

New Ideas for Working with Paste

by Hugh Phibbs

Paste made of vegetable starch is the only adhesive which can be used on works of art in conservation framing. Starch paste has proven to be stable over time and does not discolor or aggressively penetrate the paper on which it is used. Its hold can be released with the addition of moisture which has not been heated.

As attractive as paste is as an adhesive, its use requires extensive practice in the proper application of the paste to the hinge and of the hinge to the art.

Paste and tissue hinges should only be tried by those who have studied their use and practiced their application on expendable materials until they have achieved predictably successful results.

Other factors which may discourage framers from using paste are the requirements of its preparation and storage. There are useful techniques which can make both preparation and storage less cumbersome and time consuming, however, without compromising the quality of the paste.

Paste which is fully cooked, then dried and stored in this dry form is one such approach. Another is the creation of sterile storage conditions for cooked paste which can extend its shelf life and decrease the number of times paste must be cooked.

Paste which has been fully cooked and then dried and powdered should be chemically equivalent to freshly cooked paste. This material, called pre-gel paste, can be made ready for hinging through the addition of cold water and should not be cooked. The adhesive potential of pre-gel paste may not be the same as freshly cooked, and anyone using this material should experiment with it thoroughly to understand how best to handle it. Japanese tissue which has been prepared with cooked paste which has then been allowed to dry can be a similar time saver, but these hinges must be hydrated carefully to ensure that their paste layer is not washed away.

One often discussed technique which can reduce the time needed to cook paste is the use of microwave heating. Small quantities of paste (a few teaspoons), can be cooked in ordinary microwave cookware in a matter of minutes, but this entails cooking paste frequently. If the paste can be stored for periods longer than a few days, it can be cooked less frequently.

Medical syringes have been used in museums as sterile containers to extend the shelf life of paste. The paste can be poured directly from the cooking vessel into the sterile syringe and capped with the plunger at one end and a tightly fitting cover at the nozzle. Paste stored in this manner can be used for a number of weeks if sterile conditions are main-



tained by cleaning the cap and nozzle with alcohol each time the cap is removed and paste is extruded.

Another sort of sterile package can be made from polyethylene/aluminum/nylon laminate film. This material has a number of uses in preservation framing, such as the creation of sealed packages, the sealing of rabbets, and the isolation of stretcher bars from canvases. This laminate can be sealed to itself if it is folded so that its polyethylene surfaces are in contact and heat is applied to the outer surfaces until their smooth texture becomes finely wrinkled.

To create a sterile paste package with this laminate, rectangular pieces should be cut, four to six inches on a side, and their matte, polyethylene side must be thoroughly cleaned with alcohol. The pieces of laminate should now be folded double with the polyethylene side in and should be bonded along the edge which is perpendicular to the folded side.

Once the paste has been cooked, it can be carefully poured directly from the pot into these packets (figure 1). The packet should be held near where the bonded side meets the folded side in such a way that the unbonded sides are spread apart, allowing the paste to be poured into the interior without any touching the outer edges of the packet. When the paste is in place, any air can be squeezed out and the unbonded sides can be secured with heat. If a sterile package has been created, the paste inside should keep for some time. If the package shows signs of expanding, it has been contaminated and should be discarded.

Before the package is cut open so that the paste can

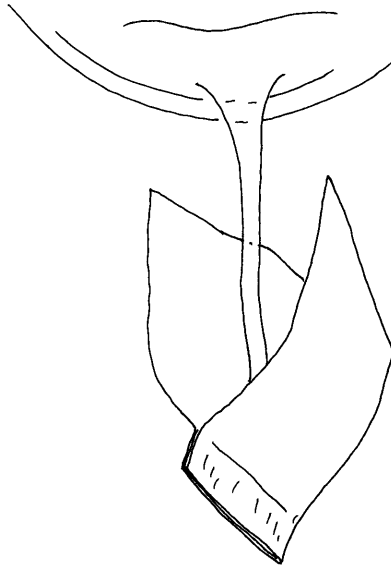


Figure 1

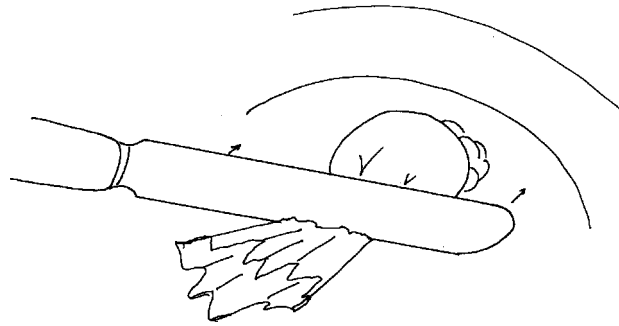


Figure 2

be used, it can be massaged from without to break up and soften the paste. When the paste is removed it should be strained just prior to usage. (If the paste is strained as it is made, contamination may occur at that point.) The synthetic fabric used in screen printing works best for straining the paste. If this fabric is stretched over a frame so that the paste can be pushed through it, the surface may accumulate dried paste which is all but impossible to remove.

A simpler and more efficient approach entails placing the paste on a clean piece of this fabric that is large enough so that the outer portions of the fabric can be gathered together behind the mass of the paste. This creates a sachet of fabric with the paste inside which can be placed on a clean plate and squeezed with a knife from back to front so that the paste is pushed through the fabric and strained (figure 2).

Water can then be added to

the paste so that it has a more workable consistency.

If there is any question as to the adhesive potential of the paste, a practice hinge should be applied to a piece of scrap paper and allowed to dry. If this hinge holds, the paste can be relied upon.

Since preservation framing aims to minimize change to the work being framed, paste should only be used when necessary. It should be as pure as possible to eliminate the unknowns which additives will introduce. There are a number of methods and techniques which can be used in the production and storage of starch paste, but each must be practiced before it is used in the hinging of valuable works. ■