

Floor Replacement Options

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INTRODUCTION

After reading this month's *Focus on Facilities* column on preventive maintenance of floors there will come a time that floors and carpet will need to be replaced. So, let's start the discussion by identifying the various types of floors and finish up the column with a brief discussion on carpet replacement, and note furnish and installation cost as \$\$\$-premium cost, \$\$-reasonable premium cost, and \$-least costly (excluding remove of existing cost)

TYPES OF FLOORS

- **Brick flooring:** Advantageous in areas where bricks are available locally. Easy to install with the help of local a mason suggested and are also economical. Disadvantage of brick flooring is their rough surface and the tendency to absorb moisture resulting in a dampness in the building. \$\$
- **Stone flooring:** Advantageous providing a hard surface, resists abrasion and impact, and can have a pleasing appearance. Not so easy to install, requiring an experienced stone mason. Disadvantage of stone flooring is its cold temperature surface and more costly to furnish and install than brick. \$\$\$
- **Granite:** Advantageous providing a hard surface, resists abrasion and impact, and can have a pleasing appearance. Not so easy to install, requiring an experienced stone mason. Disadvantage of granite flooring is its "not-so-level" surface and more costly to furnish and install than stone. \$\$\$
- **Marble:** Similar to Granite with its hard surface and resists abrasion and impact. Also, marble can have a pleasing polished appearance with its fluid design pattern within the marble. Not so easy to install requiring an experienced stone mason. While the flooring will be level when compared to granite, it



too is more costly than brick. \$\$\$

- **Concrete flooring:** Advantageous providing a hard surface and easy to maintain. It can also be painted to provide a more appealing look to the plain concrete floor surface. Easy to install with the help of local mason and is economical. Disadvantage of concrete flooring is its potential to have cracks in the surface over time. \$
- **Floor toppings** include mosaic tile, ceramic tiles, and vitrified tiles with similar advantages as the other stone and concrete materials. \$\$

Note: for the most part, stones, concrete and tile floors are sustainable, and eco-friendly. All are long lasting beginning with concrete that will last well over 20-years and granite and marble lasting as long as the building itself.

- **Wood flooring:** Advantageous for providing a warm, architecturally pleasing appearance. The

wood floor can be installed unfinished allowing for a custom stain applied or can be prefinished wood from the factory already sanded and sealed making the installation quicker to complete. While an individual can install wood flooring it is advisable to contract the services of an experienced floor installer. Solid wood floors can be sanded and refinished once or twice to extend its “useful service life”. Disadvantage of wood floors is that it is susceptible to humidity, excessive foot traffic wear, and damage due to scrapes and hard objects dropped on this floor. \$\$

- Hardwood floors are readily available starting with very hard oak followed by maple, and cherry. Other wood includes bamboo, walnut, ash, mahogany, teak, etc. with the flooring type price range varying. \$\$\$

Note: wood flooring is eco-friendly, but one should research if it is from a sustainable harvested forest.

- **Linoleum, luxury vinyl tile (LVT), laminated flooring, and vinyl composition tile (VCT):** Advantageous for diversity of appearance and first cost. Depending on the type of material the flooring can be eco-friendly or not. Flooring is relatively durable but with a lesser useful service life than wood, stone, tile or granite. While an individual can install any one of these floor types, it is advisable to contract the services of an experienced installer. Disadvantage of flooring is dependent on the type. Vinyl is not eco-friendly when compared to linoleum or laminated but will most likely be the least expensive to furnish and install. None of these floor types can be refinished and, depending on the desired service life of the floor, the optimum choice may be to consider a more expensive flooring e.g., hardwood. \$
- **Carpet:** May not be considered flooring by some, it does cover an unfinished surface representing the finished floor. Advantageous for a “quick-fix”, whether in a new building or renovating a space(s), carpeting provides a diversity of appearances and first cost. Depending on the amount of foot traffic, carpet can be durable to a point. It is the warmest of the floor types noted and acts as an insulation too. It can hide dirt, which may be considered a benefit as well as a disadvantage resulting in health

concerns e.g., respiratory issues, allergies, etc. Carpet is the softest of all the floor materials and acts to quiet the space. Disadvantage of flooring is the high maintenance and the susceptible to moisture that can result in development of mold and giving off a musty smell. \$

SELECTING THE OPTIMUM FLOOR FOR THE APPLICATION

Choosing a specific floor for the application, whether for a new building or renovating an existing building, there are 7-categories to consider in the selection process starting with:

1. *What will be the preferred “useful service life”?* How long will the floor material hold up to the space activities? Is the project investment to be for ten or more years of building “useful service life”? Or, is the floor upgrade/replacement a “quick-fix” because the building itself will be sold in 3-years? Those involved in choosing the flooring should be asking these two questions as part of the floor selection.
2. *What will be the space environment?* Will the new or replacement flooring be located in a dry environment e.g., a living room, a space that will be wet at times e.g., entrance foyer, or a wet environment e.g., commercial kitchen with multiple sinks and a dishwasher. Those involved in choosing the flooring will need to consider the space environment that will contribute to the useful service life and, when the wrong flooring is chosen, the floor may prematurely fail and/or a hazard to those walking across the floor.
3. *What will be the preferred floor surface?* Will the space environment be wet more often than not resulting in a slipping hazard if the wrong floor surface is chosen e.g., locker-shower space? Those involved in choosing the flooring must consider personal safety when choosing the optimum flooring for the application.
4. *How much foot traffic will the space be exposed to?* Will the space experience a significant number of people walking across the floor e.g., entrance and main lobby? At the other end of the spectrum will be storage room floors that will have far less foot

traffic, but this room could be a utility closet with a sink in it so that the floor surface will be exposed to a humid and/or wet floor at times. Those involved in identifying the foot traffic floor applications may want to include an additional floor covering while address the activities e.g., hardwood floor with rug-runner extending down the entrance hallway.

5. *Will the project be **LEED** (Leadership in Energy and Environment Design) certified?* Building certifications such as LEED™, Building4Health™, and other environmental and/or healthy building certifications may have an impact on the type of flooring to be specified. Those involved in choosing the flooring that accommodates a certification requirement will need to research acceptable floor material e.g., bamboo flooring, carpet, etc.
6. *Will the floor be exposed to a significant number of **solar hours** each week?* Solar impact on floor can result in the floor finish losing its color a.k.a. fading of the color. Those involved in choosing the flooring should consider what floor finishes will fade from ultraviolet (UV) rays e.g., linoleum, laminate, and carpet will fade over time. Hardwood floors can also fade over time.
7. *Will **acoustic treatment** be required due to the space application?* Hard floor surface equals less acoustic treatment e.g., concrete, tile, etc. Soft surfaces such as carpet can act as a mild acoustic treatment. If acoustical treatment is required, e.g., an auditorium or theatre then those involved with choosing the flooring should consider hiring an acoustic consultant before choosing the floor material.

It is important to note, when developing the scope of work to replace an existing floor, the assessment team should be aware that some older floor materials and/or the underflooring may have asbestos and this additional removal cost to the project should be accounted for in the proposed project.

SUMMARY

Choosing the optimum floor for the application, whether the project is a new building, a building addition, or the renovation of an existing building and/or room, there are a lot of factors to consider. Quite often the floor selection is assigned to a consultant or

an architect, but the “end-user” should have some input based on their professional experience e.g., gymnasium, locker rooms and shower rooms.

The 7-categories addressed above can be further dissected based on multi-use e.g., combined kitchen, serving area, and dining area with each space have its own flooring specifications.

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