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# BOUT YOUR HOUSE

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## FLOORING CHOICES

Selecting flooring that is durable, attractive, easy to maintain and healthy can be overwhelming because of the numerous good choices now available in the marketplace.

When choosing new flooring, consider the area where the new floor is to be installed, and the type of wear it will be subject to. Flooring covers a large surface area within your home, so choices can have consequences for both price and indoor air quality.

### Consider the following and compare:

- Will there be heavy wear?
- Is the area subject to moisture?
- Does the floor need to be a sound barrier?
- How easy is it to clean and maintain, and how much time are you willing to invest to do so?
- To what degree does the floor need to be slip resistant?
- Is there anyone in the home who suffers from allergies or asthma? Usually the harder the surface, the healthier the flooring product.
- How durable is the product?
- What is the warranty coverage?

- Cost of the material and cost of installation?
- Is the new flooring suitable for the type of subfloor? Does the subfloor require preparation or repairs?

### Indoor air quality

The type of flooring and installation materials you choose may affect the health of your family. Certain types of flooring, plus the glues and sealers used in the installation of the floors can release chemical odours. Commonly known as off-gasing these emissions can be harmful for many who have allergies, asthma or sensitivities to chemical products. It can take weeks or months for these chemicals to off-gas or dry out. At the end of this period, there is no detectable odour and most people are no longer affected. Usual symptoms are flu-like. Consider choosing flooring with the lowest emissions possible.

When using adhesives and sealers for the flooring, choose a water-borne (water-based) product. If possible, obtain the MSDS sheets (Material Safety Data Sheets) for the product. These are available at most supply outlets. Ask the supplier what the off-gasing or dry out time is, after which

there should be no discernible odour. This is an important consideration for allergy or asthma sufferers.

### Flooring Terms:

**Coatings:** can mean paint or a clear finish on flooring or other products.

**Floating floor:** floor is not nailed or glued to the subfloor.

**Laminate flooring:** designed to look like hardwood and made of a composite of laminated materials.

**Linoleum:** a durable material made from linseed oil and other natural materials.

**Resilient flooring:** tile or sheet (roll) flooring typically made of vinyl, rubber or linoleum.

**Rubber flooring:** is durable and easy to maintain. Rubber comes in sheets and tiles.

**Subfloor:** a layer of plywood or oriented strand board (OSB) fastened to the floor joists. The sub-floor should provide a clean and even surface for the installation of the finished flooring.



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**Vinyl asbestos tile:** an old type of vinyl tile which contained asbestos.

**Vinyl composite tile:** new vinyl tiles which do not contain asbestos.

**VOCs (volatile organic compounds):** VOCs contain hazardous chemicals that are found in finishes and other common household materials.

**Water-borne coatings:** surface finishes which are water-borne/water-based rather than solvent borne and have little or no VOCs, typically acrylic/urethane or urethane.

## Main types of flooring

### Resilient Flooring

A practical product that comes in many patterns. Resilient flooring is sheet or tile flooring, usually with a pattern printed on the surface. Common types are:

- sheet flooring (cushion); a thin layer of vinyl over spongy back;
- vinyl composition tile;
- linoleum sheet or tile;
- rubber sheet or tile;
- cork.

#### Advantages of resilient flooring

- Available in a wide range of colours and patterns.
- Is moderately durable.
- Comes in range of prices.
- Is easy to install.
- Fairly easy to clean and maintain.
- Is reasonably comfortable to stand on for long periods of time.

#### Considerations

- Tiles may curl.
- Most resilient flooring is thin. Any irregularities in the floor underneath will show through.

- Minor problems such as blisters, scratches, tears and holes need to be repaired quickly.
- Extensive damage cannot be repaired. Rubber flooring can deteriorate from water left standing on it.

#### Care and maintenance tips

- Use glides or protectors to prevent denting from furniture.
- Wash resilient flooring using small amounts of mild detergent and water.

#### Installation

- Always follow the manufacturers recommendations for installation.
- Most resilient flooring is typically glued to a slab or subfloor.
- Select an adhesive recommended for both the flooring product and the surface over which it is to be installed.
- Flooring materials must be acclimatized to the temperature and moisture conditions expected during occupancy of the house, usually for 24 hours prior to installation.
- Homeowners with some skill should be able to install certain types of resilient flooring, such as tiles. Sheet flooring usually requires a professional.

#### Health and environment

- Sheet flooring is installed using adhesives. Ensure the adhesives chosen have as few VOCs as possible.

#### Cost

- Cost varies considerably. Certain types of resilient flooring such as peel-and-stick tiles are easy to install and therefore the overall cost can be reduced.

## Carpet

Carpets are made from many fibres including synthetic (acrylic, nylon polyester, viscose rayon) and natural (wool, silk and cotton). Avoid using carpet where there is moisture, for example, kitchens, bathrooms and basements

#### Advantages of carpet

- Warm and soft on the feet.
- Absorbs sound.
- Wide choice of colours.
- Easy to install.

#### Considerations

- Susceptible to damage from stains, spills and heavy traffic.
- The new carpet and underpad odour can be problematic for several weeks for those with allergies or respiratory conditions.
- Carpets trap dust and dirt which can affect people with allergies and asthma.
- Durability depends on the quality, care, and use and whether the carpet is an area rug or a full room carpet.

#### Care and maintenance tips

- Have the carpet cleaned professionally to improve appearance. The cleaning process should extract as much water as quickly as possible, enabling the carpet to be totally dry in a few hours.
- Vacuum weekly with a good quality vacuum using a HEPA filter; or use a central vacuum system with an outside discharge. Note: A HEPA filter is a high efficiency particulate air filter.

## Installation

- Follow the manufacturer's instructions.
- Carpet installation for large areas is not usually a job for the do-it-yourselfer.

## Health and environment

- Carpets accumulate dust, mites, molds, bacteria and other pollutants that can affect the health of those inside the house.
- After installation, off-gassing can occur for weeks or months requiring increased ventilation.
- Carpet backings are made up of a polypropylene mesh or jute with a latex bonding agent that may have high VOC's. Traditional carpets and rugs do not rely on latex bonding. Most carpets are also treated for stain and fire resistance. These treatments can also be a source of emissions.

## Cost

- Consider the price of the carpet as a system which includes, the carpet, underpad, labour, and disposal costs when replacement is needed. The quality and cost of carpet in the marketplace varies greatly.

## Wood Flooring

Wood flooring is available in several grades, widths and thicknesses. Common hardwoods include birch, maple, beech and oak and sometimes softwoods such as pine, fir and hemlock. Wood flooring comes in different forms—strip, plank, parquet and laminates. Most new hardwood flooring today is pre-finished and has UV-cured polyurethane layers which protects the finish.

## Advantages of wood flooring

- Wood is a natural insulator.
- It is easily cleaned and maintained, and with proper care can be long lasting.
- Can be purchased unfinished or pre-finished.
- Can increase a home's value.

## Considerations

- Chipping of polyurethane finish that will need spot refinishing.
- Susceptibility to damage from water stains, heavy traffic, or dropping heavy objects.
- Grey discoloration along joints due to water seeping in at joints.
- Large cracks between floorboards, caused by drying/shrinkage.
- Discoloration from sunlight.
- Protection of high traffic areas with small rugs or mats. Do not let small stones or grit collect as they will scratch the finish.

## Care and maintenance tips

- Sweep or vacuum dirt and grit regularly to avoid scratches.
- Wipe the floors only minimally with a damp cloth, as constant dampness will eventually discolour the floor.
- Refinishing the floor involves sanding the whole floor before applying a new finish.
- When refinishing flooring, water-based/water-borne urethanes are preferred by people with allergies, asthma or respiratory problems as they tend to emit fewer VOCs.

## Installation

- Most new hardwood flooring is pre-finished which eliminates dust and odours associated with finishing on-site.
- Common methods include nail down, glue down or floating. Some products can be floated over subfloors, vinyl or ceramic tile eliminating the need to tear up existing flooring. Refer to the manufacturer's installation instructions. In general, solid wood products must be nailed or glued down and are not recommended for below-grade installations.

## Health and environment

- Refinishing can create a large amount of dust from sanding and there is the potential for chemical emissions from the sealer or surface finish.
- When choosing a new finish for an old floor, consider your health and potential fire hazards. For example, solvent based products can be a fire hazard during installation. Keep the area well ventilated and follow all manufacturer's directions to ensure safety.
- Water-based finishes contain fewer toxins than similar solvent-based products.

## Cost

- The installation costs can be slightly more expensive than some other types of flooring.
- Savings can be achieved in the long term as the floor can be long lasting. And, most hardwood floors can be refinished rather than replaced when worn.

## Laminate Flooring

Another flooring option is laminate, which comes in several patterns. Laminate flooring is composed of several layers. The layers include a backer core, the decorative design layer and the top wear-layer. It may be pre-finished and is less likely to suffer from expansion and contraction than wood flooring. On the market for about 10 years, it is quickly growing in popularity.

### Advantages of laminate flooring

- Easy to install.
- Easy to maintain.
- Several types are durable.

### Considerations

- Most laminates can't be refinished. Once the finish is worn, the product must be replaced.
- Not recommended for areas subject to moisture.

### Care and maintenance

- Vacuum, sweep and clean with a damp mop.

### Installation

- Laminates are usually installed using a floating floor method. Glue is used at the joints, although some products use a tongue and groove system that clips together, eliminating the need for any glue.
- Can be installed by a do-it-yourselfer.

### Health and environment

- Laminate floors are pre-finished, and don't trap dust. Because of the installation method, (tongue and groove) little or no glues are used.

### Cost

- Laminates range widely in price but can be a suitable alternative to hardwood flooring. Products that use a floating floor installation method may require underlay that can affect the total cost of the project.

## Ceramic Tile

There are many different types of ceramic flooring. Ceramic tiles can be glazed or unglazed. Tiles that are glazed generally have a durable exterior coating that is more resistant to moisture. It is easy to clean, durable, non combustible and fire resistant.

There is a wide range of quality in ceramic tiles.

### Advantages of ceramic tile.

- A hard surface that is easy to clean and durable.
- Keeps its appearance over time.
- Resists moisture and stains and heavy traffic.
- Good for radiant floor heating.

### Considerations

- Ceramic flooring can be less comfortable to stand on for long periods of time.
- These floorings do not dampen sound and can contribute to acoustically noisy environments.
- Glazed ceramic tiles can become very slippery when wet. Consider low-slip tiles with more grip for areas that will frequently get wet.
- It is not always possible to get a perfect match after a tile is broken. Keep some spare tiles from the original installation.

- Ceramic tiles that are pale in colour with no minor grain or pattern can look dirty quickly.
- Ceramic tile cannot be laid over an OSB (oriented strand board) subfloor. The subfloor should be plywood or concrete.

### Care and maintenance tips

- Clean with mild soap and water or vinegar and water.
- Using harsh abrasives can damage the glaze on the tiles.
- Replace old caulking and damaged grout.

### Installation

- Ceramic flooring must be laid on the appropriate subfloor that is level. Tiles can be laid on a solid concrete floor or a reinforced wood subfloor.
- The process involves skill and may not be suitable for the average do-it-yourselfer.

### Health and environment

- Ceramic flooring is a good choice for people with allergies. It is not prone to dust or mold problems. Choose water-based sealers and grout that will have few emissions.

### Cost

- Ceramic tile will last much longer than other types of flooring, therefore resulting in cost savings. Installation is labour intensive and adds to the expense.

## Other useful information from CMHC

*Building Materials for the Environmentally Hypersensitive* (product # 61089) \$29.95

*Healthy Housing Renovation Planner* (product # 60957) \$34.95

*The Clean Air Guide: How to Identify and Correct Indoor Air Problems in Your Home* (product # 61082) \$5.95

### **About Your House Fact Sheets (Free)**

- *Fighting Mold* (product # 60516)
- *Hiring A Contractor* (product # 62277)
- *How To Read A Material Safety Data Sheet (MSDS ) Sheet* (product # 62038)

To find more *About Your House* fact sheets plus a wide variety of information products, visit our Web site at **[www.cmhc.ca](http://www.cmhc.ca)**

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