



TEN DIFFERENCES IN PLAIN STEEL GUITAR STRINGS YOU SHOULD KNOW

by Professor String

When talking about the unwound (plain) steel strings that are typically smaller than twenty gauge diameter, there is a popular opinion amongst guitarists. Many claim they cannot hear a difference in sound between these strings brand-to-brand. In fact, the difference between a .009 and .011 gauge string tuned to the

same note is challenging to decipher regardless of brand. Yet, when we start talking about the difference in “feel” between these two gauges, there is something to be noticed. The heavier string is much stiffer when you try to bend it, or press it against the fret. This now leads us to the big question...What is the difference in brands when it comes to these plain steel strings? Some seasoned guitarists claim the difference in brands is mainly found in the wound strings. They feel the plain steel strings are pretty much the same from brand-to-brand. We can be sure the string manufacturers would care to differ, “Buy our strings and not theirs, because our plain steel strings are [insert product claim here].”

Let us consider a plain steel .009 gauge E-string for a moment. For those of you who use an extra light gauge E-string, and bend it almost over the neck, you already know that this string goes through a lot. For rockers, this string is the screamer. It is the string that must work during the solo. A guitar without this screaming wire is like a guitar with a sore throat. It is totally the upper range. This is a string (like others) that needs to meet our expectations. As soon as that string fails it is a serious bummer. There are some manufacturers who include an extra E-string in their sets. This is somebody who wants to make sure you are covered in the event of premature breakage. It can mean their lack of confidence in the product is possibly in question. In either case, the effort is noble. It is an effort to make sure your expectations are met for that plain steel string. Quality is about being able to do something correctly and repeatedly without deviating anything. Making a quality plain steel string is all about that. That means the following:

1. It must stay in tune - Poor metallurgical processing of musical wire can create a real disaster for the tunability of a very thin string. This is something that is not easily caught with each individually created string at the factory. The elasticity of the string plays a factor, and time will only tell if it will have stability under tension.
2. It must not prematurely break - Yeah, I know. This sounds like a no brainer. Of course it should not break upon the first strum. It happens. I like asking people what they do about it when they go to replace the string (or entire set!). I hear anything from “No problem. I got a spare right here,” to “Holy crap I spent a lot of money on the set. I’m never buying that brand again.” Notice that last response goes to show how quickly brand loyalty can disappear in the string business. One bust, and your brand is a bust.
3. It must have clarity - When we talk about clarity we are talking about not only tone, but the overall sound quality. Does the string sound crisp and not like a sitar? Even gauging and plating are something that plays a factor. Really crisp clean clarity will produce a twang or wire-like sound. Some folks like the sound of their strings only after they have been played a few times. Basically a break-in period to knock down some of that new string shimmer.
4. It must carry a delicate harmonic when needed - This is something that is very noticeable amongst different brands of plain steel strings. It is not purely a function of the instrument’s bridge, nut, neck...etc. Some of the attributes to a string’s harmonic tone come from metal purity, even plating and even gauging to name just a few. A good test when benchmarking plain steel strings is to strike a solid 3rd fret harmonic. A well made plain steel string will ring out clearly with smooth and even decay. In fact, it will be very forgiving if the player does not hit the harmonic solid on the first strike. A poorly made plain steel string will barely carry the harmonic and have rapid decay as soon as the harmonic is struck.
5. It must play easily - When fretting, a string with great elasticity will go a little easier on the finger tips. It will stretch a little easier, and allow less finger pressure. Yes, gauge thickness has much to do with this trait, but so does the ability for the string to ring when it is not firmly pressed in between frets. How about those knuckle busting chords with your pinkie finger stretched way out there? A string with some “give” will ring out if your pinkie is straining to press that note.
6. It must carry upper register frequency - Simply stated, the string should not sound like it has been dipped in rubber cement. This is one of the reasons we do not see many polymer coated strings on plain steel strings. The thin coating has a harmonic dampener effect that knocks out upper register frequencies.

7. It must carry sustain when needed - This is important and is not solely based on the instrument's construction. The test here is simple. How long will the string produce a sound in open position and fretted positions? Some of you might respond by thinking you can simply turn up the gain on the amp to compensate. Shame on you. The people on acoustics might have a few words for you on this topic.

8. It must have a smooth feel - Ah, that wound string squeak we all recognize (and sometimes hate during recording). Well, it is not just the wound strings that can cause squeak. A good plain string will have a nice polished surface prior to its plating process.

9. It must have a proper ball-end twist - If you have a bridge that does not require the ball-end to be cut off, pay attention to this detail. Not all ball-end twists are the same from brand-to-brand. Some are twisted tighter/looser, have silk on them, or simply use a different style of ball shape. In fact, this could be whole discussion of its own. If you have not compared the different ball-end twists of various brands, you should make a point of doing it. This simple twist at the end of every plain steel string is a big deal to some who claim it affects everything from tuning to sustain. Bottom line: Know the twist. No pun on Chubby Checker here!

10. It must have protective plating on it - Something rarely discussed is the plating applied to plain steel strings. Most plain steel strings have a protective plating of tin on them, or nickel. This must be uniform and have bright luster up and down the entire length. If it is not correctly plated it will have tarnish spots unevenly where the base metal is exposed. In addition, the uneven plating will actually have an effect on the tone.

Right out of the gate, there are ten things this string needs to do. Should you take for granted that this string will do it when you pull it out of the package? If so, what makes you confident? Is it the story of the brand or is it something else? In taking a closer look at the ten things we have evaluated in a plain steel string, we can see there is much more than meets the eye with this string. They are not all created equal.

Professor StringTM is a leading expert in the musical string business. He leads a development group that specializes in guitar and bass string research for musicians. You can visit their site at <http://www.professorstring.com>
