

Instructions for Polyester Tissue

Polyester tissue is a modern replacement for silkspan. It is much stonger than silkspan, but weighs no more than silkspan. It is best used on flat surfaces such as wings, flaps, stabs and elevators. Silkspan is still the best choice for curved surfaces such as wing tips and fuselages.

Polyester tissue is applied similar to silkspan, except it is applied dry and then heat shrunk. Prepare the surface to be covered by applying three coats of dope, lightly sanding between each coat. I prefer using nitrate dope up through the filler/primer coats, but butyrate will work. **Please note that polyester tissue has a definite outside and inside.** The outside is marked with a colored dot. If you put it on with the inside out it will fuzz up when you apply the dope. It will then take several extra coat and sandings to get the fuzz out. To be absolutely certain, always test a small piece by doping it onto a scarp piece of balsa. If it fuzzes up that is the inside.

Covering a wing: I recommend you cover the wing with four pieces of tissue overlapping the middle sheeting so that you have two layers of tissue on both sides. Since the tissue has a high tensile strength, this double layer in the middle gives the wing tremendous strength. Don't try to cover the wing tips with poly tissue. Use silkspan for covering the tips. Cover the bottom inboard first, then the bottom outboard, then the top inboard, and finally the top outboard. Lay the polyester tissue over the surface you are covering and apply dope along the trailing edge. Keep the tissue taut and straight as you apply the dope, but don't stretch or distort it. It will lay very flat with few wrinkles if you keep it straight. Next apply dope to the center sheeting area; then out at the tip; then finally the leading edge. I start in the middle of the leading edge and work outwards. Don't worry if you have a few small wrinkles. They will disappear when you heat shrink it. Cut off the excess tissue. You will overlap the front and back edges with the top pieces, so you can cut off the bottom pieces just short of the leading and trailing edges.

Since you are now going to overlap the center sheeting and the poly tissue you've already applied, you need to lightly heatshrink the tissue in that area so the second layer lays flat. Dope on the bottom outboard just like you did the bottom inboard. Before you put on the top pieces you need to lightly heat shrink out any wrinkles along the leading and trailing edges where the top sheets will overlap the bottom sheets. Don't shrink the open bays yet. Put on the top sheets wrapping around the leading and trailing edges. You will have to cut the tissue on the leading edge at the center of the wing to get the tissue to lay flat. Now you have the entire wing covered and its time to shrink the tissue.

Shrinking the Tissue: Using a heat gun start shrinking the tissue at the leading edge of the first open bay on the top. Hold the wing up towards a light so you can see the wrinkles disappear. Go slowly with the heat. It is very easy to burn a hole in the tissue if you go too fast. Work from leading edge towards the trailing edge. Next do the same on the bottom of the wing. Then work the second bay from front to rear. Continue to shrink the tissue on both sides of the wing working out towards the tips one bay at a time. This will insure that you don't warp the wing. Finally shrink the other side in the same manner. Apply several coats of dope before you sand. Don't sand into the tissue.

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