

Silkspan Covering

Over the last four (4) decades, the choices of covering materials for models have expanded steadily and R/C modelers have quickly adopted the new methods. Modelers involved in other disciplines, especially controlline stunt, are not as eager to change their methods of finishing models. There must be a reason for this. The primary reasons are that it is easy, cheap, fun, and above all, beautiful. Silkspan, the primary covering material, is lightweight, accepts nearly all paints readily, and will never sag, bubble or wrinkle. It goes on just as easily over either sheeted structures or open framework.

Silkspan is primarily used on smaller models like Old Timers, 1/2A glow and small electrics, but it is also an excellent surface preparation for sheeted surfaces even on giant scale warbirds. There are two (2) primary disadvantages to using silkspan; it is easier to tear or puncture than plastic coverings and requires much more time and effort to finish.

R/C modelers could learn a few things about finishing their airplanes from controlline modelers. These people can make the most *phenomenal* finishes and keep them light enough so that the model is competitive. Maybe this is in part the reason that controlline stunt models are scored on appearance and R/C pattern planes are not.

The stunt community in general frowns upon anything that irons on. The purpose of covering the balsa structure with silkspan is to hide the grain, not fill it, and to add strength. It makes a tremendous difference in strength. According to Windy Urtnowski, a guru of stunt model finishing, there is no way to fill balsa grain at an effective weight. He says he has tried covering with glue and sanding it off, but that the grain reveals again after sitting in the sun for a while.

The steps required to achieve that fabulous finish are:

1. Sand everything as smooth as possible with 400-grit paper.
2. Brush 3 coats of clear nitrate dope thinned as little as possible but still resulting in good paint flow. These coats must provide a reasonably waterproof seal so that when the wet silkspan is applied, the underlying structure will not warp due to the moisture.
3. Again, sand everything as smooth as possible with 400-grit paper.
4. Start the covering with the bottom of the wing. Lay the wing on a clean work surface and trim a sheet of silkspan to oversize allowing 1" to 2" of excess around the perimeter. Wet the silkspan with water until it is completely saturated. This will cause it to swell and wrinkle.
5. Gently lay the silkspan sheet over the surface to be covered. Start lifting and smoothing the silkspan until all wrinkles are removed and it is pulled fairly taut. Use wet brush to help to force bubbles toward the edges being careful not to tear the silkspan. Even wet, it is surprisingly tough.
6. Using a sheet 240-grit paper, sand the edges on the downstroke only to feather away the excess silkspan. The silkspan can be easily worked around compound curves, leading edges and wingtips.
7. Once the silkspan is trimmed and while it is still damp, brush on a coat of nitrate dope that is thinned 50%. The dope is this highly thinned so that it will partially dissolve the dope that is already on the bare balsa. This will bond the covering to the airframe.
8. Cover the rest of the wing and then the fuselage following steps 4 thru 7. Overlap the successive pieces so that there are no gaps.
9. Brush 3 more coats of clear.
10. Sand everything as smooth as possible with 400-grit paper.
11. Make a sanding sealer using equal parts of thinner, clear dope, and corn starch or unscented talcum powder

12. Brush on a thin coat of the sanding sealer over any remaining pits or dings.
13. Sand off as much sanding sealer as possible with 400-grit paper.
14. Sand everything as smooth as possible with 400-grit paper.
15. Spray a coat or two of 50/50 clear/thinner to seal the filler coats.
16. Sand this lightly with 600-grit paper.

The ultimate goal of this process is to make all of the surfaces as *flat* as possible then use the dope and silkspan to make it *smooth*. The trick up to this point is to use as little thinner as possible in the mix. Thinner changes the shape of the wood taking away from the flatness of the wood and requiring more sanding.

The trick to finding flaws is to sand in a room with only one light source. Hold the model up to the light and bounce the light off the working surface on at an oblique angle. This will make even the slightest flaw visible. This technique is called *candling*. All flaws must be corrected at this point; otherwise they will be even more visible after the color coat is applied.

Silver primer is very important to an award winning finish, especially when translucent paints, such as candy apple automotive paints, are used.

13. Spray a coat of silver dope. Allow it to dry for about a week. The longer it dries, the easier it is to sand to a smooth finish. If the paint *balls* up while being sanded, it did not time to dry sufficiently. Stop immediately and allow a few more days for it to dry.

Normally, the reaction when the silver is sanded will be frustration. Every flaw is highlighted. Sand off as much of this silver as possible and correct all flaws with sanding sealer.

14. Apply a second coat of silver.
15. Again, correct all the flaws.
16. Continue this process on the surface has the appearance of machined. The silver dope is actually used ultra fine filler coat.

Note: Do not spray different colors over each other. This adds weight and makes the color harder to apply. For example, do not paint the entire surface white and put blue trim over the white parts. Mask the areas that are to be painted white and spray it. Remove the masking and allow this coat to dry thoroughly. Mask over the white and spray the blue trim. The silver dope is a perfect base for all colors and saves weight. Finishing this way takes a lot of work and time but the results are incredible.

17. Mask and spray the lightest color paint first.
18. Mask and spray the remaining colors.
19. Sand the color coats to a dull finish with 1200-grit paper, paying close attention to smoothing the edges as much as possible without through the color coats.
20. After an even, smooth surface is achieved, spray about 4-6 coats of clear over the entire surface.
21. Let this cure at least a month. The harder the paint, the shinier it will be and the longer it will keep its shine.
22. Rub the whole plane with fine rubbing compound.
23. Rub the whole plane with Gorham's Silver Polish.
24. Wax it 2-3 coats with fine automotive wax.

This covering technique is lighter than most of the plastic film coverings, will never wrinkle, and is quite easy yet time consuming to do. The results that can be achieved from this method are incredible and unattainable with film coverings.