Canadian Conservation Institute
Institut canadien de conservation

CCI Notes 13/2

Flat Storage for Textiles

Introduction

Flat storage is ideal for most textiles because it provides support for the entire textile, thus freeing the textile fibres from the stress of supporting their own weight. When flat storage is enclosed, it also protects the artifact from water damage, dust, and light. When storing textiles flat, it is important to keep folding to a minimum. Consequently, flat storage occupies more space than other storage methods, so it may be necessary to reserve flat storage for selected pieces: very fragile items; heavily decorated textiles, such as beaded dresses; and garments with weak shoulder seams, made from stretchy knits, or those cut on the bias.

Preparing the Textile for Storage

Before placing a textile into storage, examine it thoroughly for any sign of insect infestation or mould. If either of these conditions is detected, place infested textiles in sealed, clean, polyethylene bags and isolate them from the rest of the collection. Further information on insect infestation or mould is available in the following CCI publications: CCI Notes 3/1 *Preventing Infestations: Control Strategies and Detection Methods*; CCI Notes 3/2 *Detecting Infestations: Facility Inspection Procedure and Checklist*; CCI Notes 3/3 *Controlling Insect Pests with Low Temperature*; CCI Notes 13/15 *Mould Growth on Textiles*; Technical Bulletin No. 12 *Controlling Museum Fungal Problems*; and Technical Bulletin No. 26 *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections*. If you have further questions, contact the Canadian Conservation Institute for advice.

Remove paper wrappings other than acid-free tissue, especially coloured paper from which dyes could transfer. Before discarding wrappings or attachments such as old accession numbers or dry-cleaning tags, examine them for information that should be documented. Retain and store separately original packaging material such as hat boxes.

Remove pins and staples. These put stress on the fabric and are almost certain to rust. Isolate any corroded metal fasteners by covering them with acid-free tissue or with clean white cotton.

Textiles should be clean when stored. Soil invites infestation, which can endanger the entire collection. Unless textiles are in a very fragile condition, they can be safely surface cleaned by gentle brushing and by vacuuming through a screen. If necessary, white cotton or linen textiles in sound condition may also be washed.

Types of Flat Storage Units

Flat storage units may use drawers, trays, shelves, or boxes. Whatever system is used, it should allow textiles to be moved into and out of storage easily and safely without direct handling.

When purchasing or constructing storage units, it is important to select materials that will have no adverse effect on the textiles. Wood and wood products emit harmful volatiles, and should not be used unless they are sealed or coated. Baked enamel metal units, although expensive, are a good investment. They are durable and easy to clean, and the enamel coating is chemically stable. Unbaked painted coatings may give off solvents or other volatile components. Several manufacturers are aware of the concerns museums have with volatile chemicals being released from paints, and can provide information on this. For advice about appropriate storage materials, contact the Canadian Conservation Institute.

Drawer units

Drawer units, customized to meet the needs of the collection, are ideal. There are several storage units on the market. It is best to consult major institutions that use such units for advice, based on their experience, about which type would be most appropriate for your situation.

Large metal map cabinets are also very useful because the drawers are usually large enough to permit flat storage with minimal folding.

With any drawer unit, it is important that the drawers push in and pull out smoothly to prevent the contents from moving.

Cabinets with removable shelves or trays
Cabinets equipped with shelves or trays of suitable sizes are another option. If cabinets are constructed in-house, ensure that the materials used are not harmful to the artifacts. Advantages of these systems are that the shelves or trays can be removed from the unit to transport the textiles, and that the space between shelves can be adjusted easily to suit the needs of the collection. If the cabinet does not have doors, it must be fitted with curtains to protect the contents from dust and light.

Boxes
Never leave textiles uncovered on open shelving. Place them in boxes of appropriate sizes with lids. Boxes made of moulded polypropylene and polypropylene/polyethylene are commercially available in a variety of sizes, the largest of which are suitable for storing garments. Look for the letters PP and PE, which often appear inside the symbol indicating recyclable material. Boxes made of acid-free card are also commercially available. Alternatively, suitable storage boxes may be made from sheets of corrugated polypropylene/polyethylene (Coroplast, Cor-X). Detailed information on these materials can be found in Technical Bulletin No. 14 *Working with Polyethylene Foam and Fluted Plastic Sheet*. It is also useful to consult large institutions that have had textile storage boxes mass produced out of corrugated polypropylene/polyethylene to see if it is possible to purchase the same type of box from the fabricator.

Storing the Textile

Select a container that is large enough to accommodate the textile with minimal folding. Line the container with either prewashed cotton sheeting or unbuffered acid-free (neutral-pH) paper or tissue. A single piece of paper or tissue, such as one cut from a large roll, is easier to work with than multiple small sheets.

Cut a piece of the lining material large enough to cover the bottom of the container as well as to fold over and completely cover the textile. The lining material can be used to lift the artifact into and out of the box or drawer. Cotton fabric has the advantage that it can be washed periodically and reused. Papers and tissues should be replaced when they become acidic. Test them periodically with a pH-testing pen.

Place the textile in the prepared container, taking care to ensure that there are as few folds as possible. Pad any folds with accordion-pleated, unbuffered, acid-free tissue, rolled polyethylene sheet, polyethylene foam tubing, or "sausages" made from polyester batting covered with cotton stockinette. This will prevent damaging creases from forming. Reposition folded textiles regularly to redistribute folds.

If possible, do not place textiles one on top of the other. The accumulated weight may crush and damage the textile beneath. If, for lack of space, layering cannot be avoided, place heavier items on the bottom and interleave the textiles with prewashed cotton sheeting or unbuffered acid-free paper or tissue.

Environment

For information on environmental conditions for storing textiles, see CCI Notes 13/1 *Textiles and the Environment*.

For information on other storage methods, see CCI Notes 13/3 *Rolled Storage for Textiles*; CCI Notes 13/5 *Hanging Storage for Costumes*; and CCI Notes 13/12 *Storage for Costume Accessories*.

Suppliers

Note: The following information is provided only to assist the reader. Inclusion of a company in this list does not in any way imply endorsement by the Canadian Conservation Institute.

Storage modulars:
Stanley-Vidmar Modular Drawer Storage
Williams and Wilson Ltd.
Ottawa, Montreal, Quebec City, Windsor
Canada
www.stanleyvidmar.com

Lista Modulars Drawer Storage System
Belmag Machinery Ltd.
Mississauga, Montreal, Vancouver
Canada
www.listacabinets.com

Cotton sheeting:
fabric stores

Acid-free boxes, paper, and tissue, pH-testing pen:
conservation supply houses such as:

Woolfitt's
www.woolfitts.com

Carr McLean
www.carrmclean.ca

Bibliofiche
www.bibliofiche.com

University Products of Canada
www.archivalproducts.ca

Polypropylene/polyethylene storage boxes:
major department stores

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Guild, S., and M. MacDonald. *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections*. Technical Bulletin No. 26. Ottawa, ON: Canadian Conservation Institute, 2004.

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Lambert, A.M. *Storage of Textiles and Costumes: Guidelines for Decision Making*. Vancouver, BC: University of British Columbia Museum of Anthropology, 1983. (Out of print, but available through the Canadian Conservation Institute Library and other libraries.)

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