



H. BEHLEN

Guitar Finishing Instructions Using Guitar Aerosols

Behlen Stringed Instrument Lacquer, Vinyl Sealer, and Guitar Toner aerosols are formulated specifically for use on stringed musical instruments. The quality of a finish created with these aerosols will be the same professional grade as that which is sprayed from a gun.



PRODUCTS NEEDED

- Garnet P150A or Aluminum Oxide Open Coat P180A Sandpaper
- Silicon Carbide Stearate P320B Sandpaper
- P800A Waterproof Sandpaper
- P1000A Waterproof Sandpaper
- P1200A Waterproof Sandpaper
- P1500A Waterproof Sandpaper
- P2000A Waterproof Sandpaper
- Wool Lube (B730-1365)
- Trace Cloth or lint free, soft cloth (cotton works well)
- Tack Cloth or a lint free cloth
- Painter's Masking Tape
- Grain Filler – optional
- Vinyl Sealer Aerosol (B102-8000)
- Stringed Instrument Lacquer Aerosol (B104-1406)
- Encore Brown Guitar Toner Aerosol (B104-1201)
- Starcast Amber Guitar Toner Aerosol (B104-1202)
- Fingerboard Oil (B710-0001)
- 50mm (2 inch) nails or screws
- Piece of cardboard or a piece of poster board at least 40mm x 53mm (16" x 21")
- Finish Rub (B730-01165)
- Buffer's Polish (B730-2005)
- 4/0 Steel Wool
- Deluxing Compound – optional (B730-1205)

GENERAL INSTRUCTIONS

- Always spray in an area where there is good ventilation, even when using aerosols. Do not spray near an open flame such as a furnace or water heater.
- Always use a properly rated respirator when spraying lacquer or stain.
- Spray in an area where the temperature is between 18C - 27C (65F and 80F) and the relative humidity is 50% or below. Avoid spraying when the humidity is above 85%.

FINISHING SCHEDULE

The following is a typical guitar finishing schedule:

1. If the wood is fairly rough, sand with Garnet P150A or Aluminium Oxide Open Coat P180A Sandpaper.
2. Sand the wood with Silicon Carbide Stearate P320B Sandpaper.
3. Remove the sanding dust with a tack cloth or a lint free cloth.
4. Use Painter's Masking Tape to cover the area where the bridge will be applied on the soundboard. (This is mainly for acoustic guitars. Solid bodied guitars often use bridges and other parts that are screwed into place.)
5. A Grain Filler may be applied at this point at the discretion of the finisher depending on the porosity of the wood. Follow the directions of the filler.
6. Apply a coat of Vinyl Sealer to all the surfaces that will be finished. Use overlapping strokes to be sure of even coverage. The coat should be a wet application whereby the film can flow to a smooth surface, but be careful not to spray so heavily that the sealer forms runs or sags. Guitars are often held on a special piece of equipment while finishing since all sides must be coated. If no equip-



- ment is available, finish the back first, allow it to dry thoroughly over several days, and then finish the sides and soundboard on an acoustic guitar or the front of a solid body.
7. Allow the sealer to dry for 30-45 minutes, depending on the thickness of the application and the temperature and humidity at the time of application.
 8. Scuff sand the sealer with Silicon Carbide Stearate P320B Sandpaper (sand lightly to prevent breaking through to the sealer).
 9. Apply a second coat of Vinyl Sealer to all the surfaces that will be finished. As before, use overlapping strokes to be sure of even coverage. The coat should be a wet application whereby the film can flow to a smooth surface, but be careful not to spray so heavily that the sealer forms runs or sags.
 10. Allow the sealer to dry for 30-45 minutes.
 11. Sand with Silicon Carbide Stearate P320B Sandpaper.
 12. Some woods might require a third application of vinyl sealer. If there is a lot of deep grain showing in the texture of the wood, another coat of sealer would save using multiple coats of Stringed Instrument Lacquer required to fill the grain later in this process.
 13. Remove the sanding dust with a tack cloth or a lint free cloth.
 14. Determine what you want your guitar to look like. Do you want the back and sides to be darker than the face? Do you want the face to have a sunburst? Do you want the back to have a sunburst with a light, natural-coloured soundboard? Do you want the soundboard to be dark or light? On many acoustic guitars, the soundboard is finished with clear lacquer with no added colour. The way you should proceed depends on your answers. The following instructions are for a sunburst on the back, dark sides, and a clear coat on the soundboard. Your guitar does not have to be done this way. The style is up to the finisher.

COLOUR ON THE SIDE OF THE BODY

15. Before colouring the side, it will be necessary to mask either the soundboard or back of the body. Have the masked side up so the unmasked side is protected from colour as well.
16. Spray Encore Brown Guitar Toner on the sides of the body until the desired colour is achieved, holding the can about 25cm (10 inches) from the guitar. Use light, even, slightly overlapping strokes. It's always easier to add colour than to take it away. A lazy susan device would be a great aid in applying this colour. Many luthiers colour the neck to be the same colour as the back and sides, but it is your choice.
17. Dry one hour.



COLOUR ON THE BACK OF THE BODY

18. Spray a light coat of the Starcast Amber Guitar Toner evenly over the surface of the back of the body of the guitar. The goal is to only add a little colour.
19. Dry one hour.



SUNBURST

20. Trace the shape of the body of the guitar on a piece of cardboard or a piece of poster board.
21. Cut the cardboard in a pattern that is about 50mm (2 inch) inside of the traced outline. If you want a larger sunburst, cut the cardboard farther inward from the traced outline. Push 50mm (2 inch) nails or screws all the way through the cardboard (screws work well because the threads help to keep the screws from sliding out).
22. Place the cardboard, nail points down, over the front of the guitar as a template for the sunburst. (Be careful not to drag the points over the surface causing scratches.) The



raised cardboard will allow colour to be applied on the edge of the surface but will not cause a sharp line as would be the case if the cardboard were laid directly on the surface. Plus, the cardboard will keep dark colour off the centre of the guitar body.

NOTE: Generally, the Encore Brown Guitar Toner is used to create the sunburst, but the Starcast Amber will create a reddish sunburst if that is what you desire. There is no right or wrong as to how much colour should be added or which colour to use. These instructions will include a combination of both colours.



23. Apply Encore Brown Guitar Toner, holding the can over the cardboard, spraying outward onto the edge all the way around the guitar body at a distance of about 25cm (10 inches). Again, it's easy to add colour but hard to remove it, so add the colour gradually. If you want a very light but brown sunburst, hold the can about 30 - 35cm (12 to 14 inches) away from the guitar. Before applying a sunburst to your guitar, practicing this technique on a scrap piece of wood is highly recommended.



24. After the dark edge is complete, remove the cardboard to examine the sunburst. You can stop adding colour at this point if you are happy with the effect.



25. For an enhanced sunburst, apply Starcast Amber Guitar Toner over the dark edge and in a few more centimetres (inches) closer to the centre, giving the sunburst a reddish crossover into the centre of the body. Spray from the centre of the body out towards the edge. This application can be done with or without a cardboard template. The same template used for the dark edge can be used for the Starcast Amber Guitar Toner by cutting it smaller by 5cm (a couple of inches). We did not use a template.



26. Dry one hour.

TOPCOAT - CLEAR ON THE SOUNDBOARD AND CLEAR OVER THE COLOURED SIDES AND BACK

27. Apply a coat of Stringed Instrument Lacquer in even, wet, overlapping strokes. Be careful not to create runs, especially on the sides of acoustic guitars. On flat surfaces such as the soundboard and back, it is best to have the surface in a horizontal position. Start the application on the edge nearest to yourself, spraying with a pattern that is parallel to the grain pattern in overlapping lines that are progressively being applied towards the far edge. Be careful not to let the bottom of the can hit the wet surface you have sprayed.



28. Dry one hour.

29. Remove the sanding dust with a tack cloth or a lint free cloth before applying each additional coat.

30. Apply several coats of lacquer. Since most luthiers prefer to sand and rub the finish to a high gloss, a thick coat of lacquer is required to avoid a sand-through during the rubbing process. In that case, 10 coats are generally recommended. The number

of coats also depends on how heavy each coat is. If you're not sure that you are applying heavy coats, you'll be better off putting on a few extra coats than to risk breaking through the finish in the rubbing process. The more time you let each coat dry, the more efficient the drying process will be. One hour should be the minimum. Applying a maximum of four coats per day is also best.



SANDING TO ACHIEVE A HIGH GLOSS FINISH

31. After at least a week of drying, begin the rubbing process. To achieve a gloss finish, it will be necessary to sand the lacquer with a lubricant using several grits of progressively finer sandpaper. Start with P800A Waterproof Sandpaper, using Wool Lube as the lubricant. Dilute Wool Lube with an equal amount of water. You'll have to progress through P1000, P1200, P1500, and P2000 grit sandpapers.
32. You can start on any part you wish. Sand with the grain of the wood. Sand until the entire surface of the guitar is smooth and completely sanded. Wipe away the Wool Lube. The best way to be sure the surface has been thoroughly sanded is to look for shiny spots that the sandpaper has not touched. Those spots need more sanding. The technique is the same for the back, the soundboard, the sides, and the neck. Sand with the grain until the surface has been smoothed by the P800 grit paper.
33. Sand with P1000A Waterproof Sandpaper and Wool Lube in the same way.
34. Keep repeating the sanding process using P1200, P1500, and P2000 grit Waterproof Sandpapers. The purpose of the remaining progressively finer grits is to take away scratches left by the previous grits as the surface becomes increasingly smooth.



RUBBING WITH COMPOUNDS TO ACHIEVE A HIGH GLOSS FINISH

35. After sanding, use rubbing compounds to take the finish the rest of the way to a high gloss. Start with Finish Rub. Begin applying the compound with a soft cloth balled up in the palm of your hand, spreading it over the surface to be rubbed. It's better to rub in small areas than rubbing the whole side, back or soundboard at once. After spreading, rub in a circular motion and then with the grain. The end of the rubbing should be accomplished with light pressure on the pad.
36. Buff the excess compound away with a clean cloth.
37. Follow by applying Buffer's Polish, using the same technique as with the Finish Rub. It takes a lot of pressure at the beginning and light pressure at the end. It takes a lot of rubbing to achieve a high sheen.
38. If you would like to add some wax to the surface as well, use Deluxing Compound. The technique is the same.
39. Apply a wet coat of Fingerboard Oil to the fretboard with a clean cloth. If dry spots appear after 10 minutes, apply another wet coat. Dry 30 minutes. Buff the fretboard with a dry cloth. If the sheen is dull or uneven, repeat a wet application. Dry 24 hours, buff fretboard with the dry cloth. Dry another 24 hours, buff with 4/0 Steel Wool and Wool Lube.



40. **Enjoy your guitar!**

