Guest Column

By Roger Sadowsky

Coated Strings, the Uncoated Truth

Over the last several years, there has been a proliferation of "coated" strings on the market. Beginning with Elixir strings, almost every string manufacturer has begun to offer coated strings. Some of these coatings are advertised to offer longer string life and smoother feel, while others are strictly cosmetic (ie: colored strings).

Unfortunately, it appears that most of these manufacturers do not have a clue about how electric instruments work and the effect that some of these coatings have on the performance of electric guitars and basses. Let me explain:

Over the last several years, I have had players contact me regarding noise or grounding problems. They were experiencing a hum that was new to them. So I would take them through the following trouble-shooting procedure:

RS: *Plug your bass or guitar into your amp so you can hear the hum you are dealing with.*
Player: OK.
RS: *Touch the strings and tell me if the hum goes away.*
Player: No, it doesn't.
RS: *Touch the plug where your cable plugs into your instrument and tell me if the hum goes away.*
Player: Yes, it does.
RS: *Touch the bridge and tell me if the hum goes away.*
Player: Yes, it does.
RS: *Touch the strings and tell me if the hum goes away.*
Player: No, it doesn't
RS: *Are you using coated strings?*
Player: Yes, I am.
RS: *Switch back to uncoated strings and let me know what happens.*
Player(s): [In every instance, the hum goes away with uncoated strings.]

So, what have we learned from this troubleshooting? Almost every electric guitar and bass has a "string ground." This is a wire that usually resides under the bridge and runs to the control cavity of the instrument. The wire is stripped under the bridge, making direct contact with the metal bottom of the bridge. The other end of the wire is connected to a "ground" point in the control cavity. When the player touches the strings or the bridge of the instrument, the player's body completes connecting the instrument to "ground" and the extraneous hum goes away. On a properly shielded instrument, shielding will remove 90% of the hum that goes away by grounding the instrument, but a string ground is still necessary, especially under difficult conditions like stage lighting and old building wiring.

The problem is that the coated strings are mostly NON-CONDUCTIVE. The result of this is that the coated strings defeat the function of the string ground and cause hum problems for the player.

Recently, a popular bass magazine published a review of a coated string on the market. I wrote a letter to the editor discussing this issue and the fact that the reviewed coated strings were non-conductive. I said that string makers who use non-conductive coating should be required to put a warning label on their packaging that says "these strings are non-conductive and may increase electronic hum and noise."
The response I received from the editor was: "Is this something you'd feel comfortable with printing on the letters page of the magazine? Might be a tricky one, though – not looking to start any quarrels…"

After two issues passed without my letter being printed, I realized at that point that bowing at the altar of advertiser dollars was more important than telling the truth.

I took it upon myself to test all the brands of coated strings on the market and make my results available to the public. Fortunately, *Bass Gear Magazine* agreed to publish this information. Strings are tested with an analog ohm meter set to RX1K ohms. One probe is placed on coated wrap near the ball end of the string… the other probe on a coated portion on the opposite end of the string. The meter will go to "zero" if the string is conductive.

Based upon my tests, only two string brands employed coatings which proved to be conductive: Cleartone and D'Addario. Both of these brands use a coating that is very thin and undetectable. Their coatings are conductive, and get the Sadowsky seal of approval.
Based upon my tests, the following string brands (in alphabetical order) employed coatings which proved to be non-conductive: DR, Elixir, Ernie Ball, GHS and Rotosound.

Conclusion: I can only recommend using conductive coated strings made by Cleartone and D'Addario. All of the other companies should, in my professional opinion, discontinue these coatings or put a warning on their packages disclosing that their coatings are non-conductive and may cause hum problems with electric instruments. BGM