

COVERING WITH POLYSPAN

by Hank Nystrom and Mike Myers

Polyspan will work around limited compound curves. It does not shrink in water, so it's useless to put it on wet. It shrinks with heat, after you've got it stuck down to the framework. Out here in the California OT FF crowd, we're mainly using Polyspan these days--cheaper than silk (a lot cheaper) and tougher than silk.

Here's the common drill; Prepare your framework by sanding it as smooth as you would for a tissue or silk job. Put your preferred adhesive on the framework. Some people use two or three coats of dope, sanding smooth between coats, then apply the Polyspan using either MEK, Acetone, or dope thinner brushed through the Polyspan to activate the dope and "lock" the Polyspan to the surface. Others (and I'm one of them) like to use Superseam fabric cement or covering adhesive (one available from Aircraft Spruce & Specialty and the other from Aerodyne) and brush it on the framework. Let dry, then brush MEK, Acetone or dope thinner through the Polyspan to lock it to the surface.

After that brush three or four thinned coats of nitrate dope on the Polyspan. It will start to fill the grain and get a slight shine. At that point you can pull your heat gun out and shrink any remaining wrinkles out of the covering. Finish up with a couple more coats of dope and, if you need it, a fuel proofer.

If you've got a particularly "curvy" piece of the airframe, you can cut Polyspan in strips and overlap the edges, just as though you were planking a round fuselage. One of the good things about Polyspan is that you can sand these overlaps after you've got several coats of dope on them and they will tend to disappear. If you muff it and sand through the overlap to the bare framework, just cut a new strip of Polyspan, lay it over the bare spot, dope the new Polyspan to the same number of coats as the surrounding Polyspan and sand again.

Polyspan is white only; but there are several different ways to get color on it. Design Master Florists Spray available at Michael's Crafts is one good way; another method involves a mix of Higgins Ink, thinner and dope--1 part ink, 1 part dope, 10 parts thinner, and you spray it on until you get the color density you want. I've also colored Polyspan with plain old spray can Krylon Lacquer (this on a small towline glider called the Leprechaun). Nitrate doped Polyspan is pretty friendly to almost any kind of paint you want to put on it.

One final advantage of Polyspan for covering; you can heat shrink your trimming warps into the covered finished airframe--and the warps stay where you set them. Monocote can move if it's subject to too much heat--but I've never had a "set"

Polyspan covered wing move on me (and it can get pretty hot in the car on late spring or early fall day at Lost Hills).

Mike Myers

Try Polyspan--You'll love it--I want to add a couple things here that haven't been covered--If you're looking for that translucent finish that you got with silkspan, put the first three of four coats of dope on quite thin--I use 60% dope, 40% thinner.

--Use a foam brush to dope it--I use a 2 inch version--The foam brush will swell up from the thinner in the dope so only dip the brush about 3/4 inch into your dope to charge it.

--Brush in one direction always picking up the brush in the previous stroke that you laid down.

--To make a neat job of going around the trailing edge of your wing, use your sealing iron to "fold" the Polyspan around the edge--It will snuggle it right in place before you attach it--You can go around some amazing compound curves with it also--Lift the Polyspan above the surface and apply your sealing iron in the middle of the surface--As you pull from the edge, you will feel it stretch as it's heated and at that point pull it down over the compound curve--A little trial and error and you'll get the hang of it.

--I cover the tops of my wings in one piece right over the wingtips with the stuff completely wrinkle free--Using a heat gun or sealing iron, you can shrink out some terrible wrinkles if need be.

--I also recommend doing your shrinking before you do any doping--I dope my frame first with three coats of pretty thick dope and sand with 320 paper--I brush a mix of 75%thinner and 25% dope through the Polyspan to attach it.

--One more thing, Polyspan has a grain of sorts--It runs along the long side.

Hank on the Bay

I should have mentioned that I don't use any nitrate dope at all on Polyspan -- I use nothing but Randolph clear and colors.

-- My usual doping procedure is to apply three coats of clear to completely seal it after shrinking with heat first, then apply two coats of colour trim followed by a coat of clear to "fix" the colour with the masking tape still in place, and then two more coats of clear overall.

--I forgot to mention in my first letter to you that I also use about 15% Randolph retarder in all my dope mixes regardless of the weather--This allows the brushed on coats to flow out and eliminate 99% of the brush marks and to produce a much smoother coating--This equates to a much higher gloss with less coats and no sanding.

---For those who would rather dope first and then shrink, sometime after you done it this way, look all over at the surface that you've just doped and shrunk, with a magnifying glass--You'll see that you've opened up some of the pores by the shrinking action that just took place--The material was pulled in different directions by the heat and opened some of the pores--It's not really sealed anymore.

Hank on the Bay