

Tissue Paper Decals

By FreddieB from RCGroups.com

I use cheap domestic tissue paper for the decal material. This is not just for tissue covered aircraft. When they are done I have used them on all types of aircraft structures. They are perfect for foam, fiberglass, balsa, tissue/silkspan, silk, and yes, even monokote.

We just apply them different depending on what you are working with.

Materials:

Tissue paper, white usually, domestic gift type acceptable.

Krylon Crystal clear spray paint, or similar.

(Sometimes Krylon White, when mounting decals on dark backgrounds).

Glue stick.

Clear 3M type tape.

Heavy paper stock, 60# perfect.

Tools:

Printer, ink-jet or laser.

Computer, with web access, graphic or photo program, word processor, etc.

Scissors

Hobby knife.

(Scanner, not required).

Artwork:

Photos, clipart, user defined drawings.

Web downloads.

1 – Support Preparation

1 - We start by cutting tissue sheets into sizes slightly larger than the paper stock we will mount it to. I'm using letter size paper this time, 8 1/2" x 11". So I cut the tissue just larger than 9" x 11 1/2".

I like using "flyer/brochure" paper stock, usually 45-60 lb. stock. I also like gray because it's easy to see the difference from the tissue, and is a good base color to see your work, sort of like primer.

I can and do make 4-6 decal sheets from one piece of domestic tissue at one time. REALLY inexpensive and you will use them, trust me. Make several now.

2 - Apply glue stick, brand does not matter, to the very 1/8" or so of the heavy paper stock. You can be slightly sloppy and get it almost 1/4" in from the edge but try not to do more than that.

Lay the tissue over our glued paper, aligning it with fairly equal overhang on all sides. Tissue is light so it floats on top real easy.

With domestic tissue I mount the 'shinny' side up. If you have any trouble with the tissue sticking prematurely, just use a couple of sheets of copy paper in-between your sandwich as you do the following.

Take and press the tissue to one corner. Stretch the tissue to an opposite corner and press in place. You may have to smooth it down about an inch or two on these corner edges to keep it in place.

Stretch it and adhere it to a 3rd corner, at this point you can also run your finger down 2 edges to get them to lay nice and flat. Do the final corner the same way, Rub along all the edges until you know they are stuck.

Flip the paper over, apply glue stick to the backside tissue overhang and a little on the edges of your backside mounting paper. It will be fairly smooth and flat, few wrinkles.

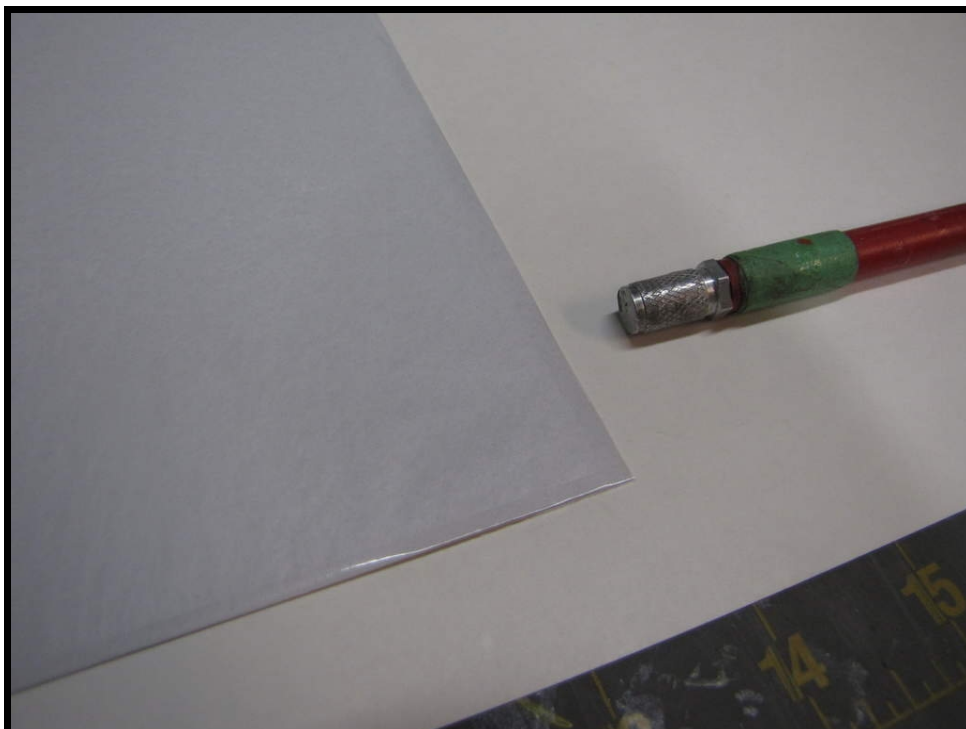
3 - I found this step is critical to success on feeding our decal paper stock through a printer reliably. Almost 100% no tears, wrinkles, etc by doing this.

I take 3/4" wide shinny 3M tape for this step. You can start on the front or the rear whichever you prefer. I like starting on the front side.

I unroll a piece of tape about the length of the side I'm working on. On the front I pull and place the tape on the tissue/glued outside edge, no more that 1/4" in. I then rub and fold it over onto the backside sort of like putting tape hinges on a foamy.

Keep it as smooth as possible, and the fold as close to the edge of the paper as practical. It's never perfect, but you do get real good at it quickly.

Repeat for the other 3 sides.



The tape keeps the tissue from hanging up upon being picked up with the printer feed device, and keeps it stretched nice while printing. The 1/4" or less boundary on the front is because most printers have a 1/4" to 1/2" margin that does not get printed on. We don't want the printing to get on the tape, especially inkjet as it won't stick, dry, and will smear.

2 – Graphic Design and Printing

1 - Now it's time to create your graphics. Most of us have done this before so use the programs you like the best.

I'm using Printmaster here (\$10.00 or less for an older version on CD). You can use Print, Printshop, Paint, Word Processor, Photo printing program, etc.

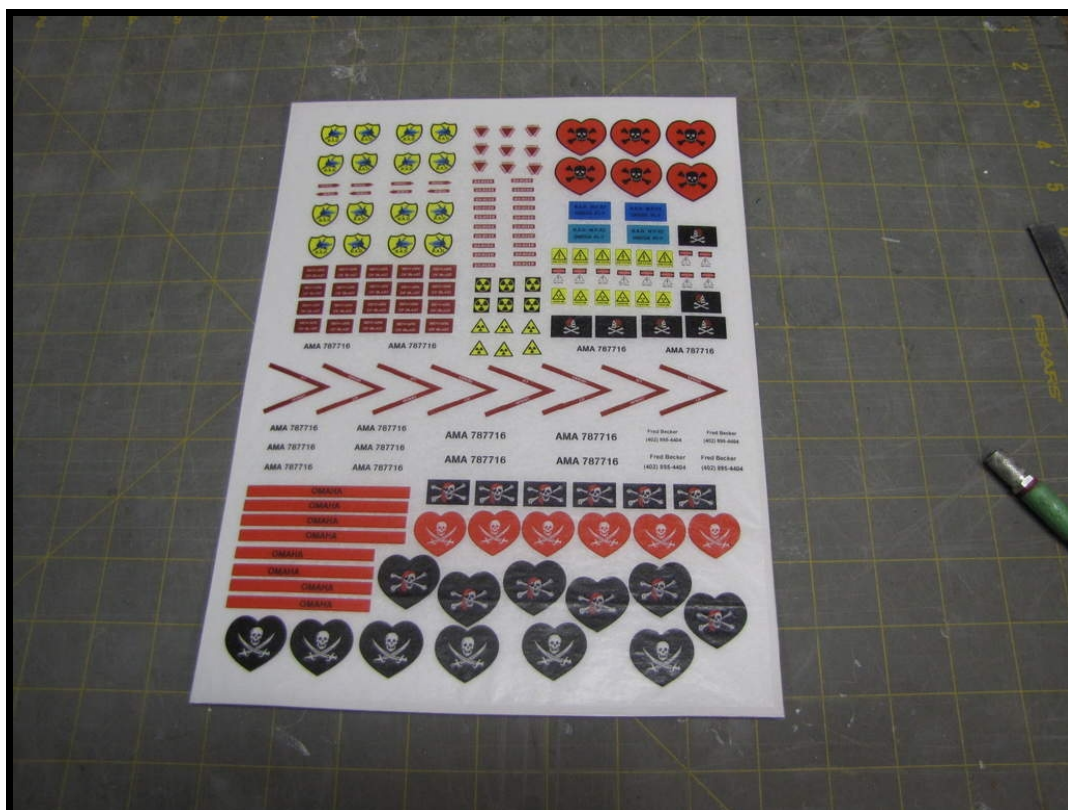
I am making tiny decals here for micro models, but large decals work great too. Coolest thing is we can even make decals from photographs, old War Poster art, insignia, lettering, downloads, clipart, etc. Your imagination is the limits.

2 - Now I simply print them onto my tissue sandwich.

I use both ink and laser printers. Yes laser is nice, but sometimes my brand, HP, is hard on the tissue. You will have to use a sheet or 2 to do some setup test, but by adjusting quality, paper type, and even paper weight (laser), you will come up with what works best with your printer brand.

I have never had a straight through printer since the 1990's, and mine feed the paper around a roller. The sandwich works. In rare instances I've had the tissue tear and jam a printer, but I can always get it out by opening the cover.

Tip: Inkjet probably works best on less than high-quality settings. We do not want so much ink that it bleeds. My laser likes me to pick a medium paper setting. Doesn't hurt to ruin a few at the cost of this decal stock getting your setting right. Just keep the 'Quality' selection on less than 'best', draft or quick may or may not be good on yours, mine works best at everyday, or medium settings.



Keep the 'shinny side' up (the print side).

3 – *Protecting and Sealing*

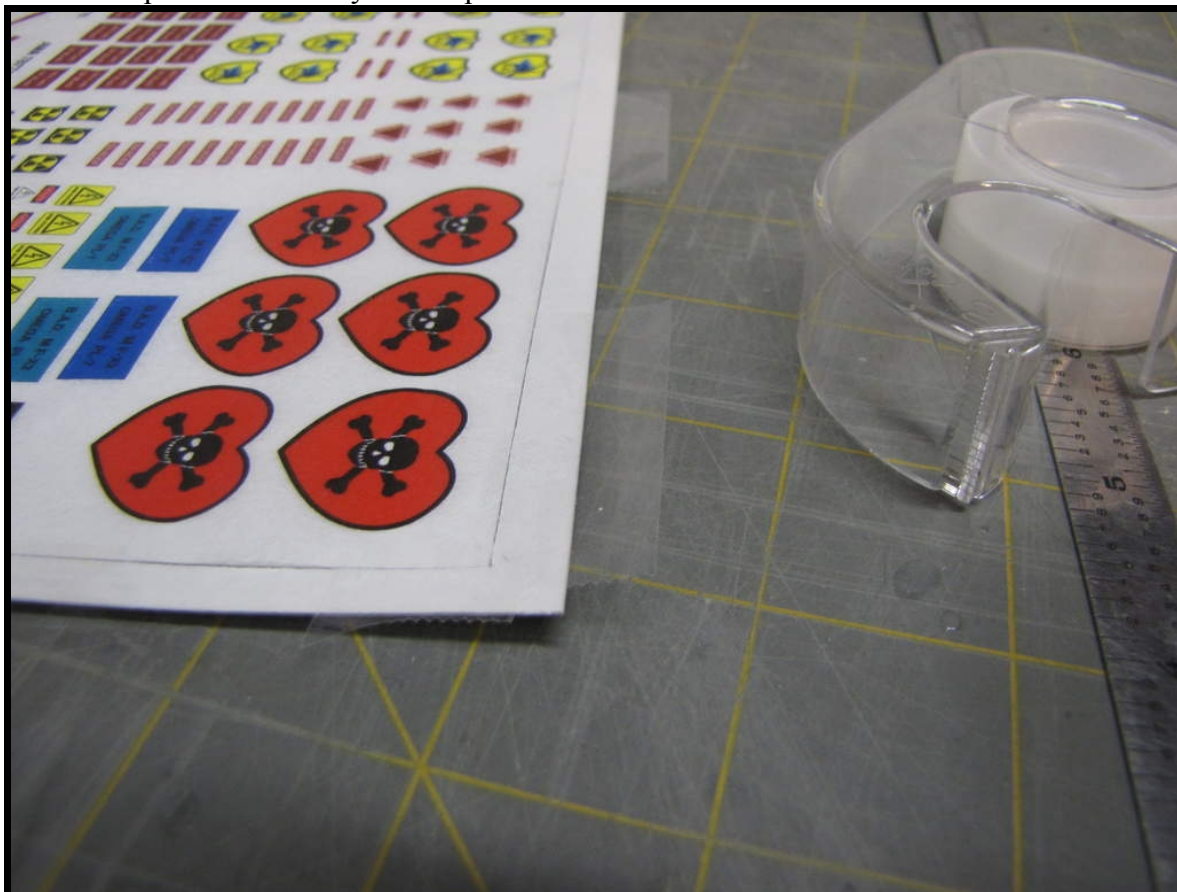
1 - The next couple steps are quick and easy. We will use lots of tape so buy yours at a dollar store or Walmart!

I take a straight edge and we cut all the way through our sandwich from the top side. Cut about 1/4" in from the edge. Try to cut beyond the glue line, but leave some space to your decals.

Now, before moving your decal sheet, tape right back over the cut we just made, topside, decals up. You do not need to cover the cut with a continuous piece of tape, 3 pieces per side should do it. One at each end, and one in the middle.

Place these over the cut so you almost, but do not touch the printed area, but extend them over the edge of the sandwich.

I think the photo will clarify this step.



Remove the center piece of heavy paper backing that was cut 2 steps ago.

You now have the tissue decal sheet mounted to roughly a 1/4" 'picture frame' of heavy paper, tape extended over the edges.

2 - Next I take the sheet and use that extended tape pieces to adhere it over a frame for painting. A box makes a great mount.

VERY IMPORTANT: Mist on several coats of Krylon. MIST COATS. Several with drying in-between. Dries real quick so it will not take long. If you put on heavy coats the ink may bleed a little, even on laser prints.

I usually do 3 to 4 mist coats. By the final one, it is a little heavier, and that last coat appears to have an even 'wetness' when applied.

This will seal the inks or toners well, but we are not done just yet!



3 - Now we have to flip the sheet over, remount on the box and repeat the last step on the underside, or backside of our decals.

Please note: If you are making decals to mount on dark surfaces, after this step you will need to mist on a few light coats of white Krylon. Only needed for dark backgrounds. Enough light coats so that you do not see the decals through it very well. (white, backside only if mounting on dark surfaces!!!!)

This set of decals is for light colored aircraft so I skipped the white coat.

Let the paint seal coat dry now for at least 1 hour, longer better, but we want the “smell” to be mostly gone.

If you totally seal the tissue decals, they do not shrink, stretch, they are just stable as heck.

4 – Cutting and Installing

1 - Now cut out the ones you want to use.

One really cool thing with these decals is that you can cut from either side because they are basically see-through until mounted. I can use regular scissors for everything, even tight curves. White paint backed decals can only be cut from the top side, sorry.

I used to worry about cutting right at the printed edge, you can do that still. I can cut them close, leaving a little overhang and when mounted you really can't see it (except on the white/dark background type where you have to cut them closer).

If you use the white domestic gift wrap tissue, it will become transparent when you final seal it to the model. So for lettering you can just cut around the whole area. If you use any sheen from gloss down to matte, same thing happens as long as the decal and airframe are treated with the same sealer. All the decals, lettering or graphics are the same tissue and application methods and most often you can not even detect a seam or edge once applied. Closest thing to paint I have tried.

I mostly use Polycrylic by Minwax. I have used Gloss, semi-gloss, and Satin with good results. It can be brushed or airbrushed, and is crystal clear (non-yellowing). If you see a seam at the decal edge, you probably have enlarged a photo or magnified the decal and even the best waterslide types are the same.

2 – Installation:

I use a painter palette, with wells.

I mix up a small splat of WBPU and white glue. 3/4 WBPU, 1/4 Glue in one well. I also put a small splat of WBPU unmixed in a separate well. The Q-tip is a great paintbrush that won't cost much if you let it get dried out. The Q-tip also holds liquids well without making a dripping mess.

1st: I put my decal upside down on some clean, disposable paper and wipe a glue stick on it. Does not take much, but a little does make a better job. On the real tiny decals I just lay them on the glue stick, press, and lift them off with a toothpick.

2nd: Take the Q-tip coated in the WBPU/Glue mix and paint a very thin layer on the back of the decal. Not much, just a good complete coverage wet coat. Remember that Krylon? The decals are waterproof now and the water based media will not affect them!

3rd: Place your decal roughly where you want it and press the edges down. You may see a slight, microscopic curling at the edges, but that is fine because you can slide it around gingerly to get it just where you want it now. If you want you can pre-paint a little mixture on the aircraft where the decal will go first, but I don't really do this anymore.

4th: Now I take the plain WBPU and give a coat to the top of the mounted decal making sure it looks wet all the way to the edges. In fact I like to extend the wet edge just past the decal to get a little WBPU to flow right under the edge. (remember I don't put any on the airframe first).

5th: For me, at this point, I rub the decal with a finger, taking most of the top coat off and also sealing down the edges. If you put too much finish on you can also use a thin credit card, playing card, piece of depron, or similar and squeegee from the center outward to remove any excess liquid or bubbles.

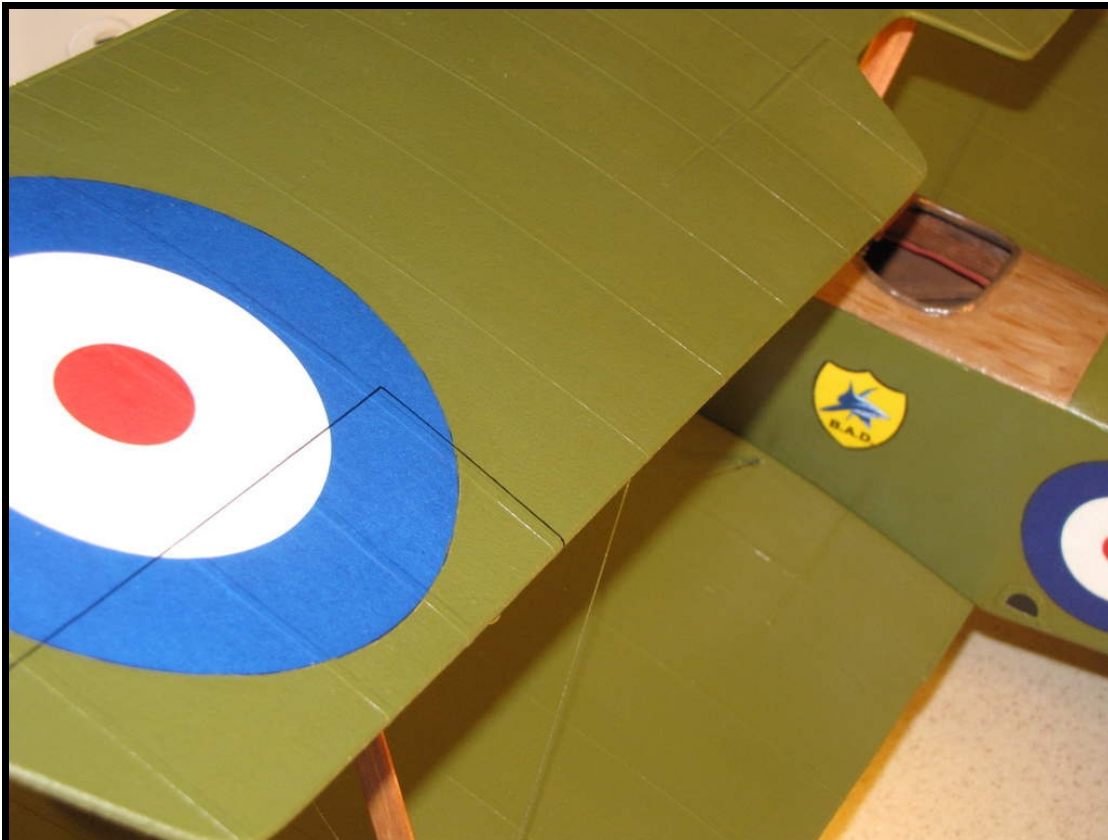
6th: Take a damp tissue and wipe all the WBPU off your airframe around the decal, right up to the edge. This way you won't see any hazing or clouded difference between the finish near the decal. Blot it dry with a dry tissue.

Tips: WBPU starts to dry quick, so with a clean tissue or paper towel (or finger), wiping the liquid off the top really makes it stick well real quick. Once in a while, within a minute or so, you might see an edge lifting ever so slightly, just press/rub it down, it will stick! A difficult edge, a tiny re-application of WBPU only at that edge will fix it. The decal area can be handled softly while adding more decals within 3-4 minutes.

They are now stuck and good. Top coated and fairly resistant to environmental factors. In fact the only way I can ever remove one is with alcohol and 5-10 minutes of elbow grease!

You can top coat them again if you want. You can now post paint, clear coat, dull coat, whatever. Most finishes I have found will top coat over WBPU finishes.

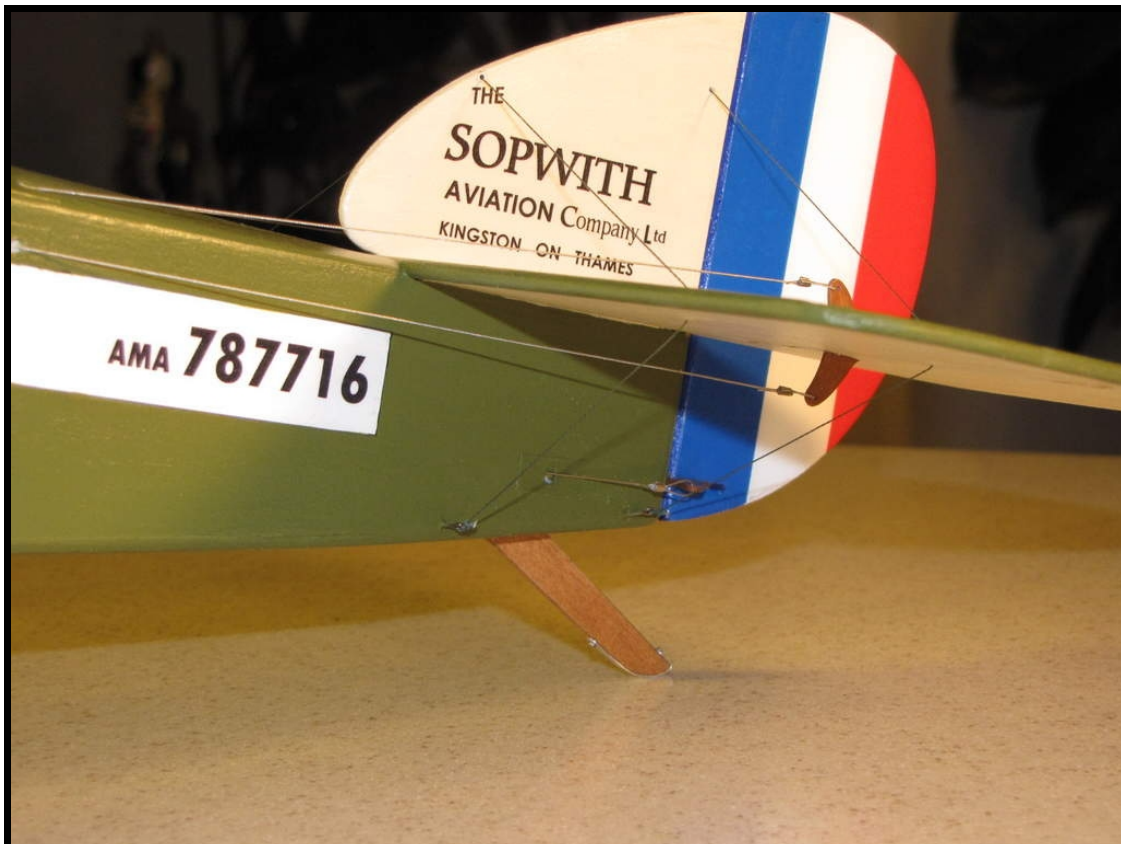




Here is a sample of Tissue decals on a 32" span Sopwith Pup I built from my own drawings. Mostly painted depron airframe.

You may note the top wing insignia looks painted on. Look how it conforms to my simulated rib tape. These decals were 5 inches in diameter. Oh yeah good decal to do the white paint on the backside trick!

The rudder markings were built in my Printmaster program by using different font size and types.



5 - Notes and Tips:

I've used spray 77 to mount. Messy and tough to align because once you touch, it's there to stay.

Elmer's rubber cement, I put 1 light coat on decal, one on airframe (masked off), dry, sticks like glue, but good. See note above about alignment.

Glue stick only. OK, but I do think the WBPU addition is far better for adhesion and durability.

White glue only. OK, but makes lumps under the decal. Most of the time they will disappear, but hard to squeeze any excess from under the decal when mounting.

Epoxy. If you must because of certain circumstances. Hard to find clear epoxy like Power Poxxy unless a retailer near you carries it.

Double-sided tape. Well where did you save the weight now, and doesn't look painted on. Why don't you use label paper instead!

CA. Never tried it?

Can you actually coat over these with other finishes when done. YES... Just make sure the finish is compatible by testing first.

A most interesting thing to do with tissue is to scrape chalk from the artist pastel sticks (not the kid stuff). Put the fine powder on the back of your tissue, rub it in, wipe off excess with a tissue. When the dope or top coat hits it, the caulk 'fixes' and becomes part of, and changes the colors to something much more vivid. Chalk is light too. Test it out because some colors added to colored tissue give some altering hues.

The decal is opaque when you make it (white tissue, once treated with clear spray it gets opaque). Then when you glue it on, and seal with top coat it becomes transparent. If you use the white domestic gift wrap tissue, it will be transparent when you final seal it to the model. If you use any sheen from gloss down to matte, same thing happens as long as the decal and airframe are treated with the same sealer. All the decals in my thread, lettering or graphics are the same tissue and application methods and most often you can not even detect a seam or edge once applied. Closest thing to paint I have tried.

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