STORAGE AND HANDLING

4.5 Packing and Shipping Paper Artifacts

GENERAL RECOMMENDATIONS

It is important to ensure safe transport of collection materials to their destination. Hand-delivery of materials is the safest option, but shipping may be necessary.

Even under the best of circumstances, shipping by common carrier involves some risk. Objects may be exposed to crushing, puncture, shock, vibration, and the elements, including drastic changes in temperature and relative humidity (RH). Conservators often see examples of objects damaged in shipment. The possibility of damage can be minimized by packing objects securely and choosing a reliable carrier.

Descriptions of shippers and packing instructions for a variety of materials follows. In addition, follow these general recommendations:

- Follow the packing instructions below. Pack objects securely to avoid shifting and damage during transit.
- Avoid over-packing large boxes that could fail to hold the weight of your items. Large, heavy boxes are more difficult to handle and are more likely to be dropped, whereas minimizing the size and weight of packages enhances the safety of the materials.
- Hand-deliver objects if possible. Use a commercial shipper to transport materials only when necessary.
- Packing materials need to be of archival quality (pH-neutral) if they are in direct contact with the objects. Specific materials for inner and outer wrapping and packaging are described below.
- Ship on Monday, Tuesday, or Wednesday to decrease the risk of a weekend layover in a warehouse. If possible, do not ship over major holidays or during periods of extremely cold, humid, or stormy weather.
- Enclose a packing list of all objects as well as your name, address, phone number, email address, and any special instructions. See the Inventory Form template at the end of this leaflet.
- Address shipments clearly and include your own return shipping address.
- Consult with a conservator if you have questions, especially if the stability of the object(s) is an issue.

COMMERCIAL SHIPPERS

Fine Arts Shippers: These companies offer door-to-door trucking with special handling for valuable or irreplaceable objects, and most offer packing and crating services. Fine arts shippers are very reliable and usually relatively expensive. Companies can be found through an internet search or a recommendation from your local art museum.

UPS and FedEx: These carriers can provide a cost-effective solution when you cannot personally transport your objects to their destination or when a fine arts shipping provider is unnecessary. UPS and FedEx may set limits on the value allowed for certain types of materials, including artwork. Note that if you require actual insurance, it must come from a separate policy. Check the shipper's website for limitations on package size and weight (typically 150 lbs and a combined 165 inches).

U.S. Postal Service Registered Mail: The U.S. Postal Service offers cost-effective shipping of artifacts of moderate size and value. Choose "Registered Mail" shipping — not merely Insured, Certified, or Priority Mail—because Registered Mail is the most secure USPS option. Check the USPS website for limitations on package size and weight.

SHIPPING FLAT OBJECTS

"The Sandwich"

First Wrapping

Wrap each object in a clean smooth paper such as glassine or tissue paper. It is often desirable to place a stiff, non-acidic paper or cardboard behind especially fragile objects to support them.

Second Wrapping

The objects should be placed between stiff boards and secured to one of the boards with envelope corners and tape by placing the envelope corners around the four corners of the wrapped document and then taping the corners down to the backboard. The boards

should allow an extra 2 inches of coverage around all four sides of the object (i.e. add 4 inches to both dimensions of the first wrapping) for protection in case the package is dented.

The boards should be taped together and can be wrapped in a sturdy material such as Kraft paper. You may be tempted to use water-resistant sheeting such as polyethylene, however, the use of non-breathing, impermeable material is not recommended. If the package is subjected to abrupt temperature drops, condensation can form inside. If you must use this type of material, be sure to first wrap the boards with paper as a barrier layer.

Outer Boards

A lightweight, rigid, paper product like honeycomb display board (either ¼ or ½ inch) is ideal, because it can be cut to size with a mat knife and costs less to ship due to weight savings. If possible, supplement the honeycomb board with a layer of 3/16 inch corrugated cardboard to protect against puncturing.

For small objects, several layers of sturdy cardboard may be used in lieu of honeycomb board. The cardboard must be rigid and dense enough to resist puncturing or bending. If layers of corrugated board are used, place each sheet with the grain perpendicular to that of adjoining layers for increased rigidity.

The "sandwiched" package should be sealed at the edges with packing tape or filament tape. Follow your shipper's requirements for sealing and labeling packages.

SHIPPING BOOKS

Books should be shipped in crates or boxes with each volume in the box wrapped individually. The number of volumes shipped in one carton should be determined by value, weight, and size. Remember that other people will need to be able to safely lift and move the box. An overloaded box is also more likely to burst. When in doubt, double-box the shipment for added protection.

First Wrapping

The first wrapping material should be clean, smooth, paper such as tissue, glassine, or kraft paper. If the volume is bound in a paper wrapper or a limp binding, corrugated boards should be cut to the size of the volume and placed on the outside of the front and back covers before the volume is wrapped a second time.

Second Wrapping

The second wrapper should be a padding material such as bubble wrap, Ethafoam®, or corrugated wrap that will both absorb shocks and buffer changes in temperature and RH. The whole book, including spine, fore edge, top and bottom, should be covered. The book or books should then be placed horizontally in the shipping container surrounded by cushioning void fill (see "Cushioning" below).

Outer Wrapping

See "Boxes and Crates" below.

BOXES AND CRATES

Books, boxed documents, and other three-dimensional items and objects that need ample cushioning should be placed in boxes or crates. Each object should be wrapped individually and packed with cushioning to prevent shifting in the crate.

Boxes

Corrugated cardboard boxes offer a cost-effective choice when crating is not strictly necessary. Use boxes that are clean and structurally sound. Dirty or damaged boxes may place your objects at risk. A good reusable, prefabricated option for artwork may be obtained from companies such as Airfloat and MasterPak. Both companies offer a product called a “Strongbox” which contains customizable foam on the inside that can be sized to fit any artwork.

Custom boxes

Another option is to create a custom box, as illustrated below. Begin by placing your inner package in the middle of a larger sheet of corrugated board. Use the narrow end of a mat knife or box-cutter (with the blade retracted) to lightly score the corrugated board along two opposite sides of the inner package. Bring these lines to the outer edge of the board, so that you can fold two parallel wings of cardboard upward around the edge of the inner package.

Make a second score line parallel to the first on each “wing” along the top edge of the inner package and continue to the outer edges of the board again so you can then fold the wing downward on top of the package.

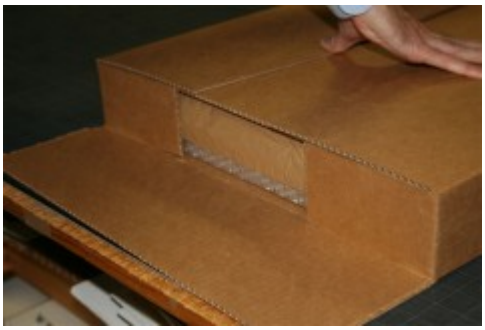
Lay the sheet flat again. Mark lines perpendicular to the scored lines along the base of the inner package using a straight edge and pencil or pen. These lines can be extended to the outer edge of the board. Then cut through the board freehand from

the pencil/pen mark toward the nearest outside edge along each of the scored lines. This will create a flap near each corner that can be bent upward.

Remove the remainder of each corner on the sheet by cutting along the pencil/pen line from the intersection of the nearest perpendicular cut. You want to retain the narrow flaps that you just created, so don't cut them off! These will be used to seal and protect the corners of the package.

After retracting your blade, score the two remaining pencil/pen lines so that you can fold the remaining wings of the board upward. Include the small flaps as well (gently, so as not to tear them).

Fold the two long sides (with the smaller flaps) over the inner package and fold the small flaps in around the corners of the inner package. Tape the top flaps to hold them in place snugly – it's OK to overlap them.



Now fold the two short flaps up and make a score line against the top edge of the inner package so you can then fold the flaps down on top of the package. Be sure to seal the smaller corner flaps inside before securing these two last flaps in place with tape. Reinforce all of the unsealed cardboard edges with packing tape (preferably 2-inch reinforced filament tape).

Double boxing

For added protection against crushing, puncture, shock, or vibration, consider double-boxing your objects by placing a smaller box inside a larger box with ample cushioning/void fill inside both boxes. Limit the weight of individual boxes to what an average adult can safely handle, and follow

your shipper's requirements for sealing and labeling packages.

Note that a sheet of cardboard can be laid atop the contents before sealing the top of the outer box. This will help to prevent crushing by distributing pressure, as well as protect contents from mat knives and box-cutters when the box is unsealed.

Crates

Plywood, especially MDO (Medium Density Overlay), is the material most commonly used by museums for crating. Custom-built crates may be obtained from fine art shipping companies and can be built with a vapor barrier, such as hard Tyvek®, on the inside.

If you make the crate yourself, use flat head screws. Nails are not as strong and are difficult to remove when unpacking. Removing nails may cause jarring of the contents and damage to the crate, which might otherwise be reused. Large crates should have handles or battens that allow them to be lifted and moved easily. Crates with nothing to hold onto are apt to be dropped, pushed, or tumbled.

Cushioning

Cushioning material helps to absorb shock and keeps objects stable during transit. It may also provide thermal insulation and a humidity buffer. Cushioning materials are essential especially for fragile objects or those with insecure media, and objects that must be sent framed or under glass.

Cushioning materials are usually made of plastic. Polyethylene or polypropylene foams with brand names like Ethafoam®, Volara®, or Microfoam® are especially popular with museums for packaging. Some polyethylene or polypropylene foam products are even suitable for long term storage. They come in sheets of various thickness or in blocks that can be cut to cradle and support three-dimensional objects. Polystyrene foams such as Styrofoam® can also be used but are less desirable due to chemical instability for long term storage and the mess created when damaged.

Filling the crate with plastic peanuts also provides a cushion. (See “Boxes” above.) As always, the objects should be wrapped first.

Packing with bubble wrap is another option, but, because bubble wrap is a sheet that does not breathe (with the possible exception of perforated bubble wrap), it should not be completely sealed around the object. In addition, bubble wrap can stain or mark objects and should never be used in direct contact with a document, artwork, or book cover. Avoid larger bubble packs which can be easily deflated in transit and lose their cushioning effect.

PROCEDURES FOR SPECIFIC COLLECTION MATERIALS

Objects with Friable Media

Special care must be taken with objects with friable (insecure) media, such as pastels or charcoal drawings, which are especially vulnerable to vibrations and smudging. Such materials should be hand-carried whenever possible. If pastels must be shipped, consult with a conservator first.

Objects Framed Under Glass

If the object is framed with glass and cannot be safely removed from the frame, it is best not to ship it. If sending such an object is absolutely necessary, apply strips of masking tape or a sheet of Glas Skin® (a wide, low tack adhesive film) to the glass. The tape may not keep the glass from cracking, but it will hold the glass together so there is less danger of damaging the object. Masking tape should cover the entire surface of the glass in parallel strips that are both vertical and horizontal. To absorb shocks, framed pictures must be cushioned extremely well.

After taping the glass, place sheets of corrugated cardboard over the front and back of the frame and tape the sheets together using packing tape with strips of paper placed between the tape and the frame surface to prevent adhesion and damage to the frame. Use a cushioning material such as bubble wrap or microfoam to protect the package and either double box it with ample cushioning/void fill, use a Strongbox, or (preferably) crate it using foam cushioning on the interior.

Rolled Objects

Paper artifacts should be shipped flat whenever possible, but rolling is often more

practical for very large artworks, maps, and documents. To avoid crushing, such objects are best rolled around the outside of a wide diameter (4-inch +) tube. The tube should first be covered with a clean, smooth, barrier layer of paper, glassine, or polyester film. Roll the object around the tube and wrap another barrier layer of paper or film around it before placing it inside a larger tube. Allow the wrapping to extend beyond the ends of the smaller tube so the receiver can pull on it to extract the inner package. Pulling the object itself may cause unnecessary damage. Use a layer of cushioning material such as bubble wrap if necessary to prevent movement inside the larger tube. Consult with a conservator first, if you deem the item to be fragile or unstable.

ACKNOWLEDGEMENTS

This leaflet is based on *Working with NEDCC: Packing and Shipping Paper Artifacts*, written by Jonathan Goodrich.

INVENTORY FORM TEMPLATE

Enclose this form in each box that you ship.

BOX _____ of _____	
DESTINATION NAME:	
CONTACT NAME (if different):	
MAILING ADDRESS:	
STREET ADDRESS (if different):	
DESTINATION TELEPHONE:	**EMAIL:**

OWNER NAME:	**DATE:**
CONTACT NAME: (if different)	
MAILING ADDRESS:	
STREET ADDRESS: (if different)	
OWNER TELEPHONE:	**CONTACT TELEPHONE:**
EMAIL:	

OBJECT INVENTORY (Quantify and provide title and/or description or attach your own itemized list. Add rows as needed):

Item title and/or description	Quantity

SPECIAL INSTRUCTIONS (may include how to remove items from their packaging, to contact the owner upon receipt of the package, etc.):

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