

## QUALITY GRADING OF OUR WOODS

**Grading scale of Maderas Barber for the different woods used for the making of musical instruments: Electric & Bass Guitar, Classic Guitar, Acoustic Guitar, Violin, Viola, Cello, Double Bass and many more.**

QUALITY	GRADING
Special	AAA
1st	AA
2nd	A
3rd	B
4th	C
Pin hole	Pin hole
Narrow	Narrow

We emphasize that these are the definitions used by Maderas Barber since we started in the business. We have been applying these criteria year after year. In other words, our customers can buy from us year after year what they need following the same criterion than in their last purchase. It is possible that sometimes we do not have a certain quality in stock as it can happen with the highest qualities due to their relative scarcity over the years. Not all the wood suppliers use the same descriptions and criteria than Maderas Barber, for example, what we have classified as Special quality (AAA) other suppliers have classified it as AAAAA.

We would like to underline that not always the inferior qualities sound worse or the result of the wood on the instrument is minor. Sometimes lower qualities can give the same sound result.

We don't follow the same grading criteria in all the wood species. We cannot compare the same grading criteria in an Engelmann spruce top than in a European spruce top, in those two woods there can be a certain difference in the growth rings or in the stiffness. Or a Cocobolo back and side with a wood like Maple or Sapele. Cocobolo can have different colours tones and figure, and Maple or Sapele are more uniform woods. Grading is relative to the species of wood.

## Description of the classification criteria of Maderas Barber for the different instrument wooden parts

- **Soundboard tops**

The woods used for tops are: European and Engelmann Spruce, Sitka, Canadian Red Cedar, and Yellow Cedar.

One of the main criteria for the grading of the tops is without any doubt the growth rings. Tops with tight or fine grain and uniform grain from the centre to the edge are more highly rated. It is also important the vertically cut, being 90° the maximum and the most optimal. Additionally, tops having ripples known as silk are stiffer and add power to the tone. The wood used for tops should be stiff.

Uniform colour or all the defects that tops can have such as spots, colour tones, grain marks and knot shadows can have an influence on the instrument but we do not mean that lower quality tops don't have an optimal sound when making the instrument.

Violin, Viola, Cello and Double Bass tops are graded with a different criterion than the guitar tops. Wood tops for Violin and Viola tops should have a slower growing and tighter grain than the tops used for the Cello and Double Bass.

- **Neck and Heel**

This part of the instrument is the one that suffers more the tension of the strings over the time. It must have a vertical cut, if possible 90 degrees in the width, this will influence in the grading scale. Colour defects or knots will be also considered.

We recommend woods with elasticity 7400/10000N/MM<sup>2</sup> (Newton square millimetre) like Mahogany and Cedar.

For Electric & Bass Guitar, it is desirable the Hard Maple with an elasticity 11200-12000N/MM<sup>2</sup>, in that case flat cut is accepted.

- **Fingerboard**

Major requirement is that the wood used for fingerboards must be a hard wood. It is the part of the instrument that suffers more the pass of the years as it is touched thousand times.

The fingerboards are graded according to the straight grain and cut, colour intensity and defects. Fingerboards with defects like spots or knots will be downgraded. Ebony wood is ideal for fingerboards, it has a density of 1000/1200 kg/m<sup>3</sup>.

Before its used it is very important a good drying, it is quite common that the frets protrude if the drying process has not been done correctly.

The variety of tones is highly valued, as in woods like Cocobolo or other Rosewoods.

- **Backs and Sides**

Due to the wide range of woods used for backs and sides there is a big variety of criteria to evaluate the qualities. The Rosewoods, Dalbergias and other exotic woods are the most commonly used. Some traditional luthiers valued greatly the straightness of the grain vertically, this will give the instrument higher speed on the sound transmission and the instrument will last longer. Although some other luthiers prefer the beauty of tones or figures.

- **Headplate and Bridge**

Generally, the woods used for Backs and Sides are also used for the Headplate and Bridge even though it is non-essential. We only have one standard quality for the Headplates or Bridges but in some woods like Ebony that is classified for its colour we have more qualities.

- **Bracewood**

There are no quality criteria but it is recommended that the cut is as straight as possible, being the maximum 90 degrees. The woods use for the Bracewood are the Canadian Red Cedar, the European and Engelmann Spruce and the Sitka.

## Useful Terms

- **Figure:** Words like curly, quilted, bearclaw, and birdseye, all refer to different kinds of figure. Figure is genetic, is only found in a small percentage of trees and is highly prized and sought by luthiers
- **Colour:** Most woods have their basic colour but there can be variations in others. In Spruce for example, there can be darker tones of colour in the growth rings. In Cedar those colours can be strong and darker. Most of the luthiers, some luthiers prefer the clean tops without these colours and some others use these tops. In woods like Rosewoods or Walnut those colour alterations are highly prized for its beauty.
- **Winter grain:** These are the darker lines that define each annular ring on soundboards and normally guitar makers don't want these dark lines on tops. In Adirondak Spruce these lines is less avoidable and people expect to see it.
- **Stiffness:** The soundboard serves two purposes on a guitar, one as a stable anchor for the strings, and the other as the vibrating unit with which to move air i.e. produce sound. Those two purposes make stiffness very important. Even though too much stiffness is not good as it will dampen the tone. We will have to work with the thickness of the top making it thinner.

- **Medullar Rays or Silk:** These rays are perpendicular to the annular rings giving more stiffness to the soundboard and making the top finish even nicer.
- **Flame or curly figure:** Flames run perpendicular to the grain, with a three-dimensional optical appearance that brings out all the beauty when it is varnished. We can find them on the Maple or Anegre and only in rare occasions in the Cedrela Odorata, Ebony and other wood species.
- **Quilted:** It is rarer than the flame and has more three-dimensional appearance. It is highly prized and very much appreciated in the Mahogany, Bubinga, Sapele and Maple.
- **Birdseye figure:** It is becoming less available. It is a figure that's occasionally found in American and European Maple. They are tiny knots and it is more noticeable on flatsawn pieces.
- **Spider-webbing:** Those black or dark lines that cross from one annular ring to the other making spectacular figures can be found in some Rosewoods like the Cocobolo, Madagascar, Amazon, Santos and many more.
- **Bearclaw:** This can be found only in soft woods like in the Spruce soundboards. It is hard to describe, figure can be sometimes more pronounced, or thinner or wider. It looks like if a bear has sharpened its claws on the tree and left small waves in the grain.
- **Spalted:** "Spalting" is any form of wood coloration caused by fungi. It is caused by a pattern of bacterial decomposition in dead wood that looks like dark black lines and streaks normally irregular and does not follow any grain patterns. You must be extremely careful when you work with this wood as the spalting often destabilizes the wood. It is normally used for body tops but we do not recommend it for classic or acoustic guitars.

*If you need more information about the quality grading of our wood, don't hesitate in contact us. We will be pleased to answer you any question personally in our offices, through our telephone number (+34) 96 134 03 01 or via email:*

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