and can act as a trigger for asthma attacks.

Studies have detected chemicals like styrene, formaldehyde, and vinyl acetate - which are used in carpet production and installation - in carpets. These chemicals are potential carcinogens and degrade indoor air quality.

When possible, avoid wall-to-wall carpet. Instead, choose safe flooring as outlined in the section above. For areas where softer surfaces are desirable, choose area rugs made out of natural fibers such as: wool, cotton, or hemp - these materials are naturally fire-resistant and contain fewer chemicals. Clean area rugs twice a year with biodegradable, 3rd party certified least toxic cleansers. Certified products can be found at www.ecologo.org, www.greenseal.org, and www.epa.gov/saferchoice.

What is the safest way to install and maintain flooring materials?

The actual process of installing flooring can affect indoor quality as well. Thus, it is crucial to pick a flooring material that is easy to install and requires little maintenance and repair over its lifespan.

Floating flooring is preferred, because adhesives are not necessary for installation. Often they are made up of interlocking pieces. Nailing and stapling are other non-chemical installation techniques. However, if a flooring choice needs to be glued to the sub-floor, the use of a low or no-VOC adhesive is best.

Care should be taken with regard to finishing or sealing hardwood or cork flooring. Pre-finishing of the flooring should be done at the factory, and the sealing products selected should emit low or no-VOCs.