

Jack Jella's Silk and Dope Technique

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SCIF contains many very able modellers—Carl Taylor and Jack Jella among them. Like most people, I have admired the silk covering jobs on Jack's models—taut, and with every seam and thread straight (kind of like the seams on the nylons that stewardesses wore in the 50's!—but I digress again). The question of course is, how does Jack get those great silk jobs? Here's how—in Jack's own words. He even explains why it is important that those seams be kept straight.

Silk Covering — by Jack Jella. Seems everyone has a preferred method for covering with silk, and I assume that all must provide a satisfactory finish. But, I would like to suggest another method that I have been using for the last 25 years with excellent results. I have read of all manner of materials used to seal the weave and prevent the dreaded dope "run through" that spoils so many otherwise beautiful covering jobs. Forget the toilet tissue, foam brushes, milk, jello or whatever else you've been using and let's use the one material that is completely compatible with silk, the dope.

I pre-dope the silk with one coat of very thin nitrate before I begin to cover. Here's how I do it. I begin by constructing a frame of 1/4" balsa or pine strips slightly larger (an inch or so all around) than the structure that I want to cover. I use my small 4" disc sander to cut the end of each piece at a 45 deg. angle (like a picture frame) for a better glue joint, medium CA works well and speeds up the process. Except for very small frames several spacers placed across the frame will add rigidity and maintain the proper width. Glue them on top of the frame so they will not touch the silk, they also make convenient handles when you are ready to pick-up the silk after attaching it to the frame. Cut a piece of silk about 1" larger all around than your frame, I usually iron it to remove any major wrinkles, not absolutely necessary, but it does make it easier to get the silk to lay flat on your work surface. Smooth it out as best you can, paying particular attention that the weave is as straight as possible. Silk applied with the weave on the bias is much more likely to cause warps. Now we need to dope the frame to seal the wood that will come in contact with the silk. Two or three coats is sufficient. 50-50 dope/thinner is OK, or it can be a little thicker. When you have enough dope on the frame so that it is not soaking in and stays wet all around, place it doped side down on the silk. The silk will adhere to the frame, and you can now use those cross piece handles to pick it up. Turn it over and smooth any significant wrinkles while the dope is still wet. After making sure that the silk is attached to the frame all the way around, we are now ready to pre-dope the silk. I use 1 part dope, 2 parts thinner. It should drip from the brush. If it doesn't, add more thinner. I have never used anything other than a regular inexpensive camel hair brush, about 1", but I do use the side of the brush in easy strokes. Don't worry about the dope running through, that's what it's supposed to do. Thin dope will not make an unsightly blob on the underside. One coat is all we need for sizing. When the silk is dry, use a razor blade to cut around the inside of the frame and remove the silk. You now have a piece of silk that's ready to cover your model that behaves like no silk you have ever used. You can cut precise edges and shapes (like silkspan or tissue), something that's hard to do with unsized silk. If you haven't waited too long, it's easy to remove the silk still on the sizing frame by just pulling it off. If it's really stuck, a little acetone or thinner will release it. Now you can repeat the process in pre-doping the next panel. One sizing frame should be sufficient to do all the panels.

Covering. Just lay the piece of silk over the area you wish to cover, spray lightly with water and lightly pull to remove any wrinkles. Because you have pre-doped the structure and the silk, all it takes to bond the two is a little thinner brushed around the edges where the silk touches the structure. Under cambered wings require heavy dope or thinned glue applied to the bottom of each rib and at dihedral breaks to adhere the silk.

Acetone works best here because it's a better solvent and will form a faster bond. Compound curved surfaces, wing tips, etc., can be easily covered by simply brushing thinner over the surface to release the sizing and let the silk conform as it normally does. Yes, the silk will dry taut after covering wet. One thin coat of dope does not seal the fibres to prevent the silk from shrinking normally. When you're ready to dope after covering, I prefer several thin coats to one thick one to fill the weave. Remember, if the dope starts to "run through" and make a blob on the inside, it's not because it's too thin, it's too thick!. As I said earlier, I use the side of the brush with light strokes until the weave is filled, then you can brush normally.

I hope I haven't confused you too badly. At first it sounds like a lot of extra work, but in reality I believe it actually saves time. Applying the silk really goes fast and the results are totally predictable with a smooth covering job every time and with much less warping tendency.