

How Can I Ship This?

Preventive Conservation in Packing

Periodically, the same nightmare awakens me from the deepest sleep. A brown van arrives at my door and the driver unloads three boxes. I give my electronic signature and he disappears out the door. Facing the boxes, terror escalates until my heart is pounding and sweat is pouring from every surface of my body. I carefully open the boxes, one at a time, but it's always the same. The first box reveals a rotted and decaying pumpkin, a piece of rusted armor is in the second and thousands of glass shards are in the third. There is no indication of what they are, who sent these to me or why I received them.

HELP!!!

Every shipment of artifacts does not end up like my recurring nightmare. In fact, no shipment should end up like that. Each day artifacts are shipped to other locations. This process can be a nightmare by placing the artifacts at risk. Or it can be a smooth well-planned process if the shipping institution uses sound preventive conservation measures to eliminate possible hazards.

Preventing visible or structural damage to artifacts during shipment are the goals of preventive conservation for shipping. Methods used to successfully ship artifacts from one location to another without damage are practiced on a daily basis. The Office of the Registrar at Harpers Ferry Center of the National Park Service works with our parks to assist them in achieving the goal of using preventive conservation techniques during all phases of artifact transport. We suggest the following as one approach to use when packing museum artifacts. Anyone who must carefully pack and ship artifacts may find this information helpful.

Start the Packing Process

Follow a few basic steps. First, create a master list of all objects to be moved. Include their catalog number and current location. Assess the condition of both the surface and the structure. Record an approximate size, shape and weight of each artifact on the master list. Make sure there is a recent photo on record. Understand the inher-

ent vices of the object. Does it have weak handles, a loose spout, glass glazing, or is it a fragile pastel? This is basic preparation for later phases of the project assessment and decision making.

Observe where the artifact is strongest and weakest. Locate and record on the master list all areas of damage and repair for each object. Remember, these are the most vulnerable areas of the object. Have a clear understanding of the artifact's significance. Consult with a curator, conservator or any other person who may be familiar with this object through handling or treatment.

Contact the Recipient Facility

Speak to the person who will be receiving the artifacts. Find out if there are any limitations for delivery at the facility. Ask about door widths, truck access, loading docks, stairs, hours of operation and any other element presenting problems for delivery.

Determine when the artifacts need to be at the destination. Ask about paperwork requirements. Verify financial responsibility for transport. Develop an understanding of the level of staff experience at the receiving end of the shipment.

Specify a Preferred Mode of Transport

Combine the information gathered from the recipient and the information about the artifacts to determine the best method for delivering the object to the destination within the allotted time and budgeted amount of money. Making this determination can seem like an overwhelming task. So, what are the options? The most immediate and attractive option is to courier the artifact to the destination. Hand delivery gives the outgoing lender the most control over the artifacts during transit. The shipment can be packed and then securely placed in a vehicle for delivery.

A second option is delivery by an art moving company. These companies operate out of major hubs and transport either by exclusive use of the vehicle or on a routinely scheduled shuttle run between major metropolitan areas. The art

moving companies can also pack your items for shipment at an additional expense. They are generally the most costly of all options but provide the safest method of commercial shipping.

Another option with a large shipment is to use nationally recognized moving companies providing high value or white glove type service. This does not allow for small or partial shipments. Payment is for the exclusive use of a vehicle, whether it is full or not. A fourth option is commercial freight companies. Use of this type of company necessitates all items being placed in sturdy wooden crates. Service will be door to door; however, time involved can be a minimum of two weeks or longer.

Expedited package delivery companies offer the final option. They are convenient and the least expensive option for artifact movement. This includes US Postal Service, FedEx, UPS, and other expedited carriers. This type of service allows the quickest delivery (overnight in many instances) but also provides the roughest handling. These services use conveyor belts, forklifts, and other mechanical devices to handle packages causing the greatest shock and vibration to the contents.

Determine Packing Methods and Material Needs

After considering the artifact condition and destination limitations and evaluating transport options, make the selection concerning the mode

of delivery. The next step is to determine packing material needs and to gather these materials. Select packing materials that will prevent or mitigate the effects of shock, vibration, and temperature and humidity fluctuation.

A better understanding of these shipping vices will help determine the necessary steps for mitigation. Shock is the single occurrence impact of an artifact against an immovable surface. Often this will occur by having an item dropped to the ground from a height of several feet. The greater the height of the drop, the greater the shock to the artifact. Vibration is a constant mechanically-induced oscillation of an artifact, often the result of a transport vehicle like a truck or airplane. It could also occur on a conveyor belt used to load a vehicle.

Another concern in the shipping process is the rapid fluctuations that can occur in the temperature and relative humidity (RH) of an artifact. Sudden change greater than 5° temperature or 5% RH will begin to affect the underlying structure of the artifact. While these are less obvious shipping vices, they still can exact a devastating toll on the artifacts, and these fluctuations need to be mitigated. Keeping these four factors in mind will help in the selection process for packing materials and techniques.

Multiple layers of materials will help protect packed artifacts against the four vices. The inner most layer provides surface protection to the arti-

Preparing an artifact for shipping. Photos courtesy Robin Hanson.



fact helping to eliminate abrasion. A soft, acid-free, unbuffered tissue is the preferred first layer for most artifacts. Gently mold your tissue around the artifact. Never use tape to secure the tissue skin. Glassine should be used for painted surfaces, while other objects such as pastel drawings should not have anything against the surface. Artifacts framed under glass should have masking tape applied in straight strips to completely cover the glass. Each strip of tape should be folded upon itself at one end to facilitate removal.

The second layer around the artifact will help prevent fluctuation in humidity. If the artifact is at risk because of moisture gain or loss, it should be sealed in Marvaseal® or polyethylene to help prevent rapid changes in humidity at this stage.

The next layer around the artifact will be the cushioning layer. This is the initial layer that protects against shock and vibration. Bubble wrap or cell cap is the first stage of the cushioning layer. This will surround the tissue wrapped artifact and be secured with a minimal amount of tape. Use tape that will be visible on the bubble wrap. Each piece of tape should have an end folded back upon itself to provide a tab for easy removal.

Additional layers of cushioning material can be polyethylene or polyurethane foam. These can be used to line the packing boxes or used as spacers between artifacts. Another material used as cushioning is wadded or shredded newspapers. Peanuts are another option; however, they should be bagged to prevent items from sifting through the peanuts and lying unprotected on the bottom of the box. Remember the purpose of this layer is to absorb shock and/or vibration during shipping. The materials chosen must dampen the effects of shock and vibration and not transmit these to the wrapped artifact.

The final layer of the package will be the material exposed to the elements. This will frequently be cardboard or wood. Use the heaviest ply cardboard boxes available. Four-ply cardboard boxes will withstand more shock and vibration than two-ply. Aluminum or molded polyethylene cases are also available. The use of double boxing with additional layers of cushioning material between the boxes will also provide the additional protection for very fragile artifacts.

Recycled materials can be problematic. Reuse only the outer packing materials and be sure to inspect for pest infestation. Small amounts of

packing materials and sturdy boxes are now available for purchase at local truck rental facilities as well as major chain super-stores.

Ready to start packing?

Gather all materials and clear a work area that will be larger than the biggest object. The area should be flat and free of all non-packing materials. Using the prepared artifact list choose the first grouping of “like” objects to pack. These “like” objects should be a group of artifacts of similar size, weight, and composition.

Place the bubble wrap on the work surface. If a second layer of bubble wrap is planned, lay it on top of the first layer. Place the tissue on top of the bubble wrap. Position the artifact on top of the layers of wrap, fill any voids, and pad all protrusions with additional pieces of tissue. Bring the tissue up and fold it around the object. Do not lift the object or “roll” the object into the tissue.

Next, bring the bubble wrap around the object. Fold the bubble wrap to fit the object as it sits on the worktable. Again, do not “roll” the wrapped artifact into the bubble wrap. For small objects, tape the bubble closed in two or three places. Fold back one end of the tape creating a tab so removal will be easier. Finally, place an identification tag with brief item description and catalog number on the outside of the bubble wrap. Check the item off the master list.

After wrapping the artifacts, you are ready to place them in the shipping box. Line the sides and bottom of the box with two inches of cushioning material. This could be polyurethane foam, wadded newspapers, or bagged peanuts. Place the wrapped artifacts in the box. Fill gaps between the artifacts and at the top with at least two inches of additional cushioning material. Several small boxes are preferable to one large box. This will increase the ease of handling the boxes and enable like items to be kept in the same box.

Include the Paperwork

When each box has been filled, place an inventory sheet in the top of the box. Make sure to keep a copy of this for your own records. Close and seal the box with a filament-reinforced tape. Label the box with both a return address and the recipient’s address. Remember to also do this if your box will have a service company label. Indicate “this side up” or “fragile” as necessary. When all boxes are complete, label each box with box number and total box count numbers (for

example: 3 of 7). Do not indicate the nature of the contents. Place all loan forms, receipts, or other needed paper work in the top of box 1. When the carrier has picked up the shipment, call the recipient and provide information on the estimated delivery date and the method of shipment.

If you plan your next object shipment using these preventative conservation techniques, the brown van of my nightmare will not deliver decaying pumpkins, shards of glass, or other nasty surprises.

Suggested Readings

Museum Handbook, Part 1: Museum Collections, compiled by the National Park Service, 1990

Soft Packing, Methods and Methodology for Packing and Transport of Art and Artifacts; compiled by Brent A. Powell, Chairman P.A.C.I.N. Task Force of the AAM Registrar's Committee, 1994.

Technical Drawing Handbook of Packing and Crating Methods, compiled by P.A.C.I.N. Task force of the AAM Registrar's Committee, 1995

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