

Alder

A standard body material for solid guitars and basses, its popularity is due to its light weight, balanced tonal response and good resonance. The colour ranges from medium light tan to a pale reddish brown. Its closed grain makes this wood easy to finish

Alder has a balanced tone with well defined lows and clear highs, with no real prominence in any one area, apart from a mildly dominant upper midrange. It is fairly resonant and complex, with good dynamic range. Primarily known for its use in the Fender Stratocaster (it provides good Blues and Rock tone) it is very adaptable & can be used to build guitars that can fit most musical styles.

Will require very light grain filler, more vivid grains tend to come from flat sawn timbre.

Not suitable for a neck.

Ash

There are two species of Ash used in guitar building: Northern Hard Ash and Southern swamp Ash.

"Southern Soft" or "Swamp Ash"

Swamp Ash comes from swamps in the Southern United States. Growing conditions result in a porous lightweight wood, with open pore structure & hard grain lines running between softer layers. It is a light weight wood, light tan in colour with prominent dark cream grain patterns.

Good balance of brightness and warmth with a decent dynamic range. Clear, bell-like highs, scooped complex mids, and strong low end. The mid frequencies are vary variable, which can mean the tonal qualities will be inconsistent more than with most other woods (Different guitars built in the same fashion, but from different swamp ash billets, can sound radically different). It is very resonant, & gives good tone when played clean or driven.

Medium weight bodies provide the best tonal resonance, balance and sustain. Extremely light bodies tend to have a weak bottom end, loss of sustain and sound thin

Ash; Northern Hard

Very hard wood, and heavy. A Strat styled body will weigh upwards of 5 lbs. High density, with very bright tone & long sustain. It has a creamy colour, but can have pinkish brown tints towards the heartwood. Open grain, not as prominent as swamp ash.

Both types of ash will require extensive grain filler, more vivid grains tend to come from flat sawn timbre.

Not really suitable for a neck.

Agathis

Agathis is a cheap mahogany substitute. From the pine family of woods. Easy to work (often used in less expensive instruments). Tone is similar to mahogany, but with less life or sustain. Can be a little bland with a less complex tonal range.

Will require heavy grain filler.

Not suitable for a neck.

Australian blackwood (or black acacia)

Australian variety of the Hawaiian wood koa, identical in every respect with the exception of geographical location. Tonally it is very similar to mahogany.

Will require light grain filler.

Suitable for a neck if laminated.

Basswood

Very lightweight, closed-grained with a consistent tight grain pattern. The colour is whitish yellow to tan, sometimes prone to green mineral streaking. Better quality lumber is a darker tan and consistent in colour throughout (not good for clear finishes, for a solid colour guitar it is one of the better woods).

Basswood is a very soft wood which dents easily (Machining qualities are poor, tends to tear or crush under pressure from a cutting tool). Hard finishes like polyester can be used to counter some of this. Screw holes have a tendency to strip. There also needs to be a reasonable amount of wood in front of the anchors of a tremolo system to prevent the wood from cracking and the studs from leaning forwards. Can present problems at neck pockets, due to instability if there is not sufficient wood around all 3 faces of the pocket.

Pronounced low & midrange frequencies. The tonal response is not very complex. The lack of high end response can be offset by the use of floating tremolos and locking nuts. Suitable for Metal and Rock music styles as well as for distorted lead tones, Clean sounds tend to lack any real life or character.

(Basswood body with Quilt Maple top, the Holy Grail of tone?, Excellent with a Maple neck.)

Will require no grain filler.

Not suitable for a neck

Birch

Typically straight grained but sometimes found as wavy or curly grain. Arctic birch can have very prominent figured grain. The sapwood is a creamy tan, progressing towards a light brown for heartwood. No prominent grain except for figured woods. Easy to work with hand and power tools. Cuts clean and finishes to a smooth surface.

Tonally it is very similar to figured maple.

Will require light grain filler.

Suitable for a neck if laminated.

Bocote

Typically straight grained but can have some weaving or figuring. Varying widely in appearance it is usually gray, yellowish or tobacco coloured to a reddish brown, with irregular dark brown or black streaks and variegations. Medium grain. It finishes very smoothly.

Very hard and dense. Can be used to make excellent fingerboards.

Very controlled, similar to ebony.

Will require no grain filler. Can be used with no finish as fret board.

Suitable for a neck.

Boxwood

Boxwood has been used for centuries for making woodwind instruments. It has a bright, sweet quality that can also be made rich and colourful by the player. (miyazawa.com)

Straight grained with an even straw yellow colour. Ultra fine and uniform, it finishes to a polished surface. Excellent machining properties, But can be difficult to work with hand tools due to its density.

Will require no grain filler.

Bubinga

Very heavy & strong African rosewood, typically an electric bass wood. For electric guitars, it mostly used as laminate tops because of the weight. Pours can sometimes contain red gum

Typically straight grained, Fine pours. Deep reddish brown colour with black variegations, highly figured examples are rare & can be expensive. Works as an excellent laminate with maple necks. Bright midrange and bass tones

Will require light grain filler.

Suitable for a neck.

Cedar

Cedar does lose tonal integrity when over driven, making it a poor choice for versatility but an excellent top wood for showcasing finger styles.

Cedar; Alaskan (Cedar; Yellow)

Grain is always straight with an even sulphur colour & no distinctive pattern. Fine and uniform texture takes a finish very well, exceptionally easy to work, Glues well & resists rot/decay.

Cedar; Pencil (Cedar; Red)

Typically straight grained, light reddish brown, purplish or rose-red, usually with streaks of lighter coloured sapwood. Fine and uniform when finished. Easy to cut and/or machine

Red cedar is in a rapid decline and supply due to the over-lumbering of the tree

Cedar; Spanish

Spanish cedar is from the same family as Honduran Mahogany & makes a good substitute in cases where real Honduran Mahogany can not easily be sourced. Heartwood is red or dark reddish brown, sometimes with a purple tinge. Grain is typically straight, sometimes interwoven. Very varied in texture from fine and uniform to coarse and uneven. Easy to work with hand and machine tools and has good gluing properties; stains and finishes well.

Tonally similar to mahogany.

Will require light to medium grain filler.

Suitable for a neck if laminated.

Cherry

Heartwood varies in colour from reddish brown to deep red or light reddish brown, with brown flecks. (Cherry is UV sensitive and will change to its characteristic reddish-brown, mahogany shade upon exposure to full spectrum sun light. Fine grained with dark wavy streaks. Figured examples can be found.

Very stable, little or no warpage. Works easily with hand and power tools

Often contains gum pockets.

Will require light to medium grain filler.

Suitable for a neck if laminated.

Cocobolo (Mexican rosewood)

Probably the heaviest of the rosewoods, it has particularly impressive grain. **Always wear respirator equipment when using this wood as the dust from cutting and sanding can cause severe allergic reaction.**

Very oily wood, can be very difficult to glue.

Due to its lower density it offers a smooth, mellow sound with plenty of warmth. (miyazawa.com)

Typically straight grained, extremely dense hardwood. Naturally oily, it requires no finish coat of varnish, shellac or any kind of sealer. Variable in colour from deep orange to red, it gains black striping & mottling from exposure to air during the drying process.

Cocobolo is often used for fretless basses because of its extreme durability. Its natural hardness and oiliness keep it from developing the grooves common to other fingerboard woods.

Tonally similar to Brazilian rosewood.

More suitable to a fret board than a whole neck. Can be used if laminated with hard maple.

Ebony

Heaviest of the hardwoods, very dense, black with some occasional grey – brown streaking. Machines well, and resists warping and cracking. A popular wood for fingerboards due to its stability and strength. Gives excellent anchorage for frets. Bright open tone, Very clear controlled sound. Its density makes it particularly good for hammer on's & tapping. Requires no finish, Polishes to a high lustre.

More suitable to a fret board than a whole neck (due to expense, Can be 3-4 times the cost of maple). Or if laminated with another wood.

Ebony, Macassar

As above. Colour consists of thick bands of dark brown and black.

Ebony; Texas

Texas Ebony is very rare, growing only in southern Texas and northern Mexico. Extremely hard and dense, dark Chocolate brown to black, with distinct striping in the grain. Requires no finish, bare wood polishes to a mirror shine. Takes frets well and is extremely stable.

Due to cost, Making a whole neck or body with this material would be impractical

Goncalvo (orange cocobolo)

Similar to ebony, but with a lot of orange, gold, and brown in its colouring.

Goncalo Alves

Very dense smooth texture, with a waxy fast feel. No finish required, bare wood polishes to high lustre. Irregular grain, straight to wavy or interlocked, with Irregular dark longitudinal bands producing well figured wood. Colour is initially reddish-brown, golden-orange or brownish tan to red, typically heavily mottled with dark brown streaks and spots. Becoming brown, red, dark reddish brown, with nearly black stripes, after prolonged exposure to UV.

Clean warm tone

Kingwood

Irregular grain. Light golden brown to violet, with irregular black to brown streaks. Can be polished and finished very easily. Purple with streaks of light and dark violet. Makes a nice fret board.

Koa wood

Medium to heavy weight wood grown exclusively in the Hawaiian Islands (traditional wood for ukuleles and high-end acoustic guitar back and sides). Light, honey-brown colour. Figured koa has an extremely deep appearance.

Warm tone and sustain similar to Mahogany, but a little brighter with less extreme low end. Midrange & treble response is smooth and compressed with clear lows. Works well with resonant chambers to increase resonance and dynamics as well as reducing the body's weight.

Figured woods are rare & expensive.

Suitable for a neck if laminated.

Korina (Limba)

Similar to Mahogany, although it is not quite as dense. The original wood used for many classic Gibson's (early Explorer and Flying V). It has all the good tonal properties of mahogany, but is more responsive with a sweeter sounding midrange.

Korina (White Limba)

Medium weight wood similar to mahogany. Tan to reddish brown. Even grained with no significant figuring.

Limba; Black

Usually lighter in weight than white limba. with more prominent grain pattern. Can be greyish tan to light tan with vivid dark chocolate brown to black grain in thick bands.

Korina / Limba is taught by many to be the holy grail of tone woods. Having tried various guitars of similar set ups with different body woods I think I would have to agree. There is definitely a richer, fuller tone to this wood than others I have tried.

Will require medium grain filler.

Suitable for a neck.

Lacewood

Medium weight wood from Australia. Density tends to vary a lot from piece to piece so weight can be inconsistent. Dark reddish-brown grain surrounding softer, lighter coloured wood. Like maple. Tonally similar to Alder, but a little brighter. The lows are tight, wide midrange and a bright high frequency response.

Will require light grain filler.

Suitable for a neck if laminated.

Mahogany

Fine, open grain with large pores, interlocking grain pattern and good density.

Reddish brown (better examples have a strong gold sparkle when used with a clear finish). The low frequencies are good, prominent low mids and less upper midrange with smooth sounding highs. Overall, the tone is warm. Often used with a maple top or neck to add some high end & brightness.

Good mahogany ages well, improving the overall tone over time. It is an extremely stable wood, with less chance of warping over time than most other species. Honduran is the species of choice, but this is now extremely rare & difficult to find. (The best substitutes I have found are white limba or Spanish cedar, tonally)

Mahogany; Honduran

Produces a medium to heavy weight instrument. Warm, full sound, with good sustain. Often used with a maple top to add brightness. Reddish, pinkish, salmon coloured or yellowish when newly felled. Colour deepens with age to a deep rich red or brown. Fine to coarse grain, can be straight, wavy, or curly, often with good figuring.

Can be air-seasoned, or kiln-dried without excessive warping or checking. Easy to work with hand or machine tools.

Will require medium to heavy grain filler.

Suitable for a neck.

Maple

There are two principal types of Maple used in guitar making. Eastern Hard Maple (hard rock maple) and Western Soft Maple (big leaf maple). A variety of figured variations of these are also used for guitar tops. White with tight pores and thin grain lines. Soft maple often features highly intense figuring.

Hard Maple (Eastern, hard rock or sugar maple):

Very hard, heavy and dense wood. Primarily used for necks rather than bodies. Very bright sounding, with strong highs and a prominent upper midrange. Bass frequencies are very low & controlled, very long sustain. Excellent for necks as it tends to create a very articulated sound. Separation between notes is highly pronounced, favoured by lead guitarists & some bass players as it helps stave off muddiness in your sound.

Soft Maple:

Typically, considerably lighter in weight than Hard Maple. Tonally very similar, but is not as sharp. Produces clear highs with a tight low end. Good sustain. Not as suited to neck construction as hard maple but can be used if quarter sawn or laminated.

Will require little or no grain filler.

Suitable for a neck.

Figured maple

Figured maple is often preferred for its visual qualities (figure has no real bearing on sound except in spalted pieces where the density of the wood can vary massively within a single piece). Most common are curly (flame, fiddleback, tiger maple). Quilted and birdseye maple. More exotic examples are burly, spalted and wild maple.

Highly figured woods can be difficult to work due to their erratic grains.

Flame Maple

Flame, curly, fiddleback or tiger maple all feature stripes of various intensity. Flame can be tight, wide, straight or crooked. Often found on Les Pauls & PRS guitars. Can be used for a neck if the stripes are tight.

Suitable for a neck if laminated.

Quilted Maple

Billowing cloud, bubbly or wavy appearance. The figure can vary from large, wide bands to tight small blisters. The figuring can be exaggerated by using various staining techniques to add depth. Not recommended for a neck due to the erratic nature of the grain.

Not suitable for a neck.

Birdseye Maple

Only found in eastern hard maple. Usually a shallow figuring that does not penetrate deep in the boards. This can make it a poor choice for deeply carved tops, but for flat top instruments it works very well.

Suitable for a neck if laminated.

Spalted Maple

This wood is the product of a dead or decaying tree which has been attacked by fungi. The wood contains soft areas you could probably push a finger through surrounded by areas of unaffected hard wood. Typically only used as a laminate top on flat top bodies, preferably with binding. Carved examples are available, but are rare due to the difficulty in the carving process.

Not suitable for a neck under any circumstances.

Burl Maple

Intense looking wood, usually very porous, with bark inclusions which make achieving a level finish a challenge. Again, carved examples are rare but do exist. Should be finished in clear poly or nitro for best results.

Not suitable for a neck.

Nato

South American hard wood, Used as a cheap mahogany substitute for until agathis became popular.

Avoid using it if possible.

Padouk

Open grained, similar to most rosewood. Vivid purple, red or orange, oxidizes during curing to a deep brown. It has a waxy feeling & requires no finish as a fret board. Will polish to a high lustre.

Pau Ferro (Morado)

Most of the material that begot the perception of quality in the rose wood family is now long gone old growth trees, so perhaps it's time to re-evaluate our preferences. By the way, the public's desire for rose woods has also motivated manufactures to fib from time to time. Pau Ferro is not a rose wood, but is easily passed off as one. Bubinga is passed off as Chinese Rose wood even though it is not of the rose wood genus. (Linc Hoke)

Tight grain, usually wavy or interlocked with a coarse-texture. Heartwood is pink, yellow, or dark brown, often striped with red-brown bands. Strong lower mids and bass with excellent clarity. Makes a good fret board & requires no finish.

Poplar

Closed grain with a greyish-green colour. Very similar to alder in weight and tone. Good for solid colour bodies. Common body wood used by many manufacturers including Fender

Will require little or no grain filler.

Not suitable for a neck.

Purpleheart

Purple coloured very dense wood with a coarse grain. Colour changes to deep purplish brown over time. Bright sounding,

Will require medium grain filler.

Suitable for a neck if laminated.

Redwood

A hard, dense pinkish wood sometimes used for laminated tops. Tonally similar to maple, but slightly warmer with more resonance. Often has dramatic figuring.

Rosewood

Most often used for fret board wood, rosewood is sometimes used for guitar bodies. It is the heaviest of the traditional tonewoods, dark brown, with reddish, purple or orange streaks running through it. Extremely dense & stable. Very resonant wood, despite having a high oil content (typically oil will tend to dampen the high frequencies), it gives a very warm tone. Guitars made of rosewood often have a very pronounced reverb-like resonance

brazilian rosewood

One of the more popular species, Varies in colour from brown to red or violet, and is erratically streaked with black. The grain is typically straight, occasionally wavy. It provides a deep warm tone. Tonal differences between Brazilian and Indian Rosewoods are negligible, visual & financial aspects usually are the decider between these woods.

Quality has dropped over the years due to over cutting. There is very little of this wood left, what is left growing should probably be left there & protected.

indian rosewood

Warm deep tone. Can be very plain in appearance compared to Brazilian, but should not be considered inferior to Brazilian.

Rosewood; Bois de Rose (Rosewood; Madagascar)

Very impressive visually, similar to East Indian Rosewood in texture, and colour but the grain colours are very vibrant. It can be a little expensive as it is very rare. It grows only in Madagascar.

Rosewood; Honduran

Pink to purplish brown with darker and lighter striations. The grain is typically straight with a medium to fine grain. Polishes to a low-medium lustre.

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There are roughly a dozen species of true rose woods in the world. (Yes, they smell like roses when cut with a saw.) A partial list would include Tulip wood, King wood, Cocobolo, East Indian Rose wood, and Brazilian Rose wood. With the exception of the latter, these are oily to the point of being dead in the tone department. So what is the point in coveting these materials when there are sonic superiors available? The problem is that in the public mind, rose wood is cool, so it has long been over harvested. Because of this Brazilian Rose wood has been banned from importation to the United States for over twenty five years. (Linc Hoke)

Most will require no finish.

Suitable for a neck if laminated.

Satinwood

Sapwood is yellowish white in colour. The grain is straight or slightly interlocked. Fine textured with good polishing characteristics.

Satinwood; Brazilian

The grain is straight or slightly interlocked. Even lemon yellow colour when newly felled, it darkens to a golden yellow. This wood is UV reactive & will change colour when subjected to sunlight, eventually turning dark ivory in colour. Heavy, dense wood similar to maple. It can be machined easily but is very hard work with hand tools.

Spruce

Best known as an acoustic guitar top wood. Extremely stiff for its density. It is a multi-density wood, hard grain and soft wood in between. Creamy white in colour. Probably the broadest tonal spectrum of any electric guitar tonewood, with very strong midrange resonance. Can be used as a laminate. Will require a hard finish as it is very easily damaged.

sitka spruce

Warm round tone. It is the most frequent choice in acoustic steel string guitars. Creamy white with a pink tint. The grain pattern appears as narrow pin striped lines. Strong, stable, But can be difficult to get a clean smooth finish if care is not taken.

German spruce

Higher weight to strength ratio than Sitka. Bright clear tone. Strong & durable, Similar to sitka in appearance. This wood is very rare & prices will reflect this.

Sen

Sometimes referred to as 'sen ash', this is incorrect as it is not ash. Although it is similar in appearance, it is tonally more similar to.

Tulipwood

Red, pink, and yellow with some darker streaking. Very hard, almost like ebony. Straight grained with a fine texture. Polishes to a high lustre.

Walnut

Medium dense hard wood with a strong grain pattern similar to ash, But with much darker colouring. Colour varies from light greyish brown to deep chocolate with black purplish vivid grain patterns. Tonally, it is warm with solid, snappy low end, complex midrange with bright high frequencies, but very smooth.

Will require medium – heavy grain filler.

Suitable for a neck.

Wenge

A black hard wood with chocolate brown stripes. Very hard, coarse textured wood with open grain. Good midrange tone with warm lows. Can be expensive for a body, Best as a laminate or a neck.

Will require medium to heavy filler.

Suitable for a neck.

Ziricote

Greyish brown, often features very dramatic figuring. High density oily wood, tonally similar to rosewood. A heavy weight wood, probably best reserved for laminated tops.

Will require little or no grain filler.

Suitable for a neck if laminated with a more traditional, straight grained wood like hard maple.

Zebrawood

Heavy wood with very open grain. Light and dark brown 'Zebra' stripes can sometimes be so pronounced they look painted on. Mostly used as a laminate top due to its weight (would make a strat weigh in around the same as a Les paul). Tonally similar to hard walnut.

Will require medium grain filler.

Suitable for a neck if laminated.

Acolian guitars