

Laminated verses solid wood in classical guitars

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Classical Guitars

When it comes to classical guitars, conventional wisdom holds that solid wood instruments are superior to laminated wood guitars. However, most guitars have some laminated parts, like the headstock, and even cheap guitars have solid wood bits. In this article, I will explain the difference between laminates and solid wood, and describe their advantages and disadvantages in classical guitar construction.

Firstly, I had better roughly define what most people understand by the term 'laminated'. In guitar construction terms a laminate consists of two or more layers of wood glued together. The top and therefore visible layer is usually a veneer of attractive, and usually expensive, wood glued to a cheaper layer of solid wood or plywood. Plywood is a composite of three or more pieces of inferior wood glued and bonded together. Plywood is cheap, light and strong and so factories often use it to produce low-end guitars. The thin veneer over it disguises it and makes it look like just about any exotic wood you can think of. So, it sounds as though laminates are inferior to solid wood but this is not altogether true.



The main purpose of the sides of a classical guitar body are to provide strength and rigidity to the instrument and laminates are ideal for this. Three-ply laminates have the grain of at least one layer running in across the grain of the other layers, and this gives the construction great strength and rigidity. A guitar made with laminated sides will be hardy and not at all likely to crack, at least not on its side panels.

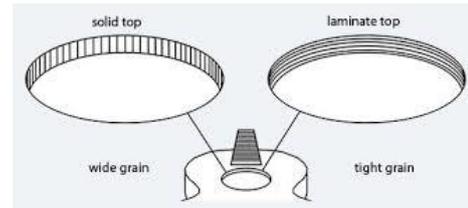
To complicate the matter even further there are laminates made from two pieces of high quality wood and these are sometimes called composites but more often are referred to as 'double laminates'. For instance, the early Ramirez 1A had rosewood sides lined on the inside with quality Cypress. Daniel Friedrich uses this method, as does John Bogdanovich. The *Dr* **Pepler** [Yulong Guo concert grade model](#) classical guitar has Ziricote sides lined with Cypress.

It is less common to find laminated backs in high-end guitars but here again there are some exceptions. For instance, the *Dr* **Pepler** [Modern Lattice master grade](#) classical guitar has a back made of double laminated Rosewood. The reason for this is that it allows the luthier to construct a considerably arched back without having to reinforce it with bracing. The result

is great strength without sacrificing tonal qualities and the only trade-off is that it makes the instrument a little heavier.

The disadvantages of laminates, other than double laminates, is that they do not vibrate as freely as high density solid woods and tend to produce a rather uniform and flat sound. This is the main reason why laminates do not make ideal woods for the guitar top (soundboard) and are usually only used for this purpose in low-end guitars. Some manufactures have succeeded in producing high-tech wood composites with many of the tonal qualities of solid wood, but as a rule, laminates are not suitable for guitar soundboards.

How do you tell if a guitar has a laminated top? The easiest way is to look at the profile of the wood as seen in the sound hole. If the grain runs vertically right through the woods cross section then it is solid, if it looks like thin layers running horizontally then it is a laminate.



It is a lot harder to identify if the back and sides are laminates. Two things usually give it away. The first is the fact that the wood pattern on the outside seldom repeat on the inside because there are two or more layers involved. The second is that you can sometimes stop the thin seam where the veneers have been joined to cover the full width of the back. However, when it comes to the soundboard it is an important consideration but when it comes to the sides and back it isn't necessarily a negative at all. Cypress lined sides are more costly to make, more ridged, and produce excellent sound reflection. A double laminated back is also more expensive to make, strong, tonally true, and a good sound reflector. These types of quality laminates are also less susceptible to changes in relative humidity.