

THE ULTIMATE GUIDE TO BUILDING GREEN WITH SUSTAINABLE DECKING

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IN THIS GUIDE:

The intent of this guide is to provide you with a full understanding of decking materials and decking options to help you make an informed decision to select the decking that is right for you and your project. Like the kitchen of your home, the deck has become a gathering place for rest, relaxation and harmony. A well planned deck allows you to expand your living space into the great outdoors and can potentially be treasured for many years to come.

Section 1:

What are the material options and what are their strengths and weaknesses?

Section 2:

What are you using your deck for?

Section 3:

How long would you like your decking to last?

Section 4:

What about care and maintenance?

Section 5:

Pricing – short term gain and long term pain?

Section 6:

Putting it all together to make a decision

SECTION 1: MATERIAL OPTIONS

There are a wide variety of material options available for the construction of decking and outdoor structures. All of the products and methods discussed in this guide have strengths, weaknesses and particular projects where their specification may be appropriate.

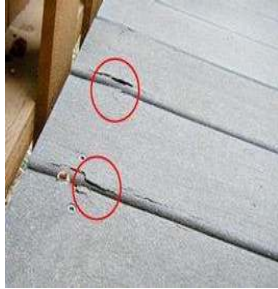
The most commonly used material options for decking and outdoor structures are:

- 1. Synthetic Decking**
 - a. “Composite Decking”
 - b. Plastic Decking
- 2. Softwood Decking**
 - a. “Pressure Treated” Yellow Pine
 - b. Red Cedar
 - c. Douglas Fir
 - d. Redwood
- 3. Medium Density Hardwood Decking**
 - a. “Mahogany”
 - b. Meranti
 - c. Cambara
- 4. High Density Hardwood Decking**
 - a. Ipe (pronounced “E’ - pay”)
 - b. Cumaru (pronounced “KOO’ – mah - roo”)
 - c. Garapa (pronounced “Gah – RAH - pah”)

SYNTHETIC DECKING

Composite Decking

“Composite decking” is the generic name applied to numerous synthetic products made with a mixture of “Wood Flour” and plastics. They are aggressively marketed under a wide variety of highly recognizable trade names. Manufacturers have made advertising claims of “better than wood”, “maintenance free”, “fade resistant” and more. However, after nearly twenty years into this new technology, there have been a plethora of *product failures*, *massive recalls*, *class action lawsuits* and much more.



Recent "composite decking" product recall (photo courtesy of Consumer Products Safety Commission)



"Composite decking" delaminating and showing deterioration



"Composite decking" exhibiting fading and permeation of mold and mildew



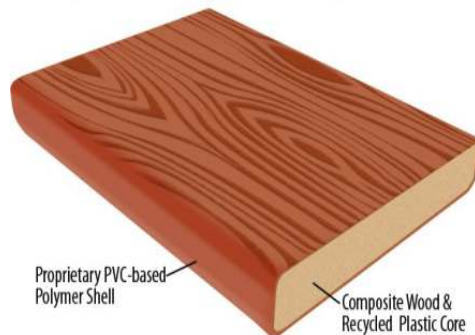
Poorly extruded "composite decking"

Please imagine for a moment, holding a torch to a piece of steel rebar; the steel will heat up and glow but it will not ignite. If one were to take that same piece of rebar and pulverize it into iron filings, the filings ignite immediately and spectacularly. This reduction of particle size and subsequent increasing of the surface area exponentially makes materials highly reactive both physically and chemically.

"Wood flour" is a term used to describe highly pulverized wood materials into minute particle sizes. The manufacturers have tried to make the wood flour less absorbent yet the pitted surface still remains a haven for dirt, moisture, mold and mildew. The large surface area of the minute particle sizes of the "wood flour" makes it highly reactive to molds, moisture and mildew. For this reason the analogy of a "Petri dish" has been applied to composite decking on many occasions.

Hybrid Composite Decking

Composite & PVC Hybrid Decking



Recently several manufacturers of "composite decking" have created a hybrid plastic and composite decking. They have attempted to reduce the exposure of the "composite" material by encapsulating the decking in a plastic coating. The result is that the surface of the decking is covered in plastic but the ends remain wide open and exposed to the elements. Penetration by face screwing (or slotting the edges for a hidden fastener system) creates additional perforations in the surface areas directly susceptible to moisture, mold and mildew infiltration.

PVC AND Plastic Decking

Other manufacturers have avoided the inherent problems associated with pulverized wood flour by eliminating it from their formulations altogether and using solely plastic or petroleum based chemicals in their process. The intended benefit of this is for less deterioration and delaminating of the product. The unintended result is that these plastic based products sag even more than composite decking, heat up extremely quickly and expand and contract greatly. Attempts to reduce the overheating by making the product hollow have created additional problems for some manufacturers.



Plastic decking "sagging"



Plastic decking expansion/contraction



"Hollow" synthetic decking deterioration

Summary of Synthetic Decking Materials

Whether the decking materials are "composite", PVC, plastic or a combination thereof they exhibit the following similar general tendencies and characteristics:

- Homogenous appearance typically designed to imitate real wood decking
- Extremely low span capacity; to meet residential building codes most synthetic decking materials meet only the bare minimum deflection criteria when installed at 16" O. C. perpendicular to the deck joists. When installed at any type of a biased angle, the joists must be spaced at 12" O. C. maximum to meet minimum deflection criteria.
- Have a tendency to overheat
- Have a tendency to "sag" when temperatures are warmer
- Have a tendency to expand and contract with hot and cold temperatures
- Have a tendency to fade in direct sunlight exposure over time
- Have a tendency to abrade and scratch easily

REAL WOOD DECKING MATERIALS

Real wood decking materials are all natural products and as such exhibit a wide range of characteristics typical of their individual species. Natural variations will also occur from species to species, board to board within a species and often within the same decking board. These natural variations of color, graining and texture are unique and inherent characteristics in an all natural real wood product.

All species are not created equal and this section intends to identify the different characteristics typical of particular species. There are exceptions but in general, softwoods are less durable than hardwoods and high density hardwoods are the most durable and stable species available on earth.

The unretouched photo below shows all of the commonly used decking products that were available in 1996. This photo was taken in 2008 when the materials were 12 years old. All materials have been left to weather naturally with a southern exposure in a southern New England climate in New London, Connecticut. [Click here to see the latest 3 minute video titled "Wood Decking Species"](#).

ACTUAL WOOD DECKING TEST AFTER 12 YEARS



At the twelve year point:

- The pressure treated yellow pine decking and western red cedar decking were severely structurally deteriorated exhibiting significant cracking, checking, splitting and rotting.
- The Douglas Fir decking was splitting, checking, “wicking” moisture at the end grains and starting to rot.
- The California Redwood decking (all heartwood, clear vertical grain), which is no longer readily available, showed some checking, some cracking, mildew and trace amount of rotting.
- The genuine Mahogany decking was cracked, checked and cupped more than 3/16”.
- The Mataverde Ipe decking was the only species of wood that handled the elements gracefully. The Ipe decking showed no signs whatsoever of splitting, checking, rotting or cracking. It appeared to be as strong and unaffected by the elements as the day it was installed.

SOFTWOOD DECKING

Pressure Treated Lumber and decking

Southern Yellow Pine is a strong species that has excellent fiber strength characteristics for a softwood species. It is inexpensive, relatively strong and readily available. When used as lumber for a joist or other non-exposed structural member - it is a fairly sturdy, inexpensive and long lasting option for deck framing. The species has several undesirable characteristics, however, including the tendency to twist, warp, split, splinter, check, cup and crack as shown in the photo. It is not recommended as an exposed material such as decking.



OTHER SOFTWOOD DECKING MATERIALS

Other softwood decking materials, particularly Red Cedar and Douglas Fir are relatively moderately priced yet exhibit a tendency to split, check and rot when left in an exposed exterior application. Annual maintenance is required to extend the usable lifetime of these materials. Even with annual maintenance these decking products have a tendency to degrade and are susceptible to decay and insect infestation.



Douglas fir splitting and cracking



Red cedar decking rotting from moisture



Red Cedar decking exhibiting "dry rot"

MEDIUM DENSITY HARDWOOD DECKING

Medium density hardwood decking includes imported materials primarily from the Pacific rim. Materials include mainly the Shorea "mahogany" species and over 40 subspecies such as Cambara, Phillipine "mahogany" and Meranti and are not true mahoganies at all. These species vary widely in terms of hardness, strength, durability, insect and rot resistance. They are mostly moderately durable yet are in the higher price range in terms of cost.

Most medium density hardwood species have a tendency to cup, split, check and are not resistant to decay or insect infestation when left in an exposed area. An annual coating of sealer or stain is recommended to keep the material from rotting.



Cupping, checking, mold and mildew



Splitting, rotting



Replacement of dryrot porch flooring

HIGH DENSITY HARDWOOD DECKING

High density hardwood decking includes many beautiful tropical species of primarily Brazilian wood products not found elsewhere on earth. The complete list includes dozens of species but not all of the species are appropriate for decking and other exposed exterior applications. The three Brazilian species that best meet the rigorous requirements for a long lasting and beautiful deck or outdoor structure are; Ipe, Cumaru and Garapa.

These three species range from one and a half (Garapa) to nearly three times harder than oak (Ipe and Cumaru). Ipe, Cumaru and Garapa are amazingly strong and all three species show incredible toughness, durability, resistance to decay and insects and exotic beauty. Mataverde® Premium Ipe, Cumaru and Garapa decking offer a 25 year limited warranty against decay and insects. Additionally Ipe and Cumaru are Class A fire rated materials.

THE THREE BEST SPECIES OF HIGH DENSITY HARDWOOD DECKING



Mataverde® Premium Ipe Decking



Mataverde® Premium Cumaru Decking



Mataverde® Premium Garapa Decking

MATAVERDE® PREMIUM IPE DECKING, IPE LUMBER AND IPE TIMBERS

Ipe is the hardest, strongest material that is appropriate for decking and outdoor structures available on earth and the Ipe from Northern Brazil is the best of the best. Ipe is a truly remarkable species. Mataverde® Premium Hardwood Decking has taken additional quality assurance steps by establishing their own First Export Quality standards and working exclusively with high quality producing mills. Ipe is naturally slip resistant, termite and rot resistant and possesses a Class A Fire rating. Mataverde® Premium Ipe is available in decking, dimensional lumber, posts, beams, timbers, porch flooring and railing parts.



Ipe Rooftop Deck, Pergola and planters



Ipe deck, stairs, planters and dock



Ipe Rooftop Deck, hot tub and shower

Characteristics of Ipe decking

- Olive brown to reddish and blackish tones.
- Often exhibits a wide range of striping and exotic character
- Fairly fine grained material
- Ages to a pale silvery patina if left natural
- Extremely strong, durable and stable
- Excellent resistance to termites and decay
- Naturally slip resistant
- Sustainably harvested
- Available FSC Certified
- Class A fire rating
- Density 1.04 g/cm³ (actually sinks in water)
- Janka Hardness of 3,680 psi (more than 2.5 times harder than oak)

[For additional information about Mataverde® Premium Ipe Decking please click here.](#)

MATAVERDE® PREMIUM CUMARU DECKING AND CUMARU LUMBER

Cumaru is an extremely hard, dense and durable high density tropical hardwood. It is surpassed only by Ipe in terms of strength. Like Ipe, Cumaru possesses a Class A fire Rating and is naturally resistant to decay and insect infestation. It is rated as a durable species and has natural slip resistant qualities.



Cumaru dock and pier



Cumaru deck and planter



Cumaru patio walkway and fence

Characteristics of Cumaru

- Reddish to purplish browns to medium and yellowish brown tones.
- Lots of striping, variation and character.
- Coarser interlocked grain.
- Ages to a silvery patina if left natural
- Extremely strong, durable and stable
- Excellent resistance to termites and decay
- Naturally slip resistant
- Sustainably harvested
- Available FSC Certified
- Class A fire rating
- Density 1.07 g/cm³ (actually sinks in water)
- Janka Hardness of 3,540 psi (more than 2.5 times harder than oak)

[For additional information about Mataverde Premium Cumaru decking please click here](#)

MATAVERDE® PREMIUM GARAPA DECKING

Garapa is another high density hardwood species that holds up remarkably well in harsh outdoor weather conditions. Garapa Decking exhibits lots of exotic character striping and color variation and will turn a soft silvery color if left to weather naturally. Like Ipe and Cumaru, Garapa decking is extremely resistant to shrinking, splintering, twisting, cupping and checking. From a durability standpoint, garapa is extremely hard and comparatively dense and will resist most types of punishment. Mataverde® Garapa Decking has a high decay resistance rating throughout all fibers of the wood.



Garapa decking with custom railing



Garapa deck with oil finish



Hardwood deck with traditional railings

Characteristics of Garapa

- Blonde-yellow softening to a light brown with age.
- Slight, ribbon like moiré graining
- Ages to a pale silvery tone if left natural
- Extremely strong, durable and stable
- Very good resistance to termites and decay
- Sustainably harvested
- Available FSC Certified
- Density .79 g/cm³
- Janka Hardness of 1630 psi (more than 20% harder than oak)

[For more information on Mataverde® Premium Garapa Decking please click here.](#)

Summary of High Density Hardwood Decking Materials (Ipe, Cumaru and Garapa):

- Strongest decking materials available on earth
- Environmentally friendly
- All natural, real wood product
- Naturally resistant to insects and decay
- Extremely hard and scratch resistant
- Virtually maintenance free option
- Longest lasting decking materials available
- Beautiful species with a variety of colors and exotic figuring

SECTION 2: THE RIGHT PRODUCTS FOR THE RIGHT APPLICATION

In this section we will take a close look at appropriate usages of different products when used in different applications such as decks, covered porches, railings, pool areas, walkways, bridges, pergolas, boardwalks and gazebos. This will help you select the right product that is appropriate for your particular project.

Appropriate usage of materials for different project types

Project type / Application ↓	Ipe	Cumaru	Garapa	Treated Lumber	Cedar- 1*	Fir	Mahogany-2*	Composite Wood	Plastic lumber
Covered porch	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exposed decking 5 years	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exposed decking 15 years	Yes	Yes	Yes	No	No	No	No	No	3*
Exposed decking 25 years	Yes	Yes	Yes	No	No	No	No	No	3*
Pool / Hot Tub area	Yes	Yes	Yes	No	No	No	No	No	No
Walkway	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Railings	Yes	Yes	Yes	Yes	Yes	Yes	Yes	4*	No
Pergola	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Gazebo	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Siding	Yes	Yes	Yes	No	Yes	No	No	No	No
Boardwalk	Yes	Yes	Yes	No	No	No	No	No	No
Footbridge	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No

1*- Cedar requires annual maintenance for exposed applications

2*- Mahogany requires annual maintenance for exposed applications

3*- Unknown- Plastic lumber has only been on the market for 5 years with mixed results

4*- Certain heavily coated Composite Wood railings can be used for railings

SECTION 3: DECKING MATERIALS ESTIMATED “USABLE” LIFE

The lifespan of all the decking materials varies greatly due to many factors including; which species is selected, which “grade” of lumber, whether or not the material will be painted or sealed, amount of direct sunlight exposure, overall weather conditions and site specific criteria regarding shading, trees, downspouts and exposure to moist and dry conditions, ventilation and more.

Each product will actually perform differently on different sites under different conditions. For example cedar decking will probably last longer in a dry partially covered environment than a wet one or a fully exposed application. Additionally, “usability” is a subjective term. For example, most people will not wait for a board to rot completely through before they replace it. When the product starts to wear out or “ugly out”, such as totally faded or “mushy” composite decking or excessively split or checked wood decking, people may delay their decisions to replace their decking based on their budget or other life circumstances.

EXPOSED APPLICATION - ESTIMATED DECKING LIFESPAN

<u>Decking Material</u>	<u>Usable Lifespan range</u>	<u>Estimated Lifespan</u>
Ipe decking	30 to 50 years	30 (very conservative estimate)
Cumaru decking	30 to 40 years	25 (very conservative estimate)
Garapa decking	25 to 35 years	25 (very conservative estimate)
Pressure treated decking	8 to 12 years	10
Knotty Cedar decking	8 to 10 years	10
Clear Cedar decking	8 to 12 years	10
Mahogany decking	10 to 14 years	12
Composite decking	5 to 12 years	10
Plastic decking	Not known	15 years?

As you can see by looking at the estimated lifespans of decking that we have assigned, the figures are very conservative for the high density hardwood decking species of Ipe, Cumaru and Garapa. You probably also noticed that the estimated lifespans for the other species and the synthetic decking are comparatively generous. Despite that, when we look at the Life Cycle Cost Analysis in the next section you are in for a big surprise.

SECTION 4: CARE AND MAINTENANCE OF DECKING PRODUCTS

Many of the synthetic decking products once claimed to be “maintenance free”. This statement is patently false with regards to ANY decking product. The synthetic deck manufacturers quickly pulled these false claims from their marketing and advertising materials. The simple truth is that ALL decking products need to be thoroughly cleaned at least once a year in order to remain looking good. Many of the types of decking material will need additional care as well:

Pressure Treated Decking Maintenance

Pressure treated decking must be sealed, stained or painted in order to keep from splitting, checking and cracking. If pressure treated decking is not sealed, typically once a year, it will speed up the degradation process and lower the “usable” lifespan of the decking material.

Cedar Decking Maintenance

Cedar decking also must be sealed, stained or painted in order to keep from splitting, checking and cracking. If cedar decking is not sealed, typically once a year, it has a tendency to decay and rot. Careful attention must also be paid to sealing the ends of the boards to prevent “wicking” and rotting on the ends of the boards. Failure to seal cedar decking will speed up the degradation process and lower the “usable” lifespan of the product.



Mahogany Decking Maintenance

“Mahogany” decking should also be sealed to minimize splitting, checking, cracking and cupping of the deck boards. If the mahogany decking is not sealed, this will speed up the decay process especially the cracking, splitting and deep surface checking.

Composite Decking Maintenance

Composite decking cannot be sealed so there’s no real way to keep the dirt, moisture, mold and mildews from collecting and propagating out of the pores and crevices on the surface. There are a number of different brands of mildewcides that have been developed specifically to help kill the fungus growing on composite deck surfaces. Many of these mildewcides fade the colors from the composite decking surface. The other option is to clean and scrub the decking repeatedly throughout the year to prevent the spores from growing in the decking. Failure to kill the spores will accelerate the degradation process.



Plastic Decking Maintenance

Plastic decking and PVC decking have not been around long enough to determine how long they will last. From what we’ve seen so far, plastic decking fades much faster in direct sunlight and there’s nothing you can do to stop it. When the surface of plastic decking becomes scratched or gets burned – it cannot be sanded out.

High Density Hardwood Decking Maintenance

High Density Hardwood Decking does not need to be painted, stained or sealed...ever. Whether you choose Ipe decking, Cumaru decking or Garapa decking, the woods are so tight and so dense that they are virtually impermeable. Like all real wood, all natural products, the surface will age gracefully to a mellow silvery patina over time.



Unlike other wood decking materials, though, Ipe Cumaru and Garapa are extremely resistant to decay and insect infestation. Mataverde® Premium Hardwood Decking species actually carry a 25 year warrantee against insect damage and decay. So, if a natural silvery patina on your deck appeals to you, the only maintenance you need to do is clean your decking. This can be easily accomplished with a bucket of warm soapy water and a stiff bristle (non-metallic) brush once a year or as needed.



If you prefer that your high density hardwood decking remain in “like new” appearance, the only products that are currently available are Brazilian rosewood oil products such as Penofin Penetrating Oil Finish. These oils will darken and enrich the look and feel of your decking and will help maintain the original look of new wood decking. Depending on your deck and the amount of light, shade, rain, snow and traffic it receives, these products typically last one or two years before they have to be reapplied.



SECTION 5: DECK PRICING

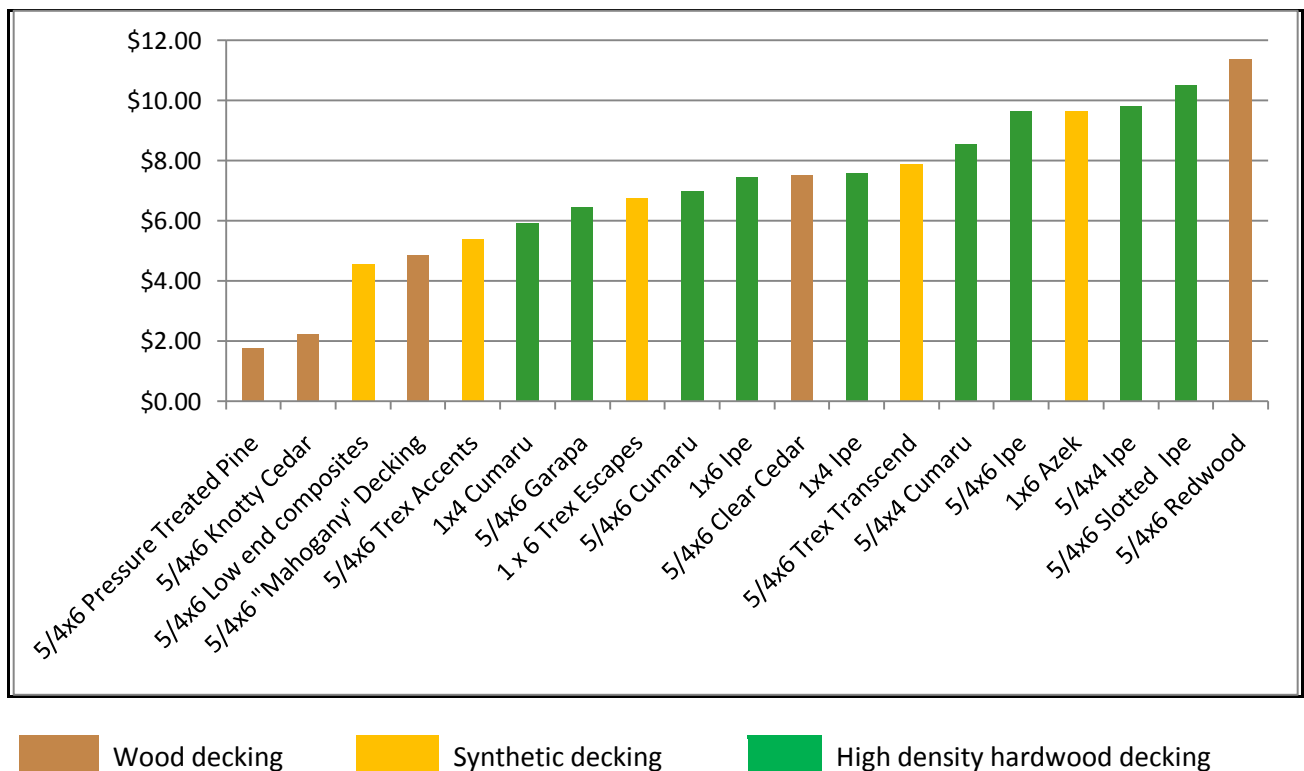
When considering what the best material will be for your deck, pricing certainly plays an important part in your decision making. A few key points to realize are that:

- When you are adding up all the components that will factor into your initial deck price (permit, framing, labor, railing, stairs, decking), you will notice that the decking only accounts for about 25% of the total price of your entire deck. While the decking portion of the price may be relatively small, it will be the focal point of your deck for years to come.
- There are many high density hardwood decking options that not only have a lower cost than synthetic decking, but will last much longer...and last beautifully.
- A low initial price of decking does not necessarily mean it will be the lowest cost alternative as time goes on. In fact, "lower cost" decking like pressure treated lumber are actually the highest cost items when you calculate the total life-cycle costs of your deck.

INITIAL DECKING PRICING PER SQUARE FOOT

By using a square footage price for decking, it will be much easier for you to make an "apples to apples" comparison of decking material prices.

Comparative Decking Prices per Square Foot – August 1, 2011



As you can see from the comparative decking prices chart, there is a wide range of products and prices to choose from. There are also many high density hardwood decking materials to select from in the moderately priced section including Cumaru decking, Garapa decking and Ipe decking. Additional good news is that this is merely the initial cost comparison. When you look at the entire life-cycle cost, high density hardwood decking has a few more surprises in store for you.

INITIAL COST ANALYSIS

Let's take a look at a real deck price comparison to build the entire deck, including framing lumber, hardware, labor, railings and decking materials. In the chart below you will see the total costs of construction for each type of deck:

12' x 24' Deck Initial Cost (288 Square feet)	Mataverde® Ipe Decking	Mataverde® Cumaru Decking	Mataverde® Garapa Decking	PVC "Plastic" decking	"B" Redwood decking	Trex "Transcend" decking	Treated Pine Lumber decking	"Clear" Red Cedar decking	"Mahogany" decking
Board Nominal Size	1 x 6	1 x 4	5/4 x 6	1 x 6	5/4 x 6	1 x 6	5/4 x 6	5/4 x 6	5/4 x 6
Total Square Footage	288	288	288	288	288	288	288	288	288
Decking cost per Square Foot	\$7.46	\$5.91	\$6.43	\$9.65	\$11.34	\$7.85	\$1.74	\$7.53	\$4.84
Decking cost total	\$2,148	\$1,702	\$1,852	\$2,779	\$3,266	\$2,261	\$501	\$2,169	\$1,394
Framing and Railing Material cost	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300
Labor Cost (\$12/sf)	\$3,456	\$3,456	\$3,456	\$3,456	\$3,456	\$3,456	\$3,456	\$3,456	\$3,456
Total Initial Cost	\$7,904	\$7,458	\$7,608	\$8,535	\$9,022	\$8,017	\$6,257	\$7,925	\$7,150
Total initial Cost / SF	\$27.45	\$25.90	\$26.42	\$29.64	\$31.33	\$27.84	\$21.73	\$27.52	\$24.83

Depending on your choice of decking, the total cost of building a deck, including all materials and labor ranges in price from \$21.73 / square foot (pressure treated decking) to \$31.33 / square foot ("B" grade Redwood). From a total cost standpoint, the entire deck project would range from \$6,257 (pressure treated decking) to \$9,022 ("B" grade Redwood).

LIFE CYCLE COST ANALYSIS PER SQUARE FOOT PER YEAR

Now that you have had a chance to look at the initial cost of decking per square foot and the total cost of building a new deck, it is time to look at the overall cost of owning a deck throughout the entire life cycle of the deck. Life Cycle Cost is defined as “the total cost of owning and operating a long term asset over its lifetime”.

When applied to a deck, this would include all the initial costs of building the deck as well as all costs to maintain the deck throughout its lifetime and the cost of demolition and disposal after its lifetime is complete. The chart below shows the initial cost and all other anticipated costs within the life cycle of the deck.

Life Cycle Cost Analysis based on a 12' x 24' deck (288 square feet)	Mataverde® Ipe Decking	Mataverde® Cumaru Decking	Mataverde® Garapa Decking	PVC “Plastic” decking	“B” Redwood decking	Trex “Transcend” decking	Treated Pine Lumber decking	“Clear” Red Cedar decking	“Mahogany” decking
Board Nominal Size	1 x 6	1 x 4	5/4 x 6	1 x 6	5/4 x 6	1 x 6	5/4 x 6	5/4 x 6	5/4 x 6
Total Initial Cost	\$7,904	\$7,458	\$7,608	\$8,535	\$9,022	\$8,017	\$6,257	\$7,925	\$7,150
Cleaning costs/ year	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$75
Staining/Painting costs / year	\$0	\$0	\$0	0	\$150	0	\$300	\$300	\$300
Demolition and Disposal cost	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Estimated “Usable” Lifetime	30	25	25	15	15	10	10	10	12
Total Life Cycle Cost	\$12,154	\$11,333	\$11,483	\$11,660	\$14,397	\$10,767	\$12,007	\$13,675	\$13,650
Life Cycle Cost per year	\$405	\$453	\$459	\$777	\$960	\$1,077	\$1,201	\$1,367	\$1,137
Life Cycle Cost per S.F / year	\$1.41	\$1.57	\$1.59	\$2.70	\$3.33	\$3.74	\$4.17	\$4.75	\$3.95

Highlights: Based on the total costs and the estimated “usable” lifetime of the decking material:

- Ipe, Cumaru and Garapa decking have the lowest overall life cycle cost per year
- Ipe, Cumaru and Garapa decking have the lowest overall life cycle cost per square foot per year
- Pressure treated decking (the lowest initial cost decking material) has the second highest cost per square foot per year

SECTION 6: PUTTING IT ALL TOGETHER

Now you have had the opportunity to look at and compare decking in a number of ways:

- Different types of decking materials available
- What you will be using your deck for
- How long you would like your deck to last
- Care and maintenance of your deck
- Short term pricing
- Long term pricing

It's time to put all your information and thoughts together to make the decision that is right for you. If you haven't already decided which type of decking you'd like to use, here's a little "wish list" chart you can use to help. Simply check off what's important to you when choosing your decking.

<u>CHARACTERISTIC</u>	<u>IMPORTANCE TO YOU</u>		
	<u>LOW</u>	<u>MEDIUM</u>	<u>HIGH</u>
Real wood product			
Environmentally friendly			
Low maintenance			
Last longer than 15 years			
Insect / Rot resistant			
Strong / no sagging or deflection			
Scratch resistant			
Resistant to splits/checks/cracks			
Low expansion and contraction			
Low initial cost			
Low long term cost			
25 year warranty			

After you have checked off what the important characteristics are to you and how important each one may be to you, compare it against the chart on the following page to help you select a product or products that are just right for you.

Summary Chart of Comparative Decking Characteristics

PRODUCT CHARACTERISTICS ↓	IPE	CUMARU	GARAPA	"Mahogany"	Redwood	Red Cedar	Treated Pine	Plastic Decking	Composite decking
Real wood product	Y	Y	Y	Y	Y	Y	Y	N	N
Environmentally friendly	Y	Y	Y	N	Y	Y	Y	N	Y
Low maintenance	Y	Y	Y	N	N	N	N	Y	Y
Annual maintenance	N	N	N	Y	Y	Y	Y	N	N
Warranty	Y	Y	Y	N	N	N	N	Y	Y
Insect resistance	Y	Y	Y	N	N	N	N	Y	Y
Rot resistance	Y	Y	Y	N	N	N	N	Y	Y
Cupping	Low	Low	Low	Med.	Low	Med.	High	Low	Low
Splitting	Low	Low	Low	Med.	Low	Med.	High	Low	Low
Warping	Low	Low	Low	Med.	Low	Med.	High	Low	Low
Checking	Low	Low	Low	Y	Y	High	High	Low	Low
Shrinkage	Low	Low	Low	Low	Low	Low	Med.	High	High
Heat retention	Low	Low	Low	Low	Low	Low	Low	High	High
Stability	High	High	High	Med.	Med.	Med.	Med.	Low	Low
Rigidity	High	High	High	High	Med.	Med.	High	Low	Low
Decking cost / SF	\$7.46	\$5.91	\$6.43	\$4.84	\$11.34	\$7.53	\$1.74	\$9.65	\$7.85
Estimated life expectancy	30	25	25	12	12	10	10	15	10
Life Cycle cost / SF / year	\$1.41	\$1.57	\$1.59	\$3.95	\$3.33	\$4.75	\$4.17	\$2.70	\$3.74

Please use this reference to see how well each decking product matches up with your wish list from the prior page.

We hope you have found this guide to be helpful to you. Please feel free to contact us with any questions! [Click here to visit our website.](#)