

CONDENSER PAPER DYEING

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Condenser paper is a non-porous, delicate and extremely light material whose primary use is as a dielectric in electronic capacitors. It also has gained a fair amount of popularity as a covering material for certain types of indoor models. In its natural state this paper has an unrealistic, off-white appearance which creates a problem when using the substance on scale models. In order to make condenser paper resemble the color of an actual aircraft it is usually necessary to dye the material.

After several unsuccessful attempts to color condenser paper, I finally developed the following method which is simple and works most of the time. The c-paper I used was obtained from Old-timer Model supplies. It was their lightest grade.

Prior to coloring the paper it will be necessary to construct a number of frames from scrap lumber. The larger the frames the more difficult will be the coloring operation. The frames I use measure 12" X 14" and are made from one inch square hardwood. Make sure the wood you use is rigid enough to resist flexing as the c-paper later shrinks.

Using a 50% mixture of white glue and water affix the c-paper to the frames. Be careful not to pull the paper too tight. About 1/2" of slack in the center of the frame is about right. If the material is too tight it will tear when it shrinks. Wrinkles will develop in the c-paper if it is applied unevenly or too loosely on the frame. Minor wrinkles can be removed from the finished product by pressing with an ordinary household iron set on low heat. Some experimentation may be necessary before you find the right amount of slack.

After the glue dries, the dye can be applied. I have tried a number of different dyes and colors with varying degrees of success. The results obtained using a 50% mixture of Yellow Higgins Drawing Ink and water were the most consistent. Using a soft one inch brush, paint the c-paper with the dye. Stand the frame vertically on its edge and pull the brush carefully across the surface of the paper without pressing. If the brush is well loaded with the dye it will not drag and tear the paper. When the c-paper is thoroughly wet take a ball of cotton approximately one and one half inches in diameter and use this swab to distribute the dye evenly over the c-paper and to soak up the excess liquid. Because c-paper has very little wet strength extreme care is necessary during this stage of the operation.

When the dye dries we, hopefully, will have a wrinkle free, uniformly colored piece of condenser paper on the frame, which at a glance resembles yellow Japanese tissue. The material can now be cut from the frame and applied a model with your favorite adhesive. I use a 50% or weaker mixture of white glue and water for this purpose also. If you desire to

shrink the c-paper after it is applied to the model this can be accomplished to a limited degree by light steaming. Some shrinking ability will still remain in the c-paper even after being colored.

It is advisable to color a surplus of c-paper and store what is not used. If it ever is necessary to patch the model you will be assured of a close color match. Even though I carefully measure the proportions of dye and water, each batch of paper that is colored seems to have a slightly different hue.

After reading the foregoing you may decide to stick with Japanese tissue. Admittedly Japanese tissue is more rugged and easier to work with but if you are intending to build a highly competitive scale model the reduction in weight resulting from the use of condenser paper may make the difference between winning and losing contests. My son, Billy, and I each built identical 20" wingspan models of the Lacey M- 10. The only difference was that he used tissue to cover his model and I used condenser paper. Billy's Lacey weighs 30 grams and mine weighs 26.5 grams. The lighter model consistently outflies the other by 15 to 20 seconds.