

Breedlove

Sound Better. Play Better. Play More.



THE BREEDLOVE DIFFERENCE

Sound Optimization™



THE BREEDLOVE DIFFERENCE

**CRAFTING SUPERIOR SOUNDING GUITARS
TO FIT YOU AND YOUR MUSIC.
HOW WE DO IT!**

The art and science of mastering superior acoustic sound and feel is complicated and somewhat technical. Here we present the Breedlove Difference: the critical craftsmanship steps to achieve superior acoustic sound, projection, tonal complexity, player feel and comfort.

We call it SOUND OPTIMIZATION™.





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UNDERSTANDING TONEWOOD VARIABILITY

01

Understanding Wood Variability is the Foundation of SOUND OPTIMIZATION™. Every tree growing in a forest neighborhood has its own life experience and as a result, its own wood characteristics. In fact, the wood from each tree can vary in density and frequency by as much as 30%. Among different species this variability is as significant as 100%. To optimize acoustic sound, it is critical to accept this variability and use it in the building process. Breedlove builds tops and backs by frequency, density and deflection – NOT BY DIMENSION. Most other production companies use predetermined dimensions that ignore wood variability. As a result, there can be significant variation in tone quality.



THE DIFFERENCE

At Breedlove, every tonewood set is used to its highest musical capability, while most guitar makers disregard the unique tonal variability of individual wood sets by processing tonewoods to a predetermined specification.



02

EVERY GUITAR IS UNIQUE

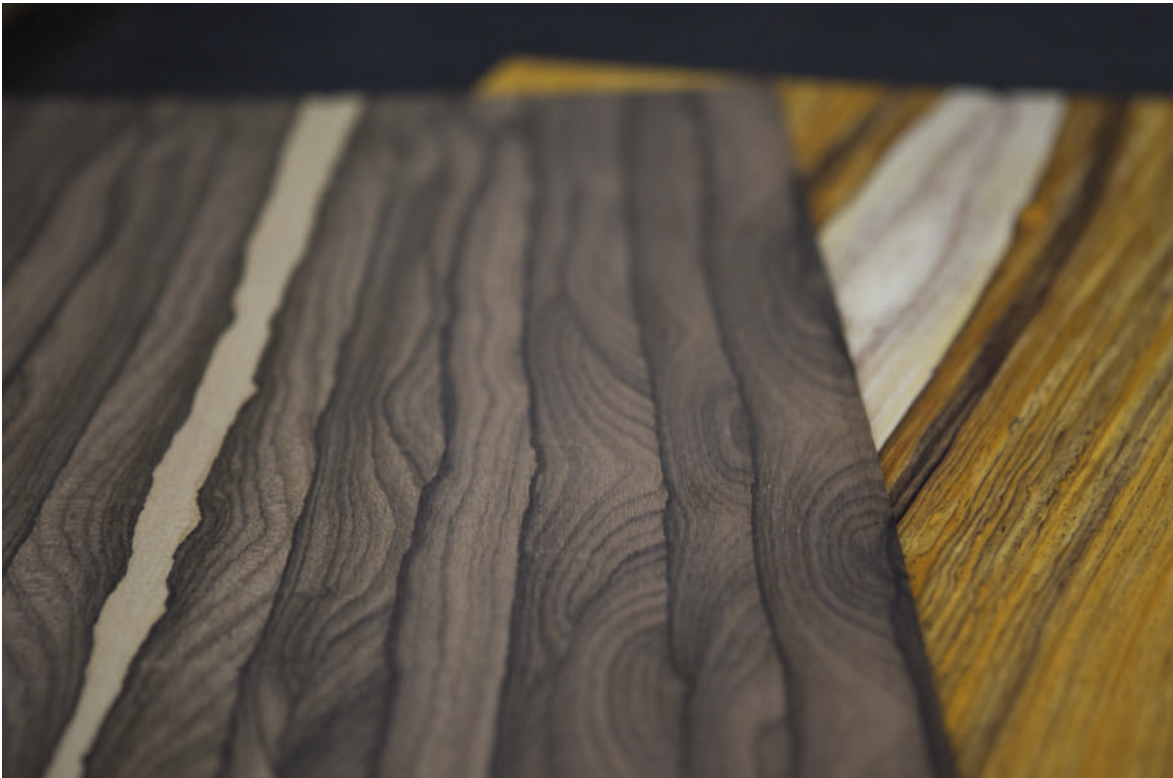
EACH GUITAR MUST BE UNIQUE TO ACHIEVE MAXIMUM SOUND OPTIMIZATION™

All guitars that we build in Bend, Oregon are handcrafted one-by-one. Did you know that every tonewood set is analyzed for its differing density, deflection, and frequency response?



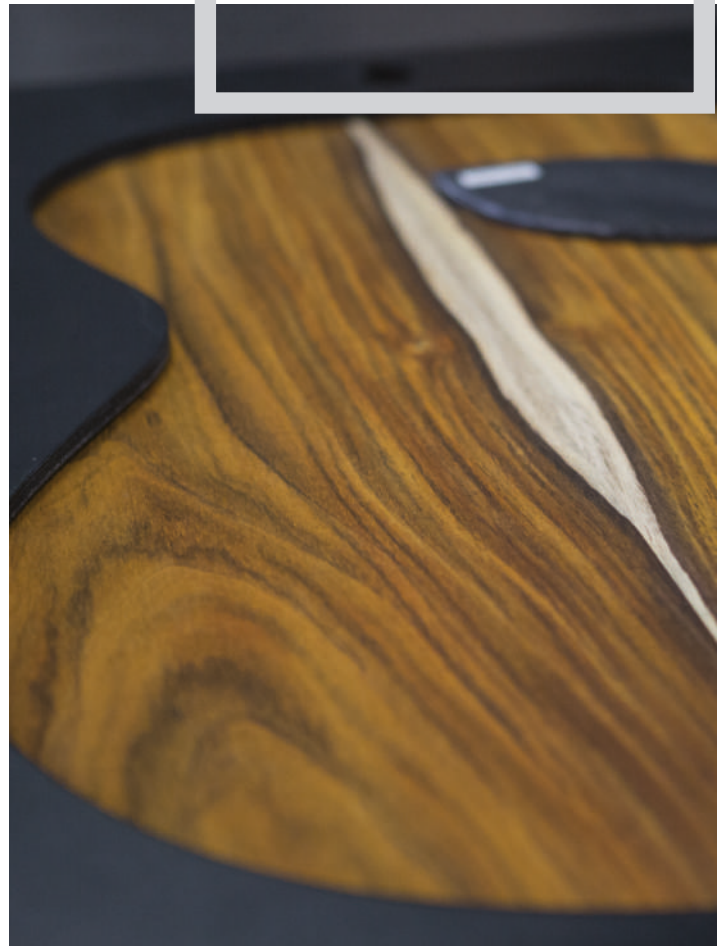
THE DIFFERENCE

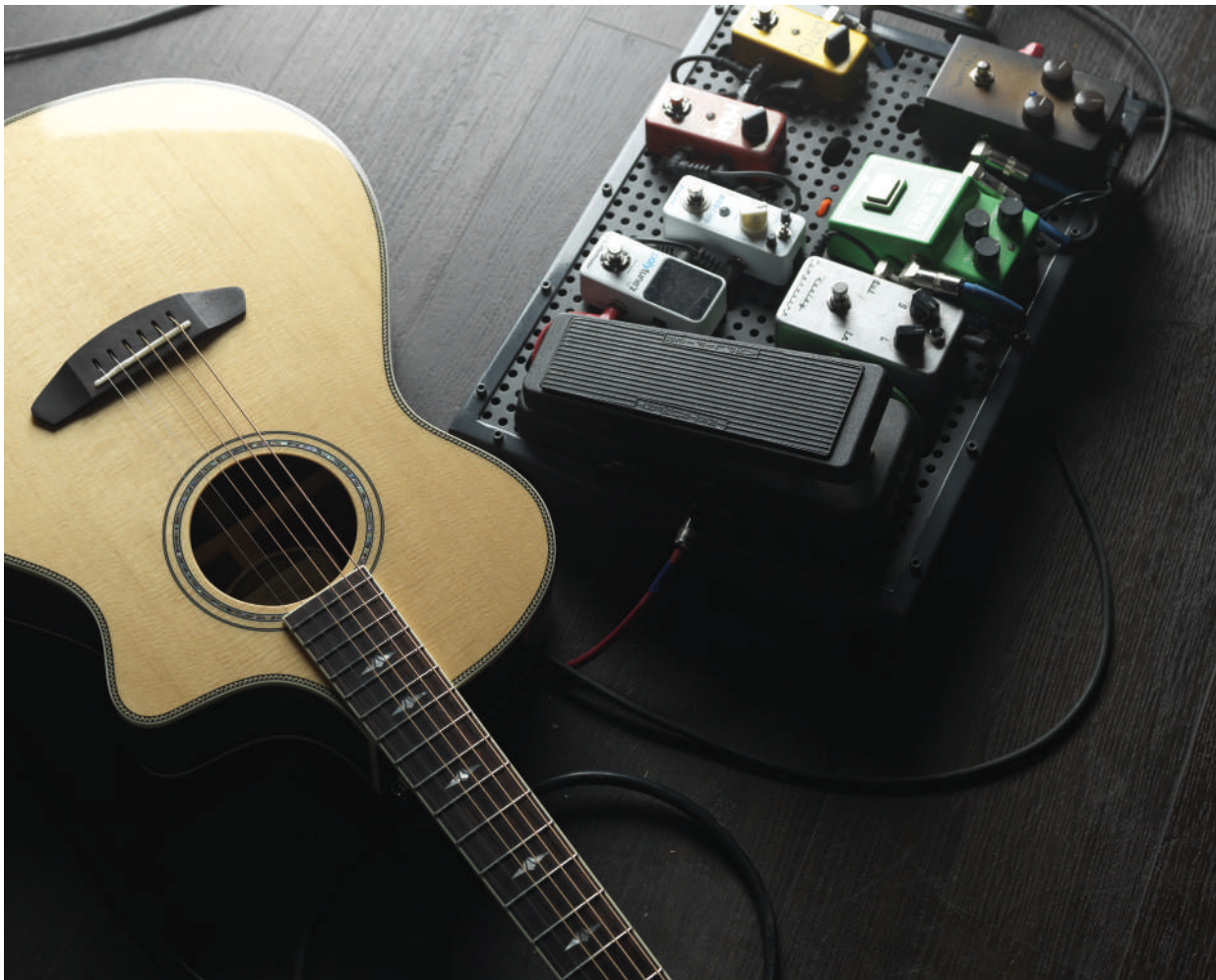
Breedlove guitars are hand crafted one-by-one to achieve maximum SOUND OPTIMIZATION™. Most companies build guitars in an assembly line process that can result in random sound and feel.



NOT BUILT TO SPEC

Tops and backs are sanded according to their body shapes, playing style (feel), and top/back frequency separation for targeted sound projection - loudness and tonal complexity (balance and overtones). Breedloves are not built to standard tonewood thicknesses – each of our instruments are unique based on the musical character of the woods.





CRAFTING GUITARS FOR YOUR PLAYING STYLE

03

The Playing Style or feel of a guitar is influenced by the deflection of the top.

Breedlove's are crafted to a specific Playing Style. Guitar tops with the least deflection are stiffer for strong strumming and more percussive play; tops with the most deflection are designed for lighter fingerstyle play. Typically, this varies by body size with a larger guitar having less deflection than a smaller instrument. Regardless of instrument size, we are able to target each USA crafted Breedlove model to a particular playing style with our SOUND OPTIMIZATION™ process. With Breedlove Custom build instruments, we use our signature deflection analysis to target the feel to YOUR style of play regardless of body size, by varying the thickness of the guitar top based on the musical character of the tonewood set you select.

THE DIFFERENCE

We determine the Playing Style for each guitar model by individually selecting the right top with the targeted stiffness and sanding it to achieve a targeted feel. Most production companies ignore Playing Style, limiting their top rating to appearance and sanding them to a standardized dimension.

PLAYING STYLE

- H** **H: Heavier Play.** Strumming and flat picking.
- V** **V: Versatile Play.** Medium heavy strumming to enthusiastic fingerstyle play.
- L** **L: Lighter Play.** Fingerstyle play for note-for-note clarity.





ACHIEVING OPTIMUM SOUND PROJECTION

04

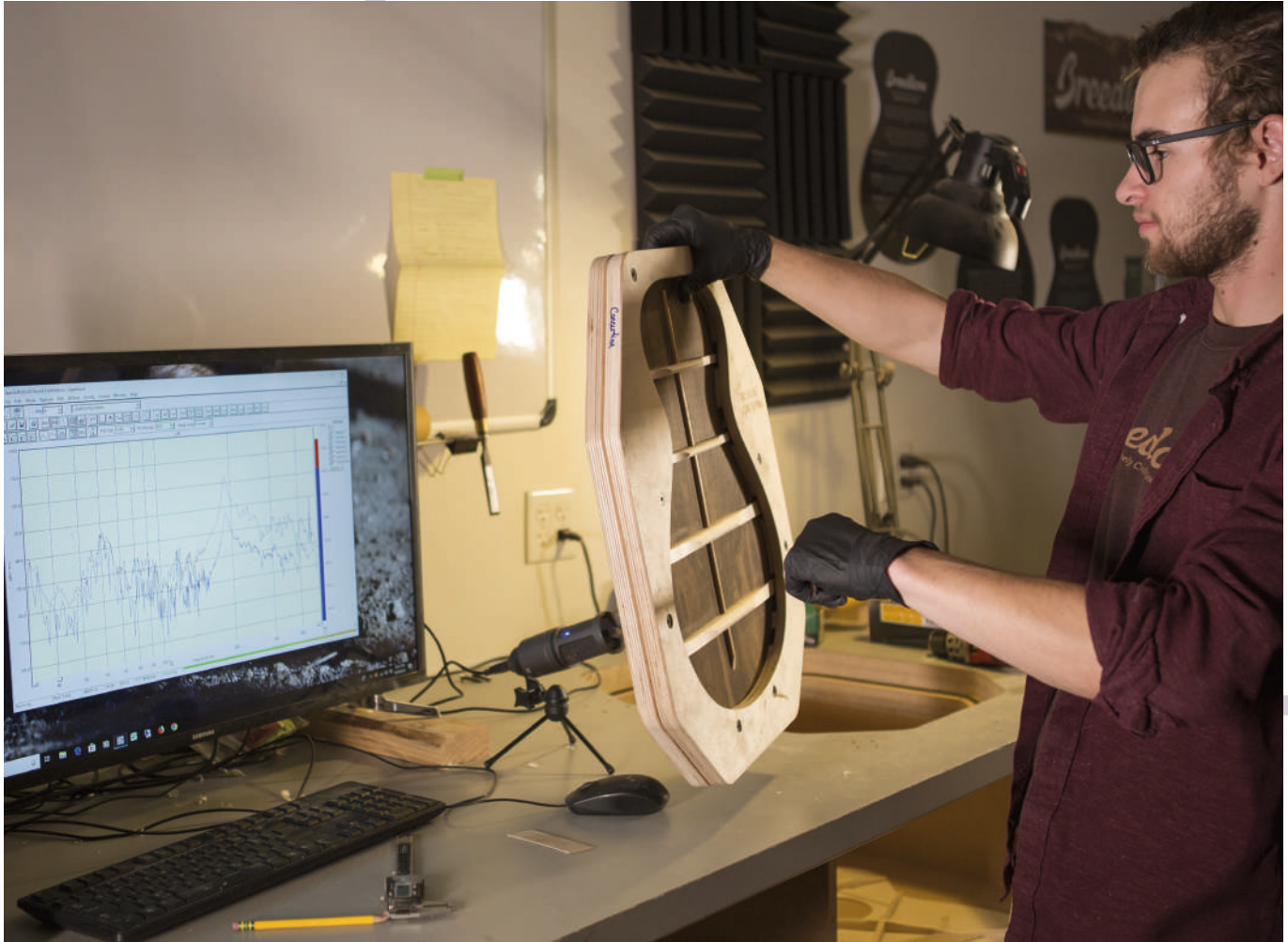
MEASURING SOUND PERFORMANCE

Ultimately the measure of a finished guitar's SOUND OPTIMIZATION™ is its fundamental resonance - the natural frequency of the guitar. This will vary depending on several factors, most importantly the size of the guitar, the desired playing style, and the targeted sound projection. The result can be a gutiar with an expansive full sound, note-for-note clear articulation, or a balance in-between.

THE DIFFERENCE

Crafting guitars to targeted fundamental resonances allows Breedlove to match the sound projection and playing style of a guitar to your music, while previously the only other significant sound consideration was thought to be the guitar body size.





TOP/BACK FREQUENCY SEPARATION HOW PAIRING TONEWOODS IS KEY TO ACHIEVING OPTIMAL SOUND & FEEL

05

To achieve the targeted fundamental resonance and to optimize the sound and feel of a guitar, the back should have a higher frequency than the top. The amount of frequency separation varies by body depth, air chamber volume and desired sound. For example, Breedlove achieves a big, full sound and powerful feel on a Concerto with a larger top to back frequency ratio. A Concertina, designed for a light touch and clear note definition may require a less frequency separation. Through experimentation we have mastered how to use different exotic woods and varying deflection ratings for targeted sound and feel.

THE DIFFERENCE

At Breedlove, tonewood tops and backs are paired at the beginning of the build process, always focused on the desired frequency separation for a particular model. Most guitar makers randomly select tops and backs from the production line and assemble a guitar body without regard to the unique frequency of each.





HAND VOICING. A CRITICAL STEP IN ACHIEVING OPTIMIZED SOUND

06

After the woods for an individual guitar have been selected and the tops and backs sanded to their ideal thicknesses, the bracing and tone bars are applied. Then in Breedlove's Hand Voicing Station the tops are tapped through a microphone into an FFT (frequency) analyzer. This shows the frequency of the braced top. If it is higher than we desire, we use a finger plane to carve on the bracing to bring it down to our desired soundboard frequency level. Removing wood (weight) reduces frequency. We also tap across the top to ensure it is resonating to the same frequency reading. If not, we carve on the tone bars. Finally, we measure the frequency of the back to make sure it has the desired frequency separation from the top. If not, we carve on the back bracing to bring it into compliance. This is not only science, but craftsmanship art.



THE DIFFERENCE

We meticulously hand-craft each guitar one-by-one - Hand Voicing every USA Breedlove we build. This additional custom attention to detail results in a sonically tuned instrument that ensures the top and back are paired for optimal sound and tone.



THE SOUND QUALITY ASSURANCE STATION

07

When a guitar is completed it is delivered to the Sound Quality Assurance Station. In addition to checking neck angles, set-ups, finish quality and important aesthetic appointments, our technician subjects each guitar to a final frequency analysis to ensure it is crafted to our targeted fundamental resonance. If not, to bring it into compliance with our tonal requirements, additional carving is done on the braces by reaching inside the sound hole.



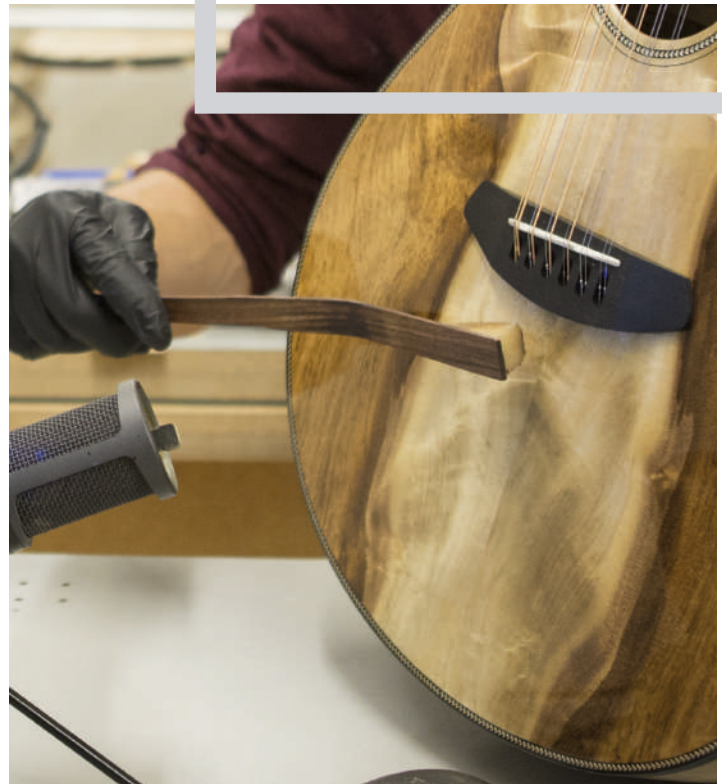
THE DIFFERENCE

We will not ship a guitar until it delivers the best sound possible, is crafted to its specified playing style and is aesthetically stunning. Typically, other companies monitor their finished instruments for aesthetics and string action, while accepting the randomness of sound of their guitars.



CONFIRMING WE HAVE ACHIEVED SOUND OPTIMIZATION.

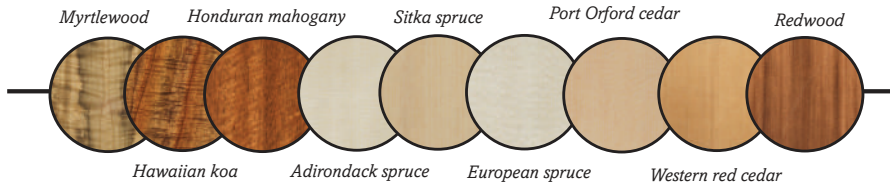
This assures that every Breedlove model sounds the same and delivers the sound and feel as we have promised our customers.



THE EXOTIC TONEWOODS

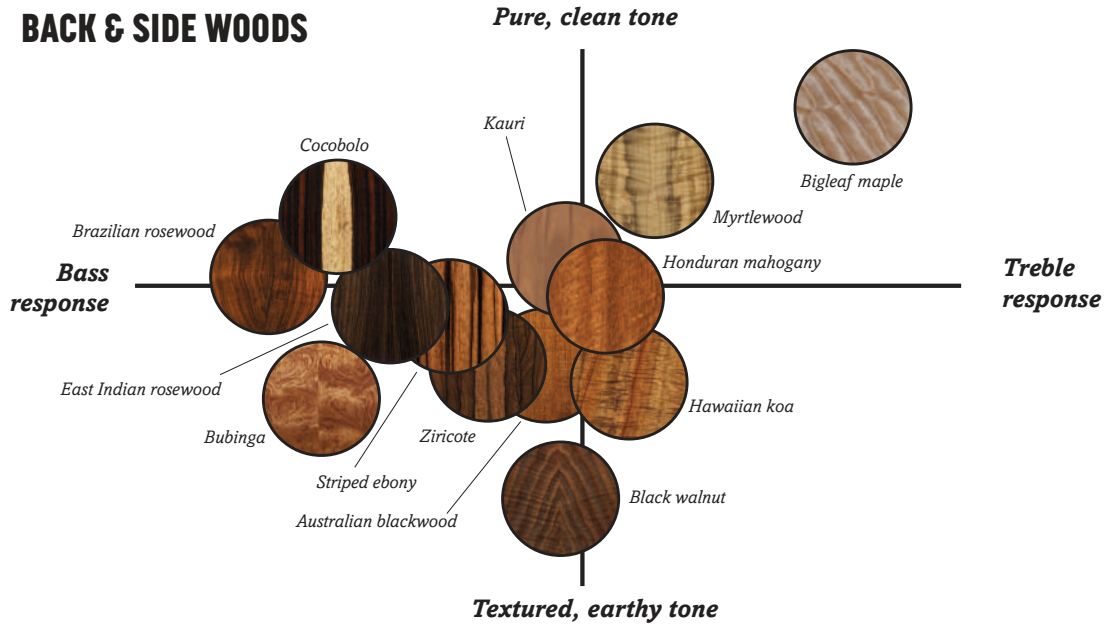
TOP WOODS

Pure, powerful bold tones
(heavy strumming)



Harmonic, dynamic tones
(light touch)

BACK & SIDE WOODS



THE TONAL PALATE OF EXOTIC TONEWOODS

OPTIMIZING THE SOUND OF GUITARS CRAFTED WITH EXOTIC WOODS.

Breedlove has an extraordinary collection of exotic tonewoods and the ability to craft stunning looking and unique sounding guitars with these woods. With our SOUND OPTIMIZATION process, we determine the correct thickness for each top and back taking into account the differences among wood species. For example, Honduran mahogany with a specific gravity of .59 is almost half the density of cocobolo at a specific gravity of 1.1. By sanding the mahogany backs thicker and the cocobolo backs thinner, we are able to reach our target fundamental resonances and achieve true SOUND OPTIMIZATION. We have included our wood specific gravity and tonewood charts to demonstrate the various tonal characteristics among wood species.

08

THE DIFFERENCE

By individually analyzing every top and back, Breedlove sands every tonewood set to its ideal thickness to achieve the targeted Playing Style and Sound. Most companies do not employ this analysis, but rather apply predetermined standard dimensions regardless of wood species and their potential musical characteristics.

Using Sound Optimization For Refined Tonal Nuance

Through Sound Optimization™, Breedlove uses frequency and density analysis to mill and hand voice each tonewood top and back to ideal frequency pairings, enabling the musical character of various wood species to achieve your ideal sound.

Specific Gravity Ratings for Tonewoods At 12% Moisture Content

Back and Side Tonewoods:

1. Kauri .54
2. Bigleaf Maple .55
3. Honduran Mahogany .59
4. Hawaiian Koa .61
5. Black Walnut .61
6. Myrtlewood .63
7. Australian Blackwood .64
8. Sapele .67
9. Ziricote .81
10. Ovangkol .82
11. East Indian Rosewood .83
12. Brazilian Rosewood .84
13. Bubinga .89
14. Striped Ebony 1.1
15. Cocobolo 1.1

Top Tonewoods:

1. Western Red Cedar .37
2. Engelmann Spruce .39
3. European Spruce .41
4. Redwood .42
5. Sitka Spruce .42
6. Adirondack/Red Spruce .43
7. Port Orford Cedar .47
8. Honduran Mahogany .59
9. Hawaiian Koa .61
10. Myrtlewood .63

Neck and Fretboard Woods:

1. Honduran Mahogany .59
2. Walnut .61
3. Hard Rock Maple .71
4. East Indian Rosewood .83
5. African Ebony .96

FITTING YOUR GUITAR TO YOU

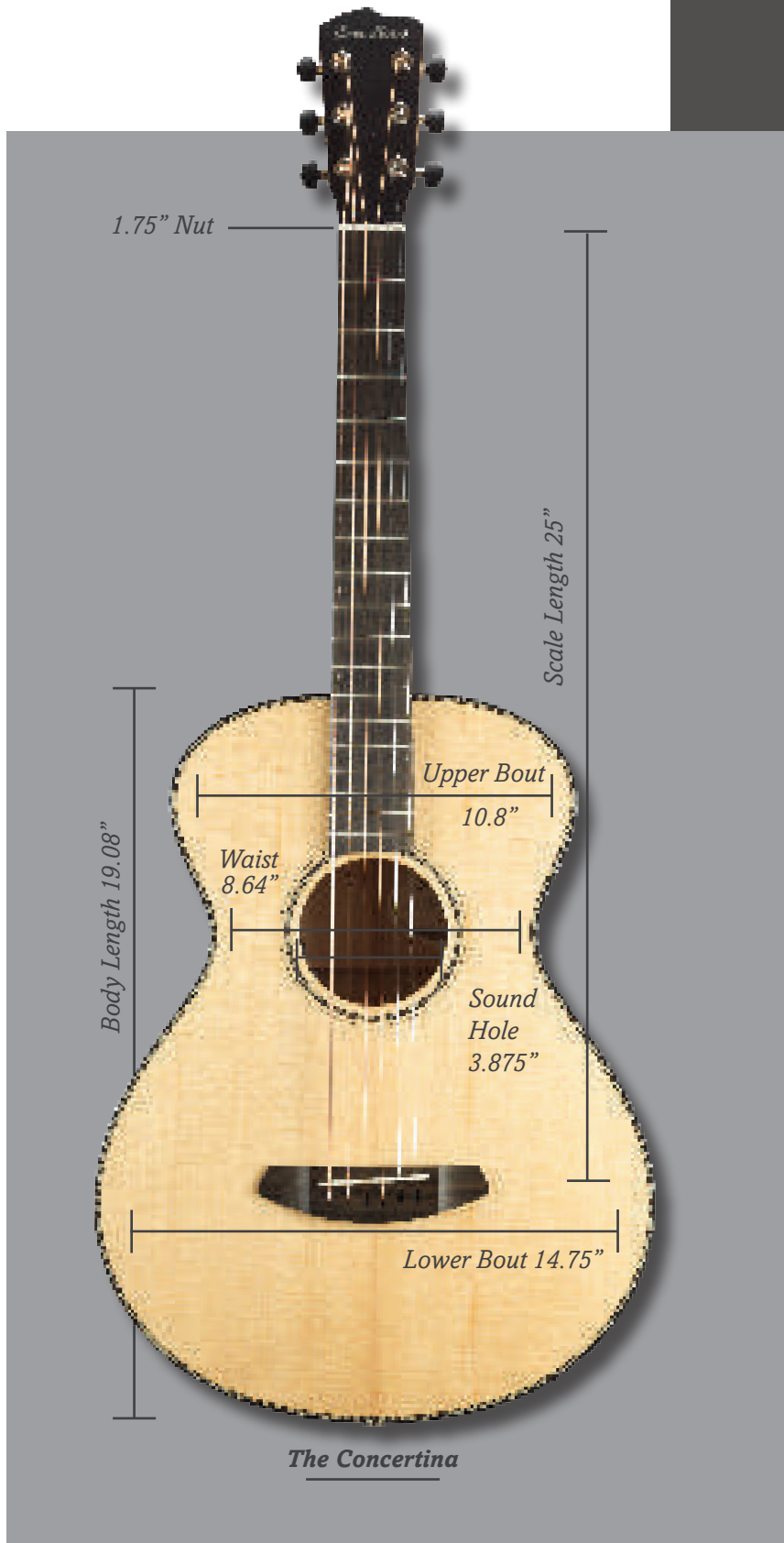
09

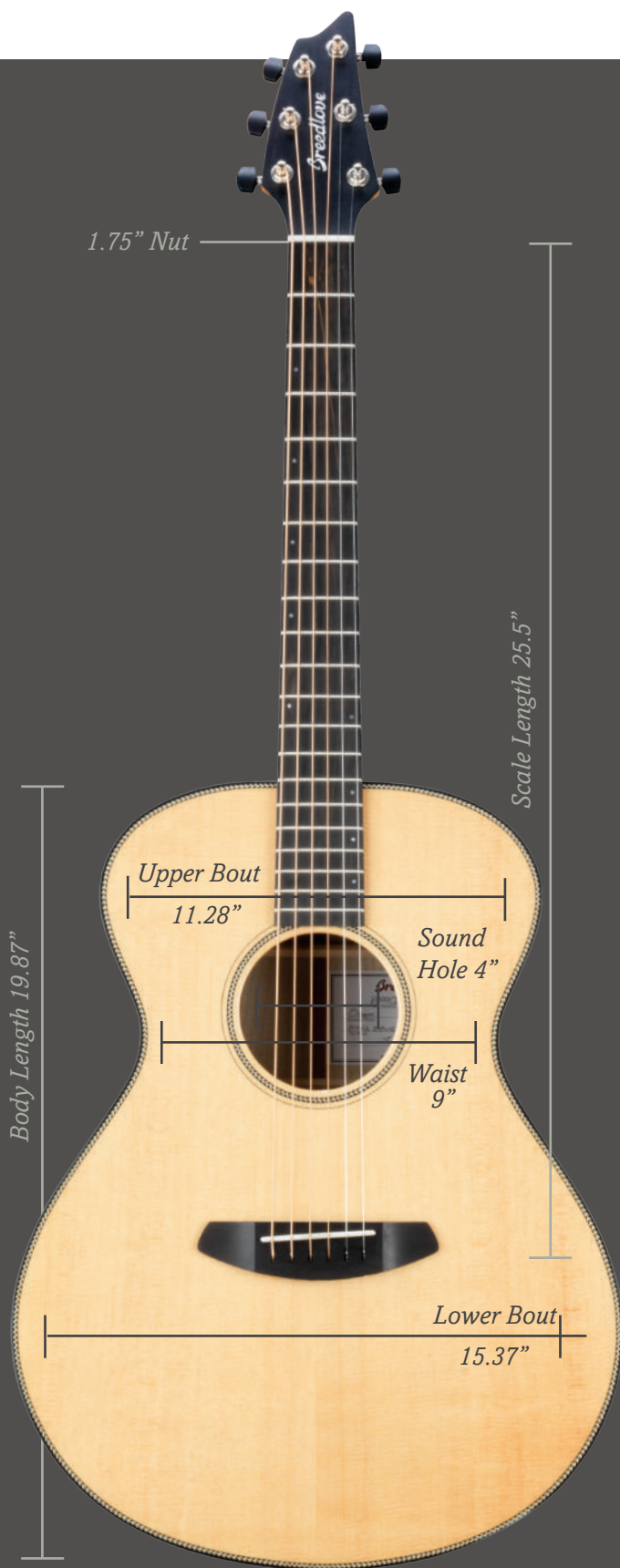
BREEDLOVE HAS ELEVATED THE PERFORMANCE OF LARGE, MEDIUM AND SMALL BODY GUITAR DESIGN.

Breedlove has pioneered three proprietary body shapes: the Concerto (1075 cu.in.), the Concert (915 cu.in.) and the Concertina (750 cu.in.). Each was designed to an ideal air chamber size, while focusing on comfort to hold and play. With SOUND OPTIMIZATION, we have achieved superior volume and tonal richness over traditional guitar shapes while designing more visually appealing and comfortable shapes.

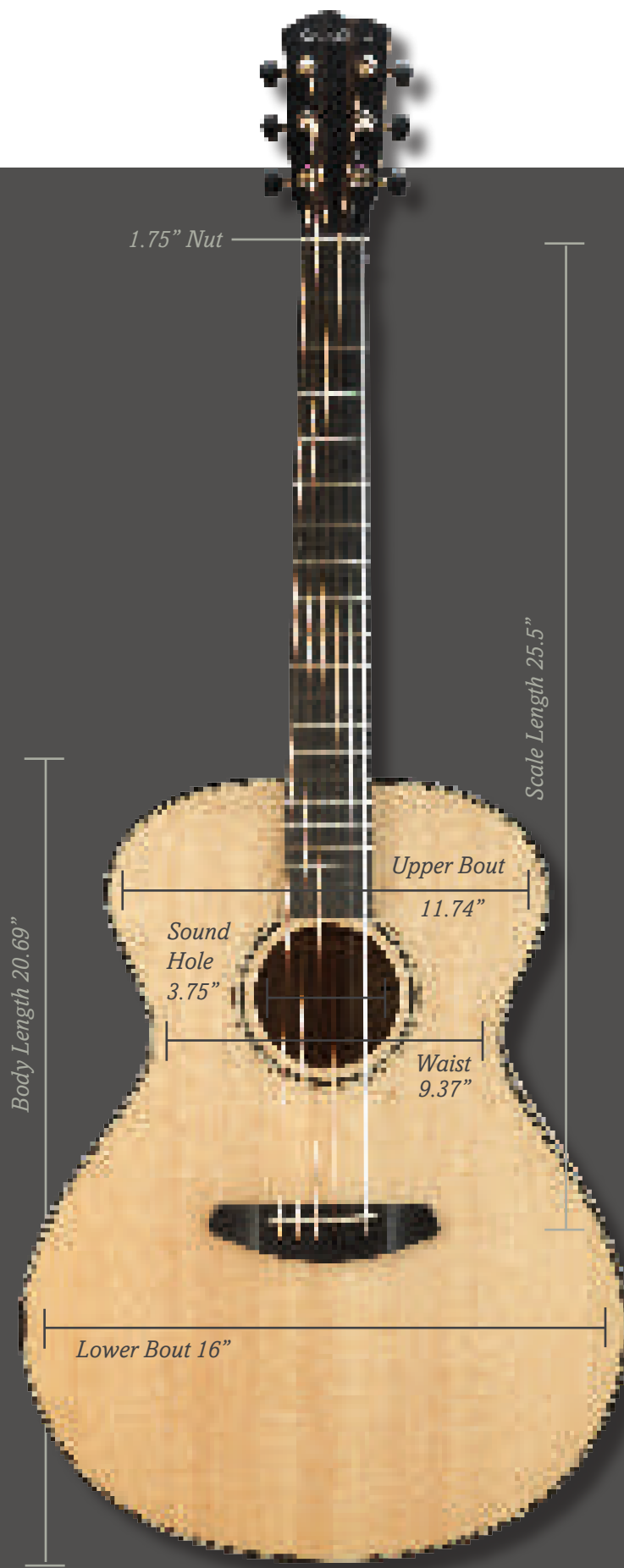
THE DIFFERENCE

Rather than assume that traditional body shapes are ideal for optimizing sound and feel, Breedlove designed more comfortable and visually appealing body shapes that deliver superior sound over traditional dreadnoughts, orchestras and parlors.





The Concert



The Concerto



SOUND HOLE SIZE. AN ELEMENT THAT CONTRIBUTES TO SUPERIOR SOUND

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To achieve our targeted fundamental resonance goals while simultaneously designing more comfortable and better looking guitar shapes, we have optimized sound hole sizes for each body shape. The Concerto has a sound hole size of 3.75 inches, the Concert – 4 inches, and the Concertina – 3.875 inches. It is just another step in crafting SOUND OPTIMIZATION.

THE DIFFERENCE

Optimizing the sound performance for each Breedlove body shape required consideration of every aspect of design that influences sound. Unfortunately, it is not as easy as assuming a traditional body shape will automatically achieve a specific sound.





SUSTAINING THE WORLD'S FORESTS

THE TONEWOOD CERTIFICATION PROJECT

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Breedlove travels to the forests where the trees actually grow, ensuring every piece of wood is salvaged or individually harvested, leaving the smallest possible impact on the forest neighborhoods. In fact, Tom Bedell has visited most of the forests and mills where we source our wood for all USA built Breedlove's, to personally confirm it is ethically, sustainably and individually harvested or salvaged. We never use wood from clear-cut trees!



THE DIFFERENCE

We go right to the forests where the trees grow, honoring the forest neighborhoods and the people that rely on the forests for their livelihood. We never use clear-cut trees nor ever cut old-growth Sitka spruce trees - we only use dead salvaged Sitka spruce. Sadly, many companies use clear-cut Sitka spruce which devastates the many thousands year old, old-growth Sitka spruce forests.



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FULL CITES AND LACEY ACT COMPLIANCE

Breedlove owns the largest collection of legally harvested and documented Brazilian rosewood tonewood in the world. With proper permits you can travel and /or convey your Breedlove Brazilian anywhere in the world. Likewise, all Breedlove exotic woods have been carefully documented, in many cases back to the site where the tree grew.



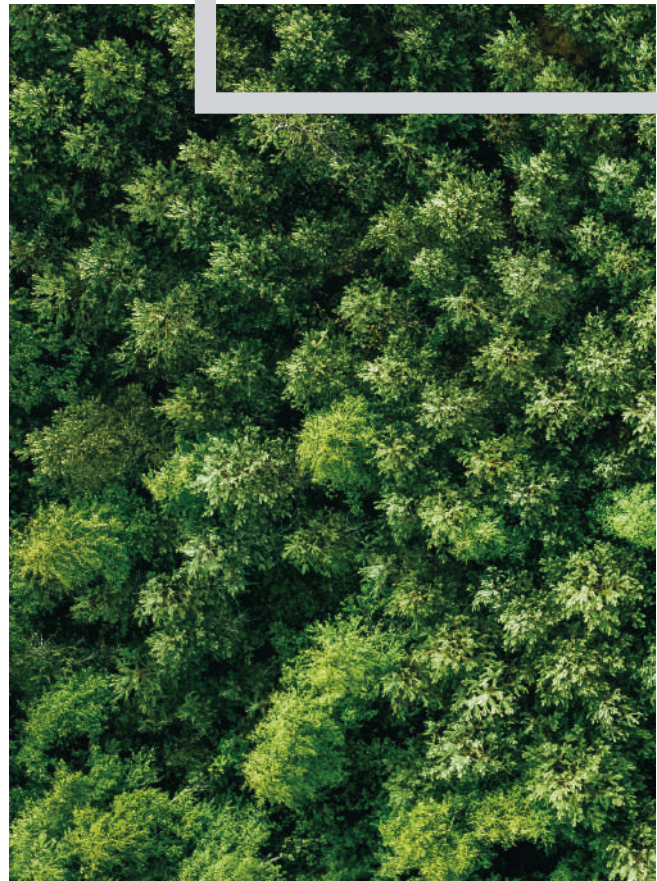
THE DIFFERENCE

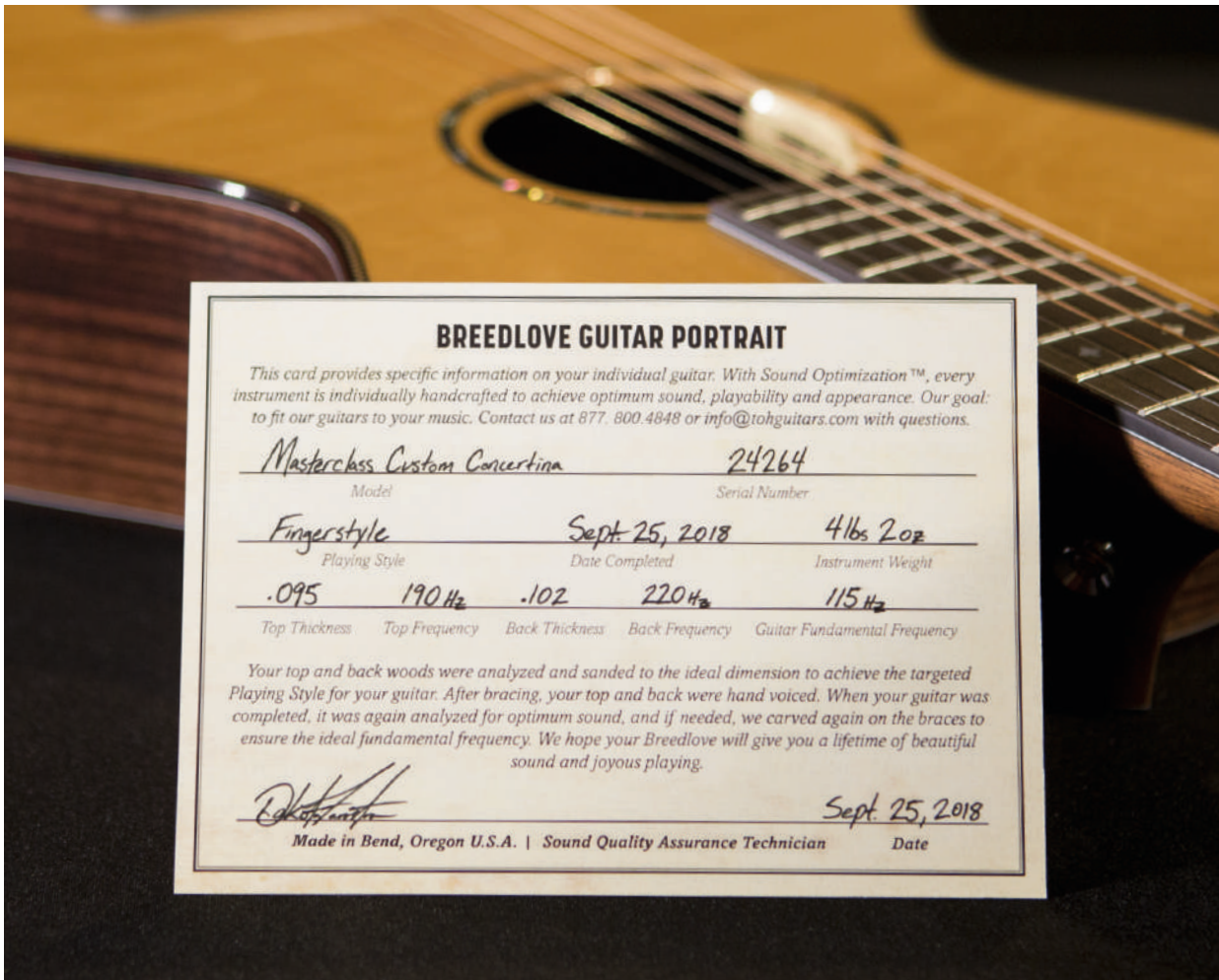
Very few companies have the legal documentation and certification for Brazilian rosewood and other exotic species currently regulated by CITES and other governmental agencies. Breedlove has full documentation for every piece of wood we use.



**OWN YOUR
BREEDLOVE
WORRY FREE.**

**IT IS A
LIFE LONG
INVESTMENT.**





BREEDLOVE GUITAR PORTRAIT

This card provides specific information on your individual guitar. With Sound Optimization™, every instrument is individually handcrafted to achieve optimum sound, playability and appearance. Our goal: to fit our guitars to your music. Contact us at 877. 800.4848 or info@toh guitars.com with questions.

<i>Masterclass Custom Concertina</i>		<i>24264</i>	
Model		Serial Number	
<i>Fingerstyle</i>		<i>Sept. 25, 2018</i>	<i>4lbs 2oz</i>
Playing Style		Date Completed	Instrument Weight
<i>.095</i>	<i>190 Hz</i>	<i>.102</i>	<i>220 Hz</i>
Top Thickness	Top Frequency	Back Thickness	Back Frequency
<i>115 Hz</i>			
Guitar Fundamental Frequency			

Your top and back woods were analyzed and sanded to the ideal dimension to achieve the targeted Playing Style for your guitar. After bracing, your top and back were hand voiced. When your guitar was completed, it was again analyzed for optimum sound, and if needed, we carved again on the braces to ensure the ideal fundamental frequency. We hope your Breedlove will give you a lifetime of beautiful sound and joyous playing.

[Signature] *Sept. 25, 2018*
 Made in Bend, Oregon U.S.A. | Sound Quality Assurance Technician Date

KNOWING YOUR GUITAR THE GUITAR PORTRAIT

On the Breedlove website, www.breedloveguitars.com, we list all of the woods we use to build each model, their scientific name and country where the tree grew. Additionally, we provide all of the specifications for each model. In the guitar case of every 2019 Breedlove we provide the individual instrument's date completed, weight, playing style, top thickness and frequency, back thickness and frequency, and guitar fundamental resonance for each individual instrument.

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THE DIFFERENCE

An acoustic guitar is personal – You, your guitar and your music. To accomplish SOUND OPTIMIZATION™, each guitar is uniquely itself, and we are pleased to share the individual instrument data with you.





FITTING YOUR GUITAR TO YOUR MUSIC

A TRUE CUSTOM SHOP FOR YOUR SOUND

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In the Breedlove Custom Shop we are able to customize your guitar to desired instrument body shape, your playing style, and your sound. We invite you to Bend, Oregon to personally select your top and back woods, aesthetic appointments, and to let us custom fit your guitar to you, how you play and how you want your Breedlove to sound.

THE DIFFERENCE

From one of the most diverse collection of exotic tonewoods, to our SOUND OPTIMIZATION process, no other company is able to achieve Breedlove's ability to truly match a Custom guitar to YOU – your fit, your play style, your sound AND the exotic look and inlay design of your dreams.





PERSONALIZED CUSTOMER SERVICE

Just as we craft guitars one at a time, we also approach our customers individually. Please let us know if we can answer any questions, help you with a model selection, or provide service after you have selected your Breedlove guitar.
877.800.4848. | customerservice@breedlove.com.

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THE DIFFERENCE

We work, live and play in Bend, Oregon. When we are not in the workshop, our team of CoHippies might be riding a mountain bike, rafting the Deschutes river, fishing a reservoir, or in the winter, riding down Mt. Bachelor! Our team is alive with passion on and off the clock. Building the finest sounding, playing and looking acoustic guitars is just part of who we are...and sharing them with you is a gift.





THE BREEDLOVE DIFFERENCE

Sound Optimization™

*Breedloveguitars.com
61573 American Loop
Bend, Oregon 97702
877.800.4848*