

# Mastering Mounting



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## *Using Hinges in Mounting: A Basic Overview*

Preservation framing is designed to maintain the original value of the art being framed by using non-invasive materials and techniques. Preservation mounting methods are those that allow the mounted artwork to be removed from the mounting and have it returned to its original, unmounted state. This type of mounting is known as being a reversible process. Whether you are working with an original charcoal, pencil drawing, signed etching, limited edition, watercolor, photograph, or digital art, one way to mount an item in a reversible way is the use of traditional conservation hinging techniques with Japanese papers and cooked starch paste. Accepted alternatives include pre-pasted hinging papers. Let's explore...

### **Archival Overview**

The word "archival" has been bantered about in the framing industry, like "acid-free" has for years. Archival is a word used to describe materials that are safe to use when preparing an item for long-term storage and preservation. In framing, it refers to the relative permanence or longevity of a given material and its ability to remain stable over time. Hence, we assume that when manufacturers use the term archival in their advertising and naming of products they are being true to the above description.

Only true archival hinging materials should be used when preservation framing. That includes: Japanese hinging papers of assorted weights; starch paste made from raw materials; dry Japanese pre-pasted, non-sticky tapes; rice and wheat starches in powder form; prepared commercial powders that activate with water but do not need cooking; and burnishing bones, blotters, and drying weights.

While only a few will be mentioned here, there are many manufacturers and distributors for hinging materials. Check all sources when shopping for preservation materials.

### **Traditional Hinging Materials**

Japanese hinging uses non-invasive, reversible starch adhesive in conjunction with a lightweight Japanese paper. Hinges need to be light but strong, and since the papers traditionally used for hinge creation are made from long fibers this allows for the hinge strips to be wet separated and feathered during their creation. This feathering helps to prevent a ridge from developing where the hinge meets the art after pasting.

The hinge should always be the weakest link in the hinging process which is why there are a series of available papers used in hinging and an assortment of hinging techniques. (Two techniques are discussed in this article.) Pick your hinging

papers accordingly. The best hinging papers are handmade of 100% kozo fibers in variable weights including: mulberry (heavyweight), kizukishi (medium weight), toso tengujo and kozogami tsuru (lightweight). It is the duty of the hinge to tear before the art tears if the frame were to fall from the wall.

Hinges can be made by taking sheets of Japanese paper and cutting them to size; then a starch adhesive can be used to adhere the hinging paper to the artwork. In addition, there are pre-made hinging papers and adhesives available.

## Types of Adhesives

Preservation techniques involve starch pastes, but there are also pressure-sensitive and gummed (water-activated) materials that may be used in the preservation package.

### Pressure-Sensitive

A pressure-sensitive adhesive is a permanently tacky substance that bonds to an untreated surface at room temperature, by only the application of slight pressure. Pressure-sensitive materials for preservation hinging include strips and tapes, and may also be called self-adhesive tapes, P-S tapes, or PSA adhesives.

P-S adhesives are in a constant active phase, making them less stable than starch, or even gummed materials. They bond to 25% of their full capability with only thumb pressure and should be burnished



*Photo 1: P-S and Gummed Tapes—Both P-S and gummed linen hinging tapes may be used for attaching window mats to the backing boards, while P-S and gummed paper tapes are designed for the hinging of art. Assorted weights and types of tapes allow for selecting the right strength for the art. (Lineco, Neschen, University Products, and Nielsen Bainbridge products are included in this photo.)*



*Photo 2: Vegetable Starch Materials—There are commercial gummed and pre-pasted tapes; ready to cook dry rice and wheat starches; and powders that require no cooking. Assorted papers provide choices for the correct fiber strength to allow the hinges to remain the weakest link in the hinging process. Weights, blotters, and burnishing bones are all frequently used items when traditionally hinging artwork. (Lineco, Nori, and Nielsen Bainbridge included in photo.)*



*Photo 3: The T-Hinge—The basic Pendant Hinge is the vertical hinge construction. The T-Hinge is created when a horizontal component (as shown here) is added to the Pendant Hinge. This 5"x7" original art is hinged with large mulberry paper strips attached with cooked starch paste to the upper 1/8" of the back, then reinforced with a cross piece for demonstration purposes.*

to be thoroughly activated. Even though acrylic-based, P-S adhesives are considered reasonably stable, slipping can occur if the hinged item is heavy, or if temperatures and humidity levels are high.

Since acrylic, P-S bonds may become more aggressive over time, the plasticizers and tackifiers can migrate into resin-coated (RC) photos, acrylic paintings, and assorted synthetic materials that can be a problem long-term. Chemical reactions can occur between the adhesive and plastics-based art images and develop cold-flow (cold-creep, or cold-crawl) which allows the adhesive to aggressively melt around fibers of the artwork making removal very difficult.

### P-S in Preservation

Pressure-sensitive adhesives used in conjunction with preservation mounting techniques should never come in direct contact with fine art as hinges. ArtSaver® Archival Mounting Strips and See-Thru polyester Mounting Strips make up a few of the available pressure-sensitive archival edge strips acceptable as preservation applications. Since these P-S adhesives are inert they will not harm a conservation package and since they are not in direct contact with the art they remain safe to use.

Though P-S paper tapes are not suggested for preservation mounting, they might be used for easily replaceable images, short-term display, or

artwork not considered valuable, including: open edition reproductions, poster art, some photographs and items sensitive to water such as inkjet digitals. Pressure-sensitive tissue tape is the closest thing to traditional cooked starch and torn tissue hinges without moisture, while still being a ready-to-use, acid-free, neutral P-S tape. Assorted weights and tapes allow for selecting the right strength for any application (see Photo 1).

Linen tapes, regardless of whether they are pressure-sensitive or gummed, should never be used to hinge any art. They are, however, perfect for long side book hinges (flange hinge) that attach the window mat to the backing board.

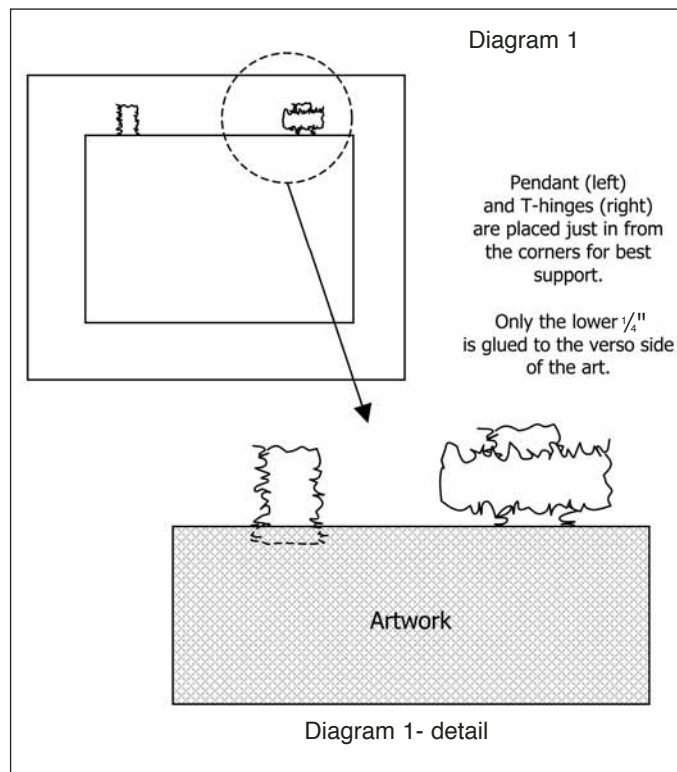
### *Gummed or Water-Activated Adhesives*

Dry gummed or water-activated adhesives and tape adhesives can be made from animal, vegetable, mineral, or synthetic sources. These gummed tapes are preferred by conservators to pressure-sensitive tapes in framing because of their easier removal with water, and their long-term hold regardless of temperature and humidity fluctuations.

There are also materials—which can utilize animal, vegetable, mineral, or synthetic adhesive—that are pre-coated with a water-soluble adhesive. These include tapes or strips such as Insta-Hinges® and Hayaku® Japanese Hinging Paper. Both are neutral pH, reversible products that are water-activated. The best way to saturate a dry tape is to allow moisture to wick up into the hinge from a soaked blotter beneath rather than to brush water onto it. This is because the abrasive action of moist brushing serves to remove some of the adhesive thus weakening the potential bond.

### *A Word on Starch Adhesives*

Vegetable-based starches free of gluten, such as rice and wheat starch, are the adhesive of choice for preservation hinging. In addition to being created from raw materi-



als, the starch pastes are available in numerous versions from ready-to-cook powder form to pre-coated Japanese paper strips. Nori, is a pre-cooked, pre-packaged, ready-to-use, wheat starch containing no preservatives (see Photo 2). There is a pre-cooked version called Zen Instant Wheat Starch consisting of water soluble, freeze-dried crystals that mix into a non-staining, reversible, pH neutral paste.

## **Basic Pendant Hinge**

The most basic and fre-

quently used preservation hinge is the pendant hinge. Pendant hinges are used when a window mat will be covering and additionally supporting the hinged art around all sides. Small feathered strips of the paper are moistened and wet separated, leaving the long fibers pulled at all edges. Lay the hinge on a scrap of 4-ply rag mat and brush starch glue along the bottom 1/4" of the hinge. Let it set a moment so the initial shine of the paste will dry away; then align along the top back (verso) side of the art.

Burnish the wet hinge with a clean bristle brush to smooth, press out air, and feather edges of the hinge. Place a small 3"x3" piece of spun polyester (Pelon) over the moist hinge, then a 3"x3" dry blotter, followed by a weight. The Pelon prevents the blotter from sticking to the hinge while drying. It should be allowed to dry for about an hour depending on humidity conditions.

After the hinge has dried, the remaining hinge portion is then adhered, weighted, and dried (as above) to the 4-ply backing board. A small unglued portion of the original pendant hinge allows the art to hang freely and the Japanese paper hinge would be allowed to tear if the frame were to fall to the floor.

Hinge placement across the top of the art varies depending on the size and weight of the image, but the outermost hinges should begin a little more than one width (not length) of the hinge from the edge of the art. Additional hinges might be needed at 12" to 15" intervals.

## T-Hinge

A T-hinge is a reinforced pendant hinge (see Photo 3). These are the strongest hinges which give the most support to the art. The base of the T-hinge comes in contact with the back side of the top edge of the art image like the pendant, and then a second piece is applied horizontally across the face of the first piece (see Diagram 1)

The horizontal “T” portion of the hinge may be crossed farther away from the art than shown in Photo 3 to allow for greater flexibility of the art during expansion and contraction if that seems to be a serious consideration. Also, remember that allowing for hinge and art flexibility will never work if the mats and filler boards are compressed too tightly into the closed frame.

When creating the T-hinge, any pressure-sensitive paper or linen tapes can technically be used. They are there to reinforce the original pendant portion, never come in contact with the art, and would be discarded with the backing board if ever separated from the fine art.

*(Editor's Note: The two hinge constructions described above can be utilized when the edges of the art are to be covered with overmatting. An alternative to hinging an item when its edges will be covered is the use of edge strip supports, which were discussed in "Preservation Practices," PFM, September 2004.)*

## Part Two: Float Mounting with Hinges

Had enough? If this is all review, good for you. If this is all new, welcome. In the next issue, I will cover basic ways to float hinge artwork as: V-hinges; pass through or S-hinges; and wrapped or pedestal hinge; and jumbo hinges. Happy Turkey Day! n

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