The beginner's guide to flooring products



THE BEGINNER'S GUIDE TO FLOORING PRODUCTS

At Spectra Contract Flooring, we've completed more than 350,000 flooring installations nationwide using every material on the market. We've created this introductory guide as a resource for those new to commercial flooring, giving you a rundown of flooring materials.

There are several factors to consider when selecting flooring, which we'll use to evaluate various materials:

- *Cost*
- *Applications*
- *Durability*
- *Design*
- *Maintenance requirements*
- *Ease of installation and replacement*



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SECTION 1: COMMERCIAL CARPETS

Commercial carpeting

Carpet can support nearly any design. It insulates well, can be environmentally friendly and is more comfortable than any other flooring material. While carpet can collect dirt and stains as well as succumb to matting and fading, certain types of commercial carpet are stain-resistant, easier to maintain than traditional carpeting and can withstand harsh wear and tear. For heavier-duty applications, hard floors, such as ceramic tile, stone, LVT and laminate, will last longer.

The basics Carpet is made up of four primary parts:

- *Face material — also called yarn, or pile yarn, this is the visible carpet surface*
- *Backing material*
- *Back coating — goes on the backing material to hold yarn in place*
- *Secondary backing — applied to the adhesive for dimensional stability. When purchasing commercial carpets, consider measures of durability regarding all four parts of the carpet.*



These measures include:

- *Quality of face material — face material accounts for 80 percent of a carpet's cost and material determines whether or not your carpet can withstand heavy foot traffic, body oil, spills and sunlight*
- *Quality of backing material*
- *Twist level — number or twists in a carpet (more twists means more stability)*
- *Gauge — how closely together yarn is packed (the higher the gauge, the higher the quality)*
- *Pile thickness, or pile height — height of the yarn from backing to top (shorter height means more durability)*
- *Base weight — a carpet's total weight*
- *Average density — the ratio of base weight to pile height (higher density means more durability)*

Broadloom vs. carpet tile

The two primary types of carpets are broadloom and carpet tile. Broadloom carpets come in large rolls and are laid onto a carpet pad that sits on your floor substrate. Crews install broadloom by aligning large pieces together and cutting them, including the carpet pad underneath, to the correct size. Carpet tiles, also called carpet squares or modular carpet, come in pre-sized squares with their own integrated backing and base. They sit directly on your substrate. Your installer lays individual tiles one at a time, with minimal cutting, only resizing certain pieces where necessary.



Cost

Broadloom carpet material is less expensive than carpet tile, but broadloom creates waste during installation due to the process of cutting down large pieces, particularly the carpet pad. This cost can offset savings in unit price compared to carpet tile, which eliminates cutting and waste. Work with your flooring installation contractor to identify the most cost-effective option.

Installation, maintenance and repair

Broadloom installation can be intricate, particularly for mosaic, wall-to-wall designs. It's also time consuming and costly to repair. If an area becomes irreversibly damaged by moisture or mildew, the whole carpet in a section must be taken up and re-installed. With no carpet pad required, carpet tile provides an easier and more expeditious installation, reducing cost and streamlining schedule. Over time, carpet tile maintenance is easier, since you can quickly remove each individual tile to clean or replace it if it becomes damaged.

Design

Broadloom is the traditional and most popular choice, accounting for about 60 percent of commercial carpets. It provides nearly limitless design possibilities and is often the only option for unique mosaics or intricate wall-to-wall designs. Since broadloom is installed over a carpet pad, it can look great even if your substrate has minor imperfections. Carpet tile offers a variety of design options and makes some designs possible that broadloom can't cost-effectively replicate, such as a checkerboard effects or textured layouts. Carpet tile is not suitable for mosaics, and seams are also

more visible with carpet tile, which can be a drawback for certain designs.

Learn more about broadloom and carpet tile.

Specialty carpets

Manufacturers offer specialty carpets for unique applications. For example, if you want carpet in a lab with electronic equipment, you can use static dissipative carpet designed to limit potential damage from static electricity. For areas that see food consumption and liquids, you can use solution-dyed carpets, which resist stains and spills. Learn more about carpets in our complete carpet buyer's guide.





SECTION 2: RESILIENT (VINYL) FLOORING

Resilient (vinyl) flooring

Resilient flooring, also known as vinyl flooring, is made from a combination of natural and synthetic polymer materials formed in repeating structural units designed to provide durable surfaces.

Types of resilient

Vinyl flooring falls into three categories: vinyl composition tile (VCT), luxury vinyl tile (LVT) and sheet flooring.

VCT vs. LVT and sheet flooring

VCT is a mix of natural limestone, filler materials, thermoplastic binder and color pigments, made by fusing chips into solid sheets and cutting them into tiles. LVT is made of a limestone-base material mixed with composites. On the composite material sits an adhered digital graphic film, which can be created in nearly any look, sealed beneath an outer wear layer. Sheet vinyl uses a continuous sheet of polymer materials manufactured in widths of about six to 16 feet. It's similar to LVT in that it has a protective outer wear layer above a digital graphic film layer. It's durable and used for unique designs that require larger sheets without visible seams.

Cost

VCT is cheaper up front, but LVT is far more cost-effective over time because it's more durable and reduces maintenance.

Design

Due to the versatility of its graphic layer, LVT provides superior design options to VCT. In the past decade, manufacturers have released an impressive spread of new LVT product in new sizes and shapes, such as hexagons and planks, making new designs possible. Digital graphic film layers have improved so that they're indistinguishable from natural materials, such as premium stone and wood floors, allowing LVT to fit nearly any design.

Durability and maintenance

VCT must be stripped, waxed and polished on a regular basis and isn't suitable for heavy-traffic settings or areas with moisture and humidity. LVT is durable, requires minimal maintenance and withstands heavy foot traffic, rolling loads, spills, oils and other hazards.

Applications

Resilient flooring is used everywhere from hotel lobbies and office foyers to schools, hospitals and more. As LVT is more durable than VCT, it's better suited for the majority of these applications. Sheet flooring is also durable and popular for many applications, particularly commercial kitchen flooring, as it limits seams in the floor.





SECTION 3: CERAMIC TILE

Ceramic tile

Ceramic tile is made from clay forms or mixtures and falls into two categories, porcelain and non-porcelain. Porcelain is made by pressing together porcelain clays and provides durability and water-resistance with a dense, smooth product that stands up to heavy wear and tear. Non-porcelain tiles are typically made from white or red clay and are used for light or moderate traffic areas.

Cost

Ceramic is more expensive than vinyl and laminate flooring but more cost-effective than natural materials, such as wood flooring and stone.

Design

Ceramic is available in many colors and textures and provides a premium, high-end finish unmatched by most synthetic materials.



Durability and maintenance

Ceramic tile provides tremendous durability and lasting quality with minimal maintenance requirements when compared with VCT, wood flooring and carpet. It's often not quite as durable as LVT or premium materials, such as stone.

Applications

Ceramic is suitable for most commercial environments, from hotels, office lobbies and retail settings to commercial kitchens. It's not fit for heavy-duty settings however, as tiles can crack under extreme pressure.

Installation and replacement

Ceramic tile is one of the easier flooring types to install and requires relatively minimal maintenance. Because it's installed in tiles, it's possible to replace one section at a time relatively quickly and inexpensively.

SECTION 4: SHEET LINOLEUM FLOORING

Sheet linoleum flooring

Sheet linoleum is a natural resilient flooring made from linseed oil, limestone, powdered cork and recycled wood flour, resins and mineral color pigments pressed into a burlap (jute) backing. It's a green option, made from all anti-bacterial and biodegradable materials, and is sold in widths of about two meters, in a range of thicknesses.



Cost

Linoleum is on par with laminate and resilient (vinyl) flooring in up-front costs, but it's not quite as durable. If used in a relatively low-hazard setting, it can be cost-effective for years. If installed in an area better suited for heavier-duty products, it will require more maintenance and won't be cost-effective in the long run.

Design

Linoleum offers tremendous design versatility with vibrant colors in solid, marbled or flecked patterns, and now even graphic designs. Some linoleum comes in softer natural tones, and all can be custom-cut to create one-of-a-kind looks. One advantage of linoleum is that its color and pattern extend through the entire floor, making linoleum a cost-effective substitute for many premium materials, such as tile, stone, hardwood and parquet.

Durability and maintenance

Though not fit for heavy-traffic areas, linoleum is flexible and can last for decades in light-to-moderate traffic settings, insulating against heat and sound and resisting gouging, scratching and water. Even if scratched, the color and pattern stay the same, since they're the same throughout the entire floor. However, in heavy-traffic settings, linoleum can be scratched and require more maintenance than laminate or vinyl. Due to chemical corrosion, the linseed oil in linoleum can darken and become brittle over time, particularly in areas that regularly see strong UV rays. Certain alkaline cleaning agents can also damage linseed oil. Use a permanently



bonded, high-performance finish to protect the linseed oil so linoleum can resist stains and be easily cleaned.

Applications

Linoleum flooring has long been used cost-effectively for light-traffic areas in schools, showrooms, retail settings, banks, offices and even elevators. It's not suitable for areas that see heavy traffic or moisture, such as stairs, bathrooms and kitchens. As a naturally resilient material, linoleum is relatively soft, so it's comfortable for those areas where people must stand for long periods of time.

Installation and replacement

Linoleum is more stiff and challenging to install than most types of flooring, requiring specialty tools and installation. It's typically installed on wood subfloors but can be installed on most subfloor materials, including concrete. Installation is crucial, as water damage to the jute backing can cause it to separate from the linoleum. Have your installer perform testing to prevent any moisture issues and ensure proper adhesion.

SECTION 5: RUBBER FLOORING

Rubber flooring

Rubber flooring is an innovative, cost-effective solution for many facilities, providing a comfortable, durable, shock-absorbent floor that can be made from recycled materials

Cost

Rubber is tremendously cost-effective compared to most other flooring options, both in up-front costs and in long-term maintenance costs.

Design

Manufacturers have released designs that make rubber aesthetically versatile. It can fit a modern style and can come in tiles that offer creative patterns or on rolls that minimize seams and provide a smooth, consistent look. Specked and patterned finishes provide unique design options.



Applications

Rubber is increasingly gaining popularity across a range of applications and is commonly used in:

- *Pet facilities and dog kennels*
- *School playgrounds and playrooms in daycare facilities and church nurseries*
- *Commercial gyms, indoor sports facilities and skating rinks*
- *Hospitals —its antimicrobial characteristics make it perfect for some areas*
- *Entrances and walkways for many facilities, such as offices and indoor markets. When purchasing rubber flooring, consider the thickness —the thicker the floor, the more durable (and expensive) it is.*

Durability and maintenance

Rubber is one of the most durable materials on the market, which is why it's commonly used in high-impact settings. It's easy to clean but can be damaged by oil-based cleaning solvents. Some finishes, such as color-fleck patterns, can be damaged by UV rays, so rubber looks better in environments that don't see intense sunlight.

Installation and replacement

Rubber uses a free-floating installation, making the process fast, easy and cost-effective. It can be installed right on top of concrete, low pile carpet, hardwood, ceramic tile — even compacted dirt. Rubber, particularly in tile forms, is also easy and cost-effective to replace.



SECTION 6: LAMINATE

Laminate flooring

Laminate flooring is a synthetic blend consisting of four layers laminated together:

- *Wear layer — outer layer that helps the flooring resist stains, fading and daily use*
- *Décor layer— digitally printed graphic layer that gives laminate a look of natural materials, such as wood, porcelain or stone*
- *Core layer— primary structural layer that gives laminate its strong durability*
- *Backer layer— final layer that adds extra support*

Cost

Due to its synthetic blend, laminate is more affordable than premium natural options. In the right setting, it provides solid long-term value, though more durable options may deliver greater overall value. Laminate's cost is comparable to that of LVT.



Design

Since laminate uses digital images, it can take on the look of nearly any natural material with limitless colors and finishes.

Durability and maintenance

Commercial-grade laminate provides great durability, as it resists scratches, sunlight, and even heavy wear and tear. For the best results, purchase laminate that has the highest AC Rating, a measure of a floor's durability. Laminates are hypoallergenic and easy to clean and maintain

Applications

Laminate with a high AC Rating is suitable for a wide range of harsh uses, such as food consumption areas, as it's easy to clean. It's great for offices that want a natural look and durability without high cost. Laminate can work in some high-traffic areas, but LVT, ceramic and terrazzo are often better suited for them. Laminate is susceptible to moisture, so it should be used in combination with matting and rugs and isn't suitable for bathrooms or kitchens.

Installation

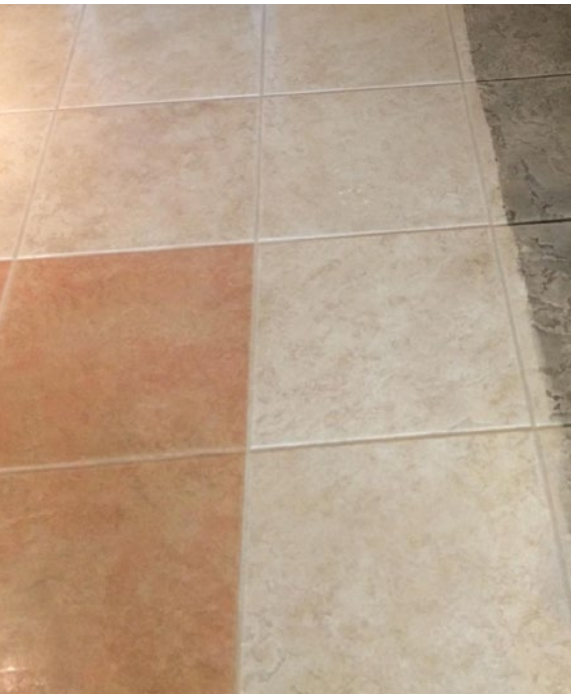
New, glue-free and pre-glued laminates reduce installation waste and costs, while options have emerged with pre-attached underlay or no underlay, allowing for rapid installation.

SECTION 7: NATURAL STONE TILE

Natural stone tile

Natural stone tile is made from materials quarried from the earth, and every stone has its own unique characteristics.

Cost



Natural stone tile is a premium product made from the highest quality materials. These versatile, beautiful materials provide strong durability, minimize maintenance costs and deliver long-term value. But they're more expensive than synthetic materials or ceramic tiles, and synthetic materials, such as specialty LVT, provide more cost-effective solutions for many applications traditionally served by stone.

Design

Stone provides a premium, high-end finish and can come in a broad range of colors and textures. Natural stone tiles offer one-of-a-kind finishes, as each stone is unique, differing in color, feel and composition.

Durability and maintenance

Natural stone tiles are tremendously durable. However, all natural stone tiles are porous, so they must be periodically sealed with a protective coat and receive several daily washes.

Applications

Stone tile is often found in settings designed to create a premium, high-end appeal but also serve a high volume of foot traffic. Hotel lobbies, stadium entrance areas, public venues, retail settings and upscale office buildings often use these timeless products.

Installation

Stone tile is a tremendously challenging, and sometimes time consuming and expensive, material to install, requiring an experienced, skilled installation team.



SECTION 8: NATURAL WOOD FLOORING

Natural wood flooring

Natural wood floors fall within three categories: solid hardwood, engineered hardwood and locking hardwood floors.

- *Solid hardwood — uses planks from a single piece of wood, can be repeatedly sanded to last for years and must be nailed or stapled to a wood subfloor*
- *Engineered hardwood — made by fusing layers of hardwood for stability, it's designed for installation over concrete, is moisture-resistant and can sit anywhere in a facility*
- *Locking (floating) floor — engineered hardwood with a locking tongue-and-groove system that streamlines installation by eliminating nails, staples and glue*

Special design considerations for wood

- *Species— Your floor's look, feel and pattern depends on the species of tree you select. You can pick a domestic, such as cherry, or an exotic, such as bamboo. For commercial settings, you want the hardest species that fits your design.*



- *Color— Most domestic species come in a range of pre-stained colors, while many exotic species aren't pre-stained — instead, showing their natural color*
- *Width— The wider your planks, the fewer visible seams in your floor*
- *Texture — You can select wood floors with a range of textures, from smooth to custom, tactile options*
- *Finish— Finishes protect wood, while adding color and hue*

Most engineered hardwood comes pre-finished, which streamlines installation, improves air quality and means longer flooring life and warranties without frequent refinishing. Many solid hardwood floors are site-finished, offering easier repairs, a limitless selection of stain colors and the ability to improve the surface following installation. Solid hardwood can withstand far more refinishes than engineered hardwood can take. An experienced flooring contractor can help you select the greatest-value option.

Cost

For many applications, traditional wood flooring isn't as cost-effective a solution as more modern synthetic options. But when properly installed, it can last for many years with minimal maintenance and deliver a great long-term value.

Applications

Wood is suitable for nearly any application, aside from heavy-duty industrial facilities and specialty healthcare settings.

Installation, durability and maintenance

Wood is hypoallergenic, can last for decades with the right care and is easy to clean and maintain. Wood is relatively straightforward to install; in particular, engineered flooring with a locking system allows for fast, cost-effective installation. A wood floor's maintenance requirements are determined by its finish and species as well as the wear and tear it sees.



SECTION 9: CONCRETE SURFACING FOR INDUSTRIAL SETTINGS

Concrete surfacing for industrial settings

Terrazzo, concrete polishing and resinous (epoxy) flooring are all strong solutions for industrial and heavy-duty settings. Terrazzo is also used in hospitals, schools, lobbies and even airports because of its premium feel.

Terrazzo

Terrazzo is a popular choice for those looking for extreme durability with total customization and premium finishes. It can be made from a cement matrix, or an epoxy resin mixed with marble or recycled granite glass, and a wide choice of other aggregates.

Cost

Terrazzo is a premium product that requires highly skilled installation, so it's not cheap. But terrazzo keeps maintenance to an absolute minimum and is highly cost-effective in the long term.



Design

In combination with synthetic divider strips to section off different colors, terrazzo offers limitless color choices, allowing you to create a one-of-a-kind look. Custom logos, unique patterns, and even wording are all possible. It's polished mechanically to create a beautiful shine associated with high-end marble tile.

Durability and maintenance

Its density allows terrazzo to withstand the toughest environments; it can last for decades. When sealed, terrazzo is non-porous and resistant to water, preventing microbial growth and mold — one of the reasons it's a great fit for healthcare facilities. Because there are no grout lines, which trap dirt, it's easy to maintain and clean.

Installation

Terrazzo is an incredibly complex material and requires specialty installation by an experienced, highly trained crew. Unlike some other concrete surfaces, harsh chemicals are not used during the installation of terrazzo, so it's environmentally friendly.

Applications

In recent years, terrazzo has gained popularity in a range of settings, from hospitals and airports to schools, offices and hotel lobbies.

Concrete polishing

In concrete polishing, typical concrete floors undergo a process of sealing and hardening that turns average concrete floors into beautiful, finished surfaces that are:

- *Smooth*
- *Reflective*
- *Bright*
- *Strong*
- *Easy to clean*

Polished concrete requires minimal maintenance and is a cost-effective flooring system that can withstand the rigors of any commercial facility, including:

- *Schools*
- *Restaurants*
- *Hospitality settings*
- *Industrial facilities*
- *Retail outlets*
- *Corporate offices*
- *And more*

Resinous flooring

Resinous flooring uses a coating (epoxy) system to add color and decorative finishes to concrete flooring. It can withstand the harshest industrial environments and is suitable for heavy-duty areas and both indoor and outdoor use. Resinous is easy to clean and maintain and is great for areas that need a high level of cleanliness, such as healthcare, pharmaceutical and food processing facilities. You'll need an experienced flooring team to select and safely use the most environmentally friendly epoxies. With any concrete surface, have your installer perform moisture testing and mitigation to ensure a proper, lasting finish.





MORE ABOUT SPECTRA CONTRACT FLOORING

Spectra Contract Flooring is a Berkshire Hathaway company and is the largest commercial flooring contractor in the U.S.We have dozes of locations nationwide and have completed more than 350,000 flooring installations for clients in every industry. We provide start-to-finish flooring project management to save you time and money while making flooring installation easy for you.

Learn more about our flooring installation services or see some of our best projects. If you have any flooring questions, request a consultation with our flooring experts or call any of our locations.