

Making Tissue Tubes

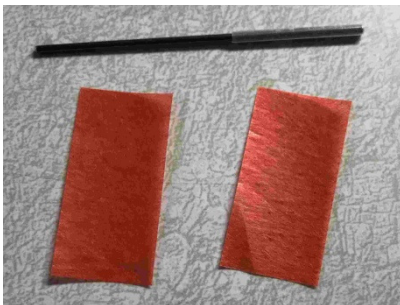
Ray Harlan

Tissue tubes can be reasonably easy to make if the right procedure is used and if not, disaster is almost guaranteed.

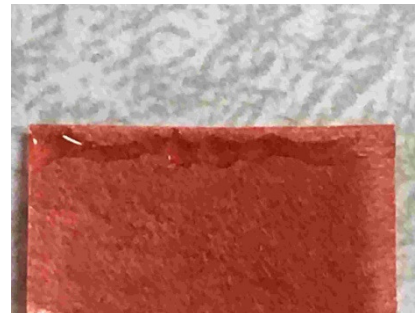
The best mandrels are Teflon tube on a rigid piece of music wire. A good example for Pennyplane is Teflon tube with an OD of about .070" and an ID of about .045", which can be forced over .047" MW, a standard hobby shop item. Use about 3/4" of Teflon tube.

The tissue of choice is Japanese Esaki tissue. Close to a corner, tear it a little. It will tear in the direction of the grain, which should run along the length of the tissue tube. The tubes should be between 1/2" and 5/8" long, short for light models and longer for heavier models. Cut some tissue strips to the width you need and be sure the grain runs across the strip.

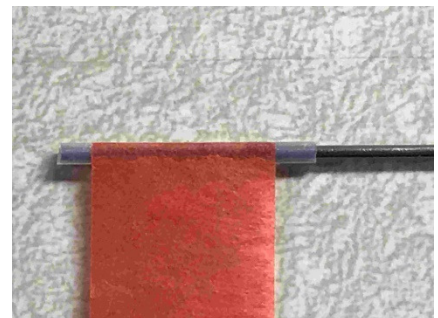
Similarly, the number of wraps runs from about 3 for light models to 5 for heavier models, such as Pennyplanes. To calculate the length of your strip, multiply the number of wraps X the diameter X 3.14. Five wraps on .070" diameter equals 1.1". Allow a little overlap, 1.13"



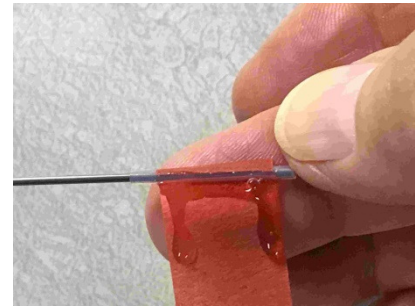
The first photo shows two tissue strips and a Teflon mandrel. On one strip, run a tiny bead of model cement (Duco, Ambroid, Siment) along the short edge of the tissue. Use only enough glue to see it.



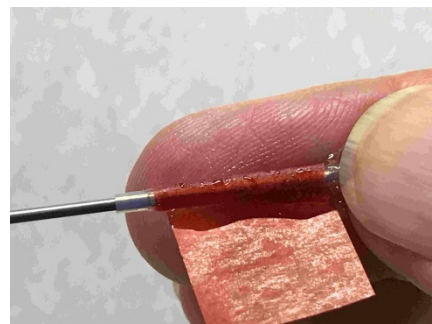
Lay it on the Teflon mandrel as shown in the third photo. Tap it down against the Teflon tube. Be sure the strip is square to the mandrel. Let it dry (10 min.). It will be sufficiently bonded to the Teflon to let the tissue be rolled up on the Teflon without coming loose until needed. This is a key step in making tissue tubes.



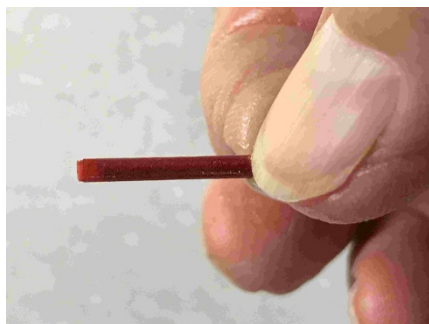
When ready to roll the tube, turn the mandrel/tissue over so the tissue is underneath the Teflon. Run glue along the Teflon tube and down the sides at least 1/3 of the way down the strip.



While holding a finger under the tissue, begin to roll it onto the mandrel by rolling the music wire with a finger and thumb of your other hand. The glue will squeegee out some, but should leave a puddle all the way along the tube



When you get to the end, all of the tissue should be wet and glue will be on your fingers. Wipe your fingers and continue to roll the tube in the same direction. As the glue gets sticky, the initial bond of tissue to mandrel will soften and the tube will turn on the mandrel. Continue turning while slowly sliding the tissue tube towards the end of the Teflon. Keep fingers on the inner half of the tissue tube and continue sliding until half of the tube is off of the Teflon. Be careful not to touch the part of the tube that is off of the Teflon. Then use fingernails on the thumb and index finger to pinch the Teflon at the end of the tissue tube and push it off of the Teflon. Let it drop onto the workbench. Don't touch it. Let it dry 30 minutes.



You will have a beautiful tissue tube.

