

Unusual canopy thermoforming technique

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modeling the world in paper



I hope i'm not re-discovering hot water with this technique, but here it goes.

I've recently started to use this system to thermo form aircraft transparent canopies to reveal the cockpit detail which, in my opinion, really spices up a well done model. This system is really cool because you don't need any special tools like vacuforming machines or other crazy devices that need a century of practice to get nice results.

Here the step by step procedure.

1. Assemble the paper canopy supplied with the kit. Just be sure to glue the tabs inside out, so that the inside of the paper canopy will result smooth and as much as possible crease-free.
2. Buy some two components epoxy putty at your local warehouse (any will do, but i use Loctite Poxi Bonder or Alba Durepoxi), mix the right amount by kneading two equal parts of the mass and just fill the paper canopy using it as a mold. Be sure to fill it perfectly in all recesses and to keep the shape correct.
3. After a couple of hours, demold the epoxy by tearing the paper and wash the mold with soap to remove all bits and chunks of paper and glue. At this point you should already have a nice finishing, but if some creases appear, just sandpaper them away with finer and finer grade (600 grit should be more than sufficient).
4. Go again to your warehouse and buy something to drink (after all this work you'll be thirsty, ain't it?). Choose a plastic bottle made of PET which slightly fits the canopy mold. Avoid complicate or ultra thin bottles, just plain smooth bottles will do.
5. Cut the bottom of the bottle (only after you drank....) and push the mold inside so that it lies as close as possible to the plastic wall of the bottle. I use my son's wooden bricks for fitting.
6. Switch on your kitchen fire and put the bottle over it at a distance of 30 cm (1 foot). wear gloves or use a wrench to hold the bottle, as it gets really hot. As soon as the bottle heats up, it starts to shrink around the canopy mold and taking its shape.
7. Cool down the bottle under cold water, and it's done. You only have to cut the canopy with a sharp model knife.
8. Canopy framwork can be attached later by means of cyanoacrilate glue

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The mold after sandpapering, ready to cast a new canopy

Canopy just cut out and framework glued on it



Canopy ready to be installed on the model

As you can notice, the glass has a slight blue tint, which is really interesting. For example you can look for orange juice bottles and obtain a similar appearance to the golden tint canopies (like f-117) at almost zero cost and effort.

"Meglio aver paura che prenderle"- Proverbio toscano

"Better be afraid than be beaten up"- Tuscan proverb

"Melhor ter medo que apanhar"- Proverbio toscano