

DECKING MATERIALS

A deck can add comfort, elegance and practical space to any home. It is also deemed one of the best home improvement investments. Remodeling magazine's annual "Cost vs. Value Report" found that homeowners could expect to recover about 85.4 percent of a pressure-treated wood deck's cost at resale. While pressure treated wood is one of the most popular materials, there are many alternatives which include various exotic woods as well as nonwood products.

Depending on your budget and needs, there are many decking options for you to select from. Express Remodeling Group is happy to assist you with all the steps associated with creating a new deck, from planning the design to choosing the deck material. Below you will find information about the various types of material, as well as pros and cons of each, to help you make a choice for an investment that will last. The following are reviewed herein:

- Pressure Treated Lumber
- Cedar
- Redwood
- IPE
- Mahogany
- Composites
- Railing Systems



PRESSURE TREATED LUMBER

- ✓ Pressure treatment is the procedure that forces chemical preservatives into wood, which help protect the wood from fungal decay and attack by insects. As a percentage of the overall decking market, pressure treated is the dominant decking product. Its comparably low cost, great strength and manageability and wide availability make it so popular. However, in higher end markets end users tend to want a higher quality deck than pressure treated.
- ✓ It is likely that no matter what decking material you choose, you will still have pressure treated lumber used in your deck for most of the structural members. Alternative materials are either inadequate or too costly for structural purposes.
- ✓ Pressure treated hem-fir is a common choice. Hem-fir encompasses several western softwoods including Douglas fir, western hemlock, red fir, silver fir, and white fir. To acquire a cedar-like look, the decking is often pre-stained.
- ✓ Density: 14,400 psi, Weight: 590 lbs, Elasticity: 5.2
- ✓ About 80% of pressure treated wood is Southern yellow pine. Grain patterns are prominent; its original greenish color will turn into a honey brown becoming gray.
- ✓ Pressure treated wood typically has a lifetime warranty against decay and termite damage.
- ✓ This wood material can also be used for fencing, walkways and other landscape related projects.

PROS

- Relatively low cost, widely available
- Long life (Many brands offer a lifetime warranty)
- Excellent structural values Easy to work with, no special tools required
- Very good for stains, OK for paint
- Available in 5/4" and 2" decking and many other sizes, as well as plywood and lattice.
- Wide selection of visible and hidden fasteners available

CONS

- Weathers without cleaning and periodic application of stain/sealer.
- Splinters and "weather checks" are common
- Shrinks significantly unless kiln dried after treatment (KDAT), and can warp and cup.
- Requires more care in fastening and joints to reduce cupping and warping.
- Left untreated, some PT turns muddy gray (use a semitransparent stain or clear sealer).
- PT preservative chemical residue may cause health problems.

CEDAR

- ✓ Member of the cypress family
- ✓ Richly colored with heartwood that can last anywhere from 9 to 30 years.
- ✓ The top recommended grades of cedar decking are Architect Clear or Custom Clear deck grade.
- ✓ Western red cedar weathers rapidly to a beautiful deep glow. Port Orford cedar is lighter in color than red cedar or redwood, allows more options for staining, and is rated for 20 years of wear.
- ✓ Predrilling is not usually required for cedar, but is recommended near the ends to prevent splitting.
- ✓ Deck fasteners may react to the tannic acid in the wood, so stainless steel fasteners are your best bet.
- ✓ Cedar, like redwood, is also a good insulator, making it a good choice for decks located above living space.
- ✓ Western Red Cedar. Density: 7,750 psi, Weight: 455 lbs, Elasticity: 7.7
- ✓ Newly cut Western Red Cedar has a color range from light browns and tans to salmon pink. Left untreated it will in time turn silvery gray and then change to a dark brown. It is graded A, B, C, or D.
- ✓ This soft wood is more durable than most other commonly used woods. It is resistant to decay, but relatively soft and quick to weather. Preservative treatment/sealing is recommended.
- ✓ Lighter-colored Port Orford Cedar is the hardest and most wear-resistant cedar.

PROS

- Naturally resistant to decay and insect damage, doesn't need further chemical treatment
- Doesn't swell or shrink as much as other woods
- Will lay flat, stay straight, retain fasteners better and provide a strong base for paints and stains
- Considered one of the builder-friendliest woods to work with- it is ultra lightweight (easy transportation and handling) and has soft texture and straight grain (quick and clean sawing and shaping)
- Produced in an array of shapes and sizes. For example, available in 5/4" and 2" decking and many other dimensions, as well as lattice.
- Cedar's natural agents will not corrode your decking fasteners, as the treated chemicals in other types of wood decking might.
- Wide selection of visible and hidden fasteners is available.
- Wide selection of amenities such as furnishings, gazebos, sheds and much more are available

CONS

- Cedar is soft, so it is more susceptible to scratches if furniture is dragged across it.
- Weathers to a silver gray without periodic cleaning and application of stain/sealer.
- Splinters and "weather checks" are less common but will occur occasionally.
- Rot resistant, not rot proof.
- Relatively expensive, but typically less than redwood and composite
- Less resistant to surface damage from impact.
- Cedar sapwood breaks down quickly in moist conditions

REDWOOD

- ✓ Has a deep reddish brown color that deepens with age.
- ✓ It is fairly tight-grained and knot-free, lightweight yet strong.
- ✓ It resists splintering and is less damaged by weathering than other woods with heartwood that can last over 30 years.
- ✓ Select Heart and Construction Heart are the optimal grades for redwood decking. The other four other grades, Select Structural, No. 1, No. 2, and No. 3, allow sapwood and should only be used if pressure-treated before installation.
- ✓ Like cedar, predrilling is not required but should be done near board ends to prevent splitting.
- ✓ Density: 9,800 psi, Weight: 485 lbs, Elasticity: 9.2
- ✓ Redwood is available in several grades which vary considerably in appearance and quality. The color will vary from a light red to a dark reddish-brown. It's graded in Clear Heart, B-Grade, Construction Heart, or Construction Common.
- ✓ The clear heart grade is the more durable than the other redwood grades because of it is highly resistant to decay. This grade has given redwood its great reputation. Redwood is a soft wood and weathers to a yellowish-red quickly.

PROS

- Widely available, excellent dimensional stability, excellent for stains and paint
- Naturally rot resistant
- Easy to work with, no special tools required
Available in 5/4" and 2" decking and many other dimensions, as well as lattice. Wide selection of visible and hidden fasteners is available.
- Low shrinkage rate so splitting is minimized
- Most fire resistant decking wood

CONS

- Relatively expensive, especially all heart grades
- Less resistant to surface damage from impact.
- Splinters and "weather checks" are less common but will occur occasionally.
- Redwood sapwood - the newer wood closer to the bark - rots when exposed for sustained periods to moisture.
- Because of a limited supply and environmental concerns it is now less available and a more costly option. Also Second Growth trees don't perform nearly as well as the Old Growth trees that established Redwoods outstanding reputation because they do not possess as high of levels of decay resistance.

IPE

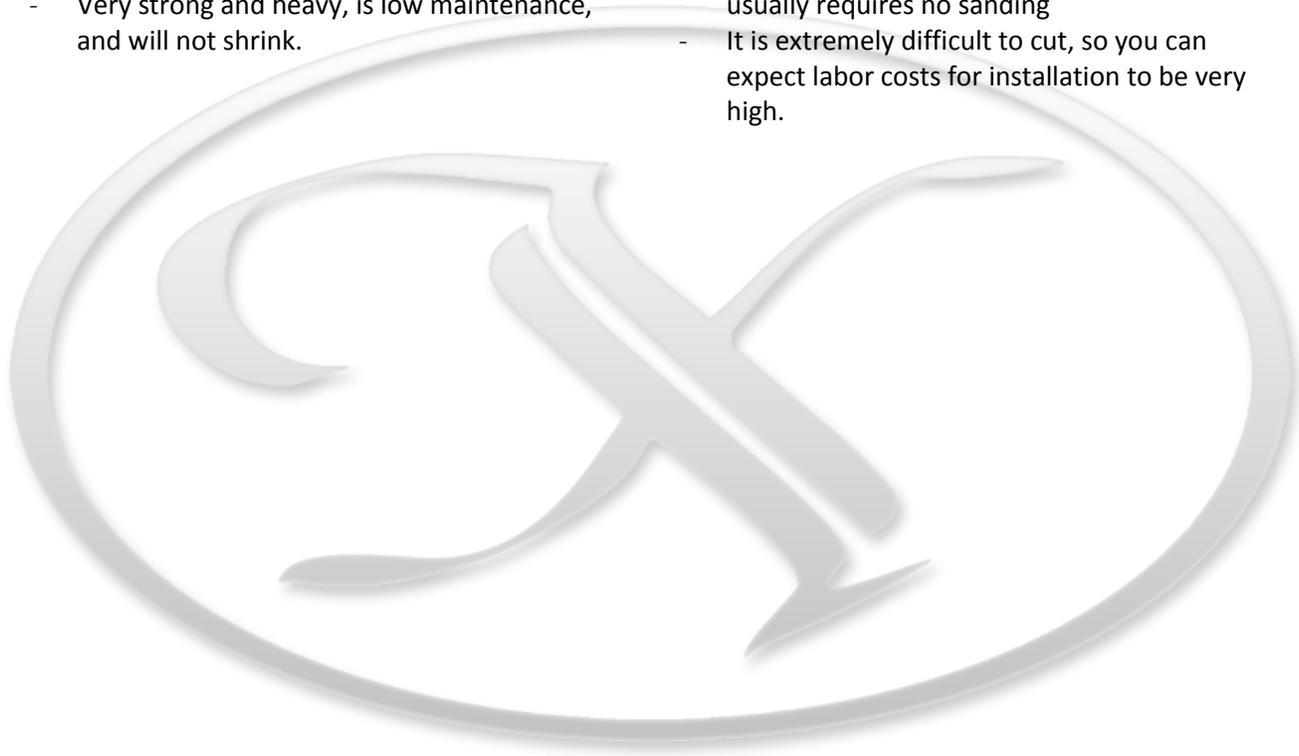
- ✓ Ipe is a South American wood that is also called ironwood, and by the trade name Pau Lope.
- ✓ Ipe only requires sealant on the ends, but homeowners may choose to seal the wood and maintain its natural color or allow it to weather to a silver-gray while remaining smooth and splinter-free.
- ✓ Ipe is extremely dense and should last over 25 years.

PROS

- Naturally resistant to bugs and weather
- Though not fireproof, it is less combustible than other wood species (class A fire rating)
- Very durable and resists cupping, splintering and twisting.
- Very strong and heavy, is low maintenance, and will not shrink.

CONS

- More expensive than other wood species but also said to last 3x longer without the use of any sealant.
- Ipé also has to be oiled annually in order to maintain it's original color, however this usually requires no sanding
- It is extremely difficult to cut, so you can expect labor costs for installation to be very high.



MAHOGANY

- ✓ Many different species and sub-species of mahogany. Colors can range from white and yellow to light and dark red.
- ✓ American mahogany has a beautiful, dark red appearance that will last for decades.
- ✓ Density: 11,900 psi, Weight: 455 lbs, Elasticity: 11
- ✓ Honduras mahogany is a true mahogany. There are other species like "Philippine Mahogany" that try to take the well-known name. True mahogany has a woven look to the grain with a courser texture.
- ✓ Not all mahogany has the resistance toward decay that is needed for outdoor use. The medium to dark red and brown species are more resistant to decay.
- ✓ Meranti, a Philippine mahogany, comes in a variety of colors and even has a dark red variety that looks like teak. Each Meranti color variety comes with a wide range of decay resistance. Water repellent must be used to protect the wood and keep its dimensional stability. Meranti is not as durable or dimensionally stable as real American mahogany.
- ✓ Meranti is rated as a step below redwood, cedar, and ipe.
- ✓ It has been said that "Dark Red Meranti and Red Balau are both prized by European architects for high-class joinery applications. These species provide the ultimate combination of beauty, versatility, performance and economy for decking and related products. They mill to a superior surface, work easily, absorb and hold finish deeply and evenly. Their timber ages to a smooth surface, with less checking (cracking) than other harder, heavier, and more expensive species"
- ✓ Cambara is another type which lasts about 25 yrs
- ✓ Nova Cambara Mahogany
- ✓ Nova Cambara is available in 1x4, 1x6, 5/4x4, 5/4x6, 2x2 and 2x4 sizes. It comes in three grades, Clear All Heart, Clear Mixed Grain (with max 30% sap) and Clear Unlimited Sap. Each one of these can either be unfinished or prefinished. Cambara is distinguished for its classic beauty. The heartwood is a consistent pink to golden-brown creating the most consistent color of any hardwood decking material. Cambara works very well with a stain or clear finish, and can be fastened with nails or stainless steel screws.
- ✓ Cambara will maintain its structural integrity through the years. To preserve the rich brown color, it is suggested that a high quality penetrating oil finish with ultraviolet inhibitors be used. Regular cleaning and reapplication of finish will guarantee that the wood uphold its beauty for many years. Cambara has the durability of Western Red Cedar or Redwood. It is considered to be moderately durable and will resist rot and insects for many years.
- ✓ Cambara is commonly used as a substitute for Lauan/Meranti due to its more consistent color. Cambara has a durability rating similar to Genuine Mahogany, Cedar and Redwood.

PROS

- Very resistant to bugs, diseases and water.
- It holds up very well in areas near bodies of salt water.
- It will hold up for a very long time under proper maintenance.

CONS

- More expensive than other woods
- Some types are not as resistance to decays as other types

DOUGLAS FIR

- ✓ Douglas Fir wood is often a staple item in construction; it is distinguished for its strength and durability.
- ✓ This species is abundant across North America- especially popular decking choice out West
- ✓ It has a rich, visually appealing color combination with the heartwood ranging from creamy yellowish-brown for older trees to light red for younger trees and complimented by pale white tones.
- ✓ This was once considered the standard material for decking; it is less frequently used now. It is still a good material because it is rot-resistant and hard.
- ✓ Fir has a striking vertical grain and reddish-brown color, which will weather to gray if left untreated.

PROS

- Less expensive than other types of woods
- Rot resistant and strong material
- Comes in some very long lengths good to be used for posts for decks that will be very high off the ground

CONS

- Prone to checking more so than cedar or redwood
- Can have heavy thick sap seep out of boards
- These softwoods, with thinner sapwood layers, are more difficult to treat than southern pine. Chromated copper arsenate, the preservative commonly used for woods, cannot be applied to Douglas fir.
- These types of decks will inevitably need replacing in 10-years, even with good care

COMPOSITE DECKING

- ✓ Composite decking is a sturdy combination of wood fibers and plastic that weathers without decaying, maintains its shape, does not shrink or expand and will last for a lifetime.
- ✓ These plastic-wood composite products are comparable to traditional pressure-treated wood decking and can generally be painted or stained in brown or gray.
- ✓ Composite decking weathers like wood but will age to an even tone without deteriorating.
- ✓ Composite decking is not as strong as wood and will not span the same lengths that wood does. With appropriate structural support, composite decking is well suited to first floor and above-ground decks. Plastic structural beams are not easily accessible in all markets and commonly make the deck bouncy, so pressure-treated wood is most frequently used to support this type of decking.
- ✓ It is dimensionally consistent, won't splinter, has no knotholes, is completely rot-resistant, and requires no annual sealing.
- ✓ Composite decking is gaining popularity; it is expected to grow at a 21% rate annually.
- ✓ During the initial 3 months you can expect composite decking to weather by 10% which is normal since composite decks have wood fibers. When viewing or comparing decks, make sure to look at decks that have been exposed to the sun for at least a year. You will have a better idea in deciding whether you like that deck material or not.
- ✓ Decking made with HDPP, high density polypropylene, is more prone to be made entirely or mostly of virgin material. Many companies have begun to use Polyvinylchloride (PVC) as the plastic.
- ✓ Polyethylene based decking is more common so there is a wider selection. There are more colors, profiles, and textures available. It also tends to be less costly because of the recycled content. Polypropylene based decking is typically sturdier, allowing for greater spans between joists. It will also wear better than polyethylene based decking.
- ✓ Many companies have faced class action lawsuits. For example, Trex settled a case for mold issues and has had to replace about 40,000 decks. Companies have made headway though-cases have been settled.

PROS

- Durable, low maintenance, excellent dimensional stability
- Some are paintable or stainable
- Doesn't splinter, split or warp
- Many use environmentally safe technology to produce a green product
- Most have matching railing and trim systems
- Less waste because of material defects
Every piece is quality controlled- less waste during building process
- Most are good for the environment because they use recycled materials.
- Available in 2" and 5/4" decking; Wide selection of visible and hidden fasteners are available.

CONS

- More expensive than lower end of wood decks (Expect to pay 30% more than pressure treated pine.)
- Less strong than wood so requires closer joist spacing.
- Often specifies pressure-treated wood for structural support.
- Can't be refinished
- Some composite lumber has a plastic appearance, and some colors fade over time.
- During construction, sawdust and shavings must be collected in a drop cloth because they aren't biodegradable.
- Not all composite lumber can span 24-in. joist spacing; narrower joist layout may be needed
- High temperatures may cause some to bend or deform.
- If you move your deck furniture, there can be some unsandable marks.
- Can still be susceptible to mold, mildew, and fungi

SUMMARY

When selecting decking material one must keep in mind the tradeoff between the beauty of natural woods and the low maintenance of composites. Composites require no sealing, staining or sanding while natural wood must be treated every one to two years. Additionally, there is no cracking or splitting with composites. But composites are not maintenance free, they must be scrubbed regularly to prevent mildew and because they cannot be repainted or restained, they have to be replaced when composite materials fade. In terms of cost, there is a bigger upfront cost when purchasing composite decking but in the long term, homeowners invest more on natural wood decks because of maintenance costs.

RAILING SYSTEMS

- ✓ A railing system will complete any decking project and supply a valuable safety feature as well as aesthetic value.
- ✓ Decks that rest more than 30 inches above the ground are often required to have deck railings by code.
- ✓ In terms of popularity: Pre-finished wood / exotic wood deck railings, especially those with curves, are considered the best.
- ✓ Maintenance: The composite manufacturers promise the world - but sometimes they don't quite live up to expectations. Composites are tested for color durability that it is the equivalent of 6 months in real life. Heart red cedar (old growth) or old growth redwood, or Ipe or mahogany deck railings may last between 20 and 40 years without stain.

Popular Railing Materials

Pressure Treated

The least costly rail system. However, one must remember that pressure treated requires constant maintenance, and this is an additional expenditure.

If you have a pressure treated deck, it will be easy to stain your pressure treated railing to a similar color to match.

Cedar

Cedar is a more costly, though considered to be a slightly more stable choice. It doesn't crack as frequently as pressure treated and it is naturally weather resistant (still requires some maintenance).

PVC or Composite railings

These are gaining popularity. Many brands have composite railings that match exactly to their composite decking systems.

Though they have a more expensive upfront cost, they require little maintenance.