PRESERVATION IN STORAGE & DISPLAY

Workshop Part B

Utah Field Services

Utah Division of Arts and Museums

May 5, 2022: Duchesne County Library & History Center

10 am - 5 pm

NATIONAL ENDOWMENT FOR THE HUMANITIES

UTAHHUMANITIES
Ideas in Action

Utah Division of Arts & Museums

GOALS

Gain a better understanding of Key Themes...

Key Themes

- Increase understanding of how to incorporate preservation practice into storage and storage planning
- Understand strategies for preserving collections in storage spaces
- Increase understanding of how to choose suitable storage and rehousing materials for preservation
- Learn to make simple storage housings for collection objects

AGENDA

Handout

Preservation in Storage and Display

Workshop Part B Agenda

Duchesne County History Center and Library, Duchesne

May 5, 2022

Learning Goals for Workshop pt A

1. Increase understanding of how to incorporate preservation practice into storage and storage planning
2. Understand strategies for preserving collections in storage spaces
3. Increase understanding of how to choose suitable storage and rehousing materials for preservation
4. Learn to make simple storage housings for collection objects

Agenda

10:00-10:40	Housekeeping and Homework review
10:40-10:50	Basics of Storage Ethics and Access
10:50-11:05	Preservation and storage
11:05-11:35	Storage Planning: storage methods, enclosures, sourcing materials
11:35-11:45	**BREAK**
11:40-12:00	Types of housing and planning for afternoon hands-on
12:00-1:00	**LUNCH**
1:00-1:15	Design and Plan based on individual's object types
1:15-2:15	Making enclosures for 2-dimensional objects
2:15-3:15	Planning and design for 3-dimensional object enclosures (single and multi object)
3:15-3:30	**BREAK**
3:30-4:15	Finish creating enclosures
4:15-4:30	Discussion/reflection on activity
4:30-5:00	Wrap up and evaluation

DISCUSSION: HOMEWORK

Intervention at Home:

Identify an object or group of objects at your institution that need a new mount or display method. Design such an intervention. Send images of the object/objects to Marie before our next workshop.

How did it go?

MISSION OF MUSEUMS: big picture

Museums are expected to:

1. plan strategically and act ethically with respect to collections stewardship

2. legally, ethically, and responsibly acquire, manage and dispose of collection items as well as know what collections are in their custody, where they came from, why they have them, and their current condition and location

3. provide regular and reasonable access to, and use of, the collections in their custody

“SIMPLY PUT”…

1. Know what stuff you have
2. Know what stuff you need
3. Know where it is
4. Take good care of it
5. Make sure someone gets some good out of it
6. Especially people you care about
7. And your neighbors

STORAGE: Standards & Best Practices

(StEPs **COLL** Standards:) The institution legally, ethically, and effectively manages, documents, cares for, and uses the collections.*

(StEPs **COLL** Standards:) Guided by its mission, the institution provides public access to its collections while ensuring their preservation.

*This is one of the biggest standards in all of StEPs. It's a HUGE consideration.

STORAGE: Unacceptable Practices (Just a few…)

Collections are held in the public trust. Caring for collections is therefore critical work, making collections misuse a serious violation. This includes:

- Performing irreversible cleaning, restoration, or other procedures.
- Failure to establish clear ownership of potential donation prior to receipt.
- Inattention to national and international regulations.
- Misrepresentation of a collection item's origin, history, or condition.
- Use of collections in a manner that threatens their preservation

ETHICS OF MUSEUM STORAGE: ACCESS & USE

Native American requests for increased access to and sometimes control over information resources found in non-tribal collecting institutions **is in keeping with current professional codes of ethics.**

Things to consider when providing access for research or use of collections include:

- culturally sensitive collections and information,
- accurate and appropriate context of collections,
- issues of intellectual property,
- copying and repatriation of materials,
- reciprocal education and training, and others.

Protocols for Native American Archival Materials: https://www2.nau.edu/libnap-p/index.html

ETHICS OF MUSEUM STORAGE: ACCESS & USE

- Conditions under which knowledge can be ethically and legally acquired…preserved, accessed… **change through time**.
- Seek **active consultations** with authorized Native American community representatives
- Involve communities in creating welcoming and comfortable spaces for Native American visitors and **rethink the need for "credentials"** from patrons.
- **Consider the potential impact of worldwide digital access** to resources once only available onsite at the collecting institution. Will the information be presented with sufficient context?

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STORAGE, ACCESS & COMMUNITY COLLABORATION

Example from the field - Natural History Museum of Utah (NHMU):

- The NHMU is a designated archaeological repository, and seeks the cooperation and support of specifically-designated committees and panels to help inform care of some objects of extreme sensitivity it holds (even temporarily).
- Collections space has been permanently segmented to provide privacy and security for particular kids of objects (including human remains) in the museum's care. The museum provides some access to tribal representatives to bless, cleanse, and otherwise care for those whose remains are in the process of return or reburial.

STORAGE, ACCESS & COMMUNITY COLLABORATION

Examples from the field - Utah Field House of Natural History State Park Museum:

- Through consultation with local tribal officials and Tribal Historic Preservation Officers (THPO), invited individuals into collections storage.
- One change resulting from this closer relationship is modification of how cradleboards in the collection are stored - upright rather than lying down.

PRESERVATION CONCERNS

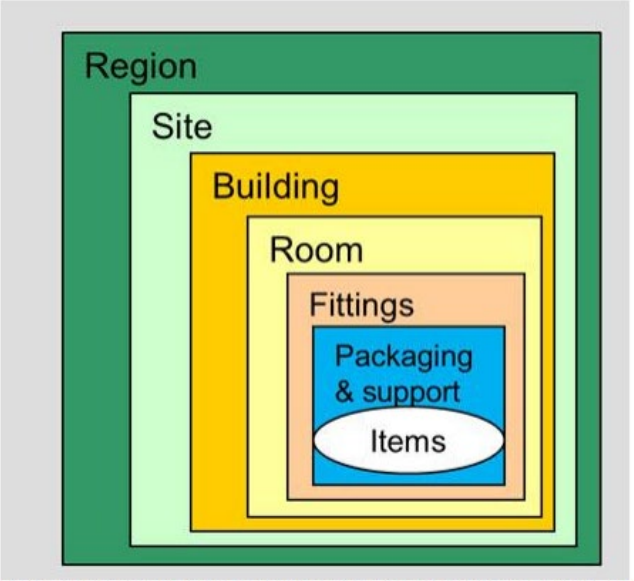
FOR OBJECTS IN STORAGE

EXHIBITIONS & PRESERVATION

1. Physical Forces
2. Fire
3. Pests
4. Water
5. Light
6. Incorrect Relative Humidity
7. Incorrect Temperature
8. Thieves and Vandals
9. Pollution
10. Dissociation/Custodial Neglect

STORAGE AND PRESERVATION

An object in a good storage environment has the best chance of long term preservation



Six Levels of Enclosure from CCI's 2016 Risk Manual

STORAGE AND PRESERVATION

A “good” storage environment:

- Has good environmental conditions
- Is secure
- Is protective of collections
- Is organized
- Is clearly labeled
- Facilitates access

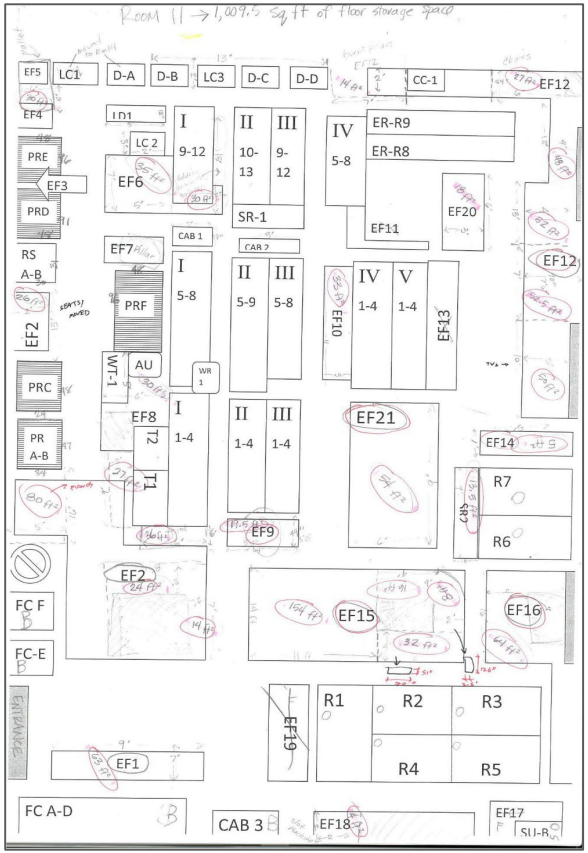
pattersonpope.com

STORAGE AND PRESERVATION

Discussion:

How does your current collections storage facilitate access and for whom?

PLANNING STORAGE



A collections room map- the measurements for oversized items on pallets were done to calculate square footage

	shelving unit dim's	how many	number of shelves	Cubic Feet	Sq Feet per unit	sq ft for units on floor	total sq ft with shelves	
Room 10						**1127**	**1895**	Notes
oversize shelving	96 W x 48 D x 84 H	8	4	224 per unit	32	256	1024	32 each rack / 32 per shelf x 4 shelves per rack= 128 sq
floor space	871 sq ft					871	871	
~~flat file woodcase~~	~~98 W x 37 D x 43 H~~	1				0		need flat file
~~textiles~~	~~36 W x 30 D x 88.5 H~~	1				0		
						0		
manuscript shelving- reuse	36 W x 30 D x 88.5 H	76	5	52.09 per unit			7.5	12 are 3 units together/ 8 a
Room 11						**589.26**	**3871.74**	
oversize shelving	96 W x 48 D x 84 H	9	4		32	288	1152	use of top shelf
open shelving- 4 post	42 W x 15 D x 111.5 H	2	9		4.38	8.76	78.84	ERI
open shelving- 4 post	36 W x 15 D x 111.5 H	1	9		3.75	3.75	33.75	ERI
open shelving- 4 post	36 W x 15 D x 111.5 H	1	8		3.75	3.75	30	ERI
open shelving- 4 post	42 W x 30 D x 99.5 H	1	5		8.75	8.75	43.75	ERII
open shelving- 4 post	42 W x 30 D x 99.5 H	2	7		8.75	17.5	122.5	ERII
open shelving- 4 post	42 W x 30 D x 99.5 H	1	6		8.75	8.75	52.5	ERII
open shelving- 4 post	42 W x 18 D x 99 H	8	6		5.25	42	252	ERIV / ERV
open shelving- 4 post	48 W x 24 D x 87 H	1	8		8	8	64	ERIV
open shelving- 4 post	48 W x 24 D x 87 H	19	5		8	152	760	ERI / ERII / ERIII / ERIV
open shelving- 4 post	36 W x 24 D x 87 H	8	5		6	48	240	ERII / ERIII
floor space	1,010	1	1			1,010	1,010	
vertical case ER-SR-1	52 W x 30 D x 66 H	1	3		10.8	10.8	32.4	Olympic posters and framed- need flat file??
Room 14						**336.49**	**1099.54**	
catalog records	15 W x 28.5 D x 52.5 H	8	1		2.97	23.76	23.76	15 W x 28.5 D x 52.5 H each
oversize shelving	96 W x 48 D x 84 H	5	4		32	160	640	
open shelving	36 W x 13 D x 88 H	1	5		3.25	3.25	16.25	NB-SU-H
open shelving	42 W x 15 D x 101 H	3	8		4.38	13.14	105.12	NB-SU-A, NB-SU-B, NB-SU-C
open shelving	42 W x 15 D x 75 H	2	6		4.38	8.76	52.56	NB-SU-L, NB-SU-K
open shelving	42 W x 15 D x 75 H	4	5		4.38	17.52	87.6	NB-SU-D, NB-SU-G, NB-SU-F, NB-SU-E
open shelving	48 W x 24 D x 87 H	1	2		8	8	16	NB-SU-P
hanging textile rolling racks	60 W x 24 D x 73 H	2			10	20	20	NB-CR3, NB-CR5
hanging textile rolling racks	61 W x 40 D x 73 H	1			16.67	16.67	16.67	NB-CR8
reused file cab with drawers	42 W x 20 D x 50 H	1	4		5.83	5.83	23.32	NB-D1
large boxes on table	84 W x 42 D x 15 H	1			24.5	24.5	24.5	
~~2 stacked flat files~~	~~54 W x 44 D x 36 H~~	~~1~~				0	0	
cabinet- accessioned and holds an MSS B collection	50 W x 13.5 D x 41 H	1			4.69	4.69	4.69	architectural drawing cabinet
glass door cabinets- accessioned and holds magazines given T numbers	56 W x 14 D x 47 H	2	1		12.45	12.45	24.9	

Spreadsheet was created to calculate how much storage space the artifacts required

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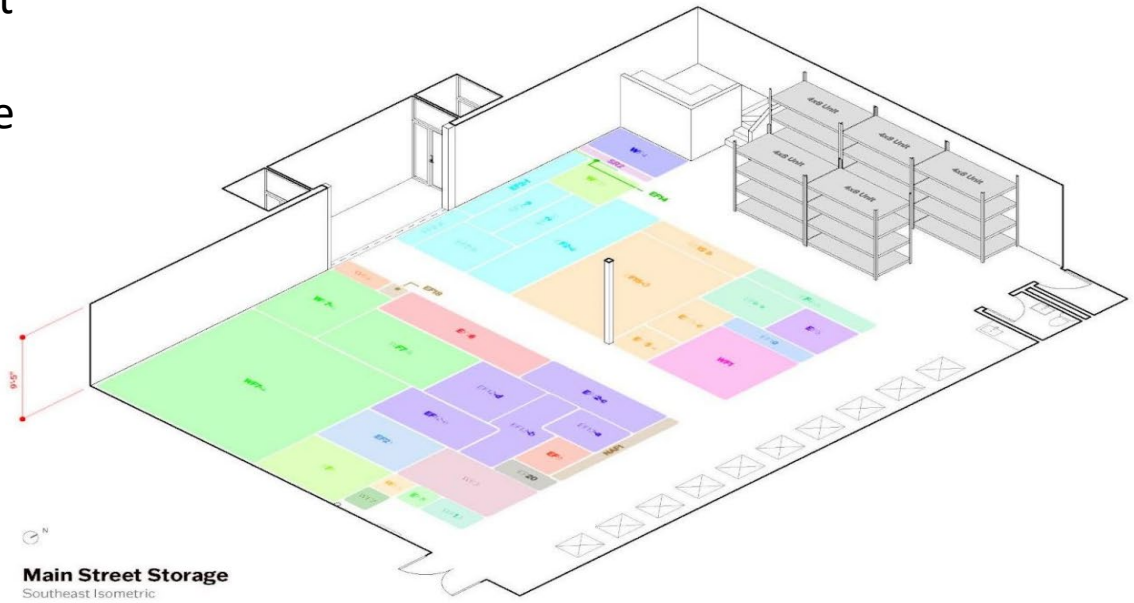
PLANNING STORAGE

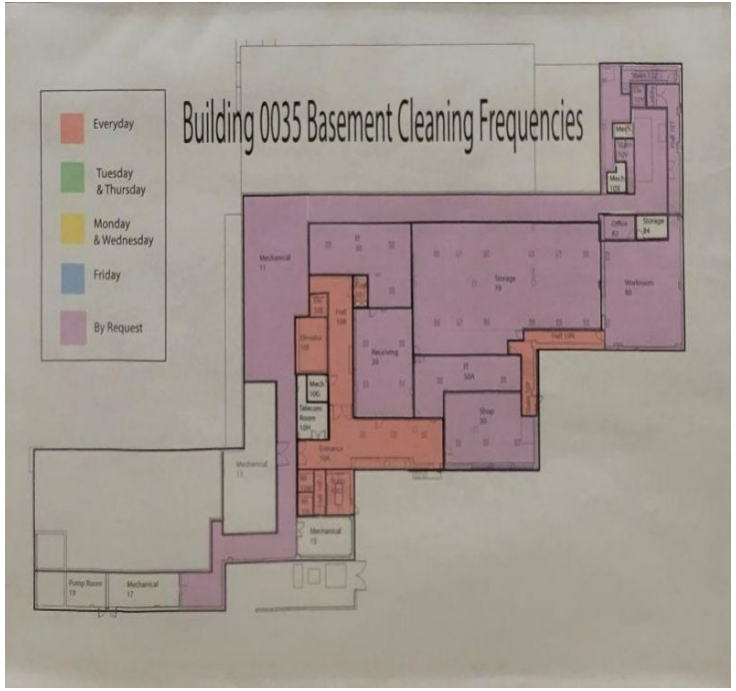
Square foot layout of collections in new storage space for State Collections



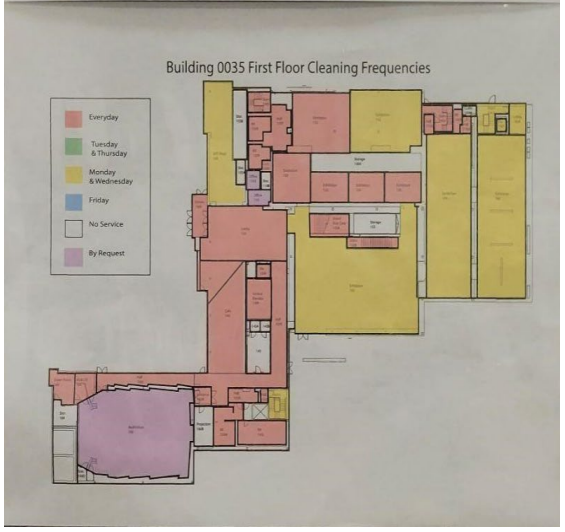
ASSESSING STORAGE

Color coding and organizing collections in storage- Storage Mapping

ASSESSING STORAGE



Floor plans are a powerful communication tool: they can also map time-based routines



ASSESSING STORAGE

- Environmental concerns - light, temp, Rh (place a monitoring device)
- Fire suppression
- Security
- Architectural limitations of the building (weight bearing load capacity of each floor, doorway size, where water is piped, where food is allowed); consult a structural engineer?
- Shelving and storage layouts=Location naming conventions

ASSESSING STORAGE

Examples of compact storage solutions

Spacesaver

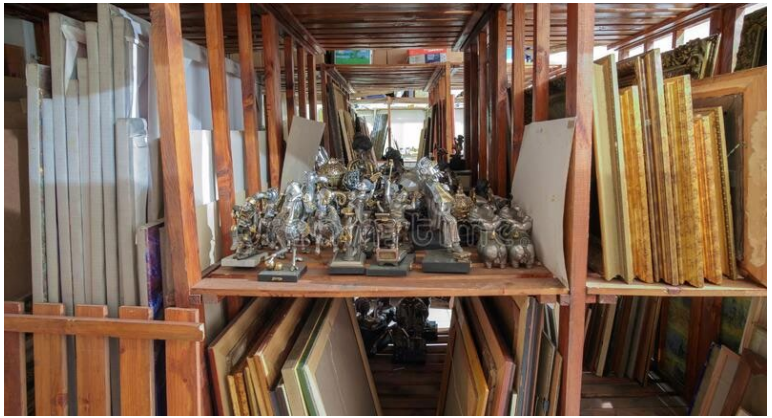
ASSESSING STORAGE

ASSESSING STORAGE

ASSESSING STORAGE

Cooper Hewitt Museum

How could we immediately improve this storage situation?



dreamstime.com

ASSESSING STORAGE

Cooper Hewitt Museum

Assessing an existing storage space

- Short term: low-hanging fruit like items on the floor, objects stacked directly upon one another, leaning
- Longer term: Assessing the environment with data collection

ASSESSING STORAGE: Environment

Discussion:
Who here has collected environmental data from their collections storage?

How have you used this data?

Extremes

- What are the upper and lower T and RH values?

Sudden changes

- Equipment failure
- Power outage
- Providing access

Slow changes

- Effects of seasonal changes over months

Pulled from the Image Permanence Institute (2017) *Storage Environments: The Big Picture*

ASSESSING STORAGE: Environment

Temperature

68F/20C & Higher	• High Risk for Chemical Decay for Most Materials • Increase in Biological Activity in Damp Conditons
55-67F/ 12-19C >	• Cool Temperatures Slow the Rate of Chemical Decay • Good for Most Materials Except Film and Color Photographs
40-54F/ 5-12C	• Beneficial for Film & Photograph Collections • Good for Most Materials Except Paintings
32F/0C Frozen Storage	• Best for film & photograph collections • Required for degrading acetate & nitrate film • Bad for CDs and DVDs

Relative Humidity

70% RH & Higher	• High Risk for Chemical, Mechanical and Biological Damage
65 to 70% RH	• 70% - High Risk for Mold Growth • 65% - Increased Risk of Chemical Decay and Mechanical Damage
55 to 65% RH	• 60% - High Risk for Mold Germination • 55% - Corrosion Risk
30 to 55% RH	• Generally Safe Zone for Most Materials
30% RH & Lower	• Low RH is beneficial for Chemical Decay BUT unsafe for most Organic Materials • Low RH is Safe for most Inorganic Materials (Metals)

Pulled from the Image Permanence Institute (2017) *Storage Environments: The Big Picture*

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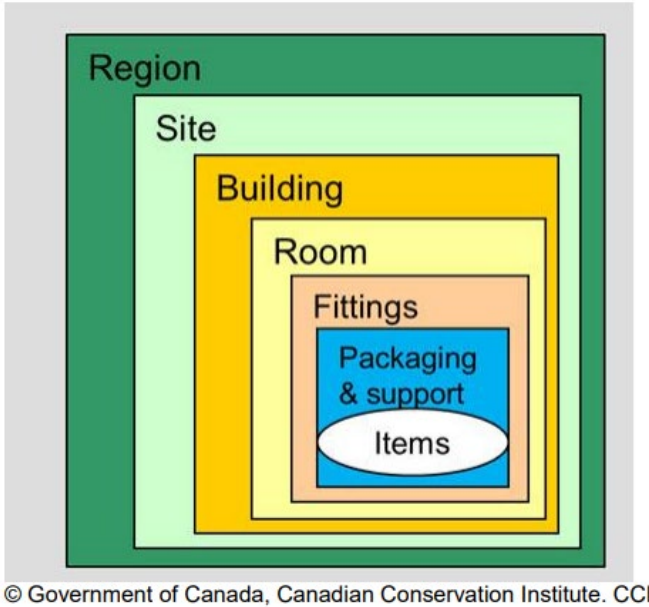
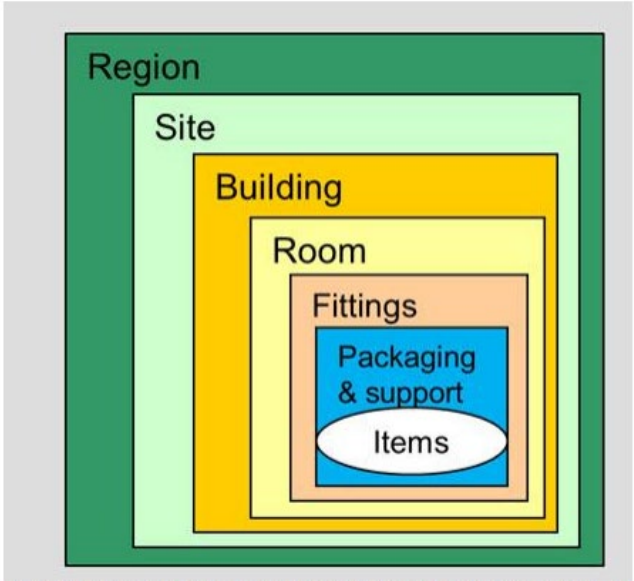


Six Levels of Enclosure from CCI’s 2016 Risk Manual

“SIMPLY PUT”...

Finding ways to make your collection manageable

- Consider storage as related to acquisitions and deaccessions
- Understand your building and what you have and need for future storage planning
- Do the best with what you have



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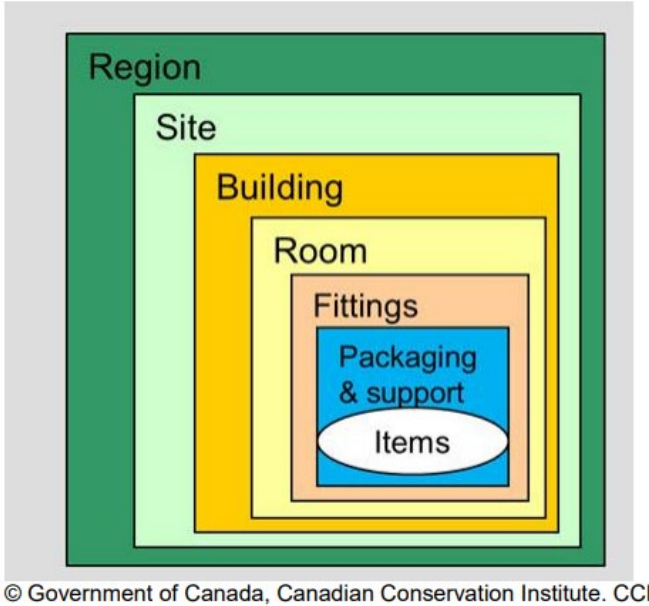
ENCLOSURES (MICRO)

Finding ways to make your collection manageable

- Do the best with what you have



Six Levels of Enclosure from CCI's 2016 Risk Manual

ASSESSING STORAGE: Buffering Capacity of Enclosures

Metal edge cardboard box

Museum case

Portfolio box

Buffering capacity= ability of enclosure to prevent object inside from reaching moisture or temperature equilibrium with its environment

Pulled from the Image Permanence Institute (2017)
Storage Environments: The Big Picture

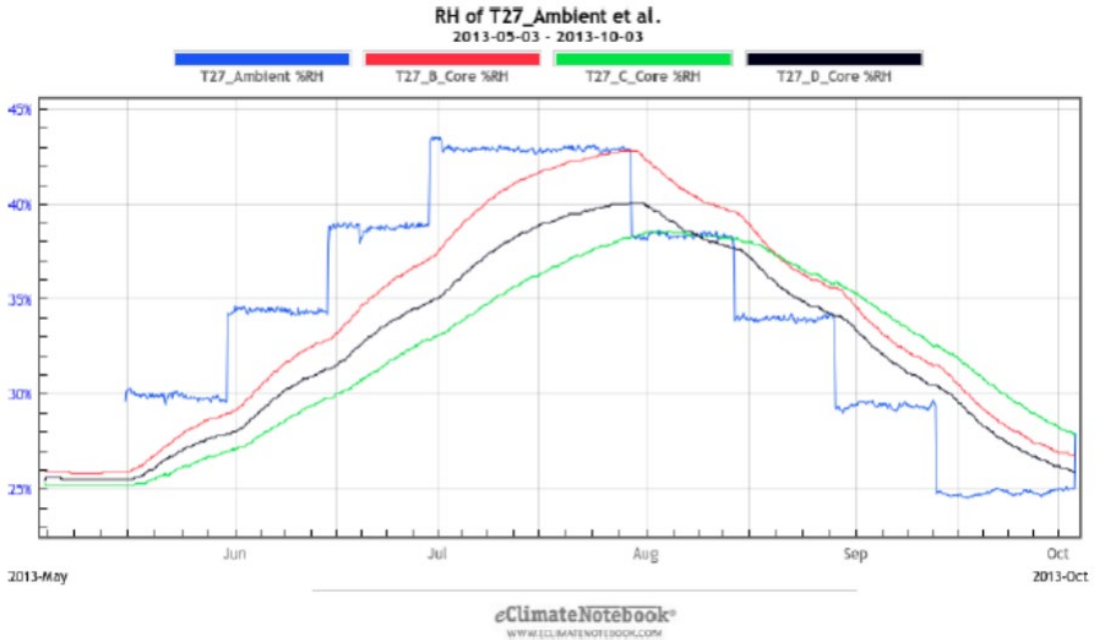
ASSESSING STORAGE: Buffering Capacity of Enclosures

Stepped RH profile at 20ºC on RH level at the core of matted photographs in different enclosure types

B: cardboard box

C: portfolio box

D: museum case



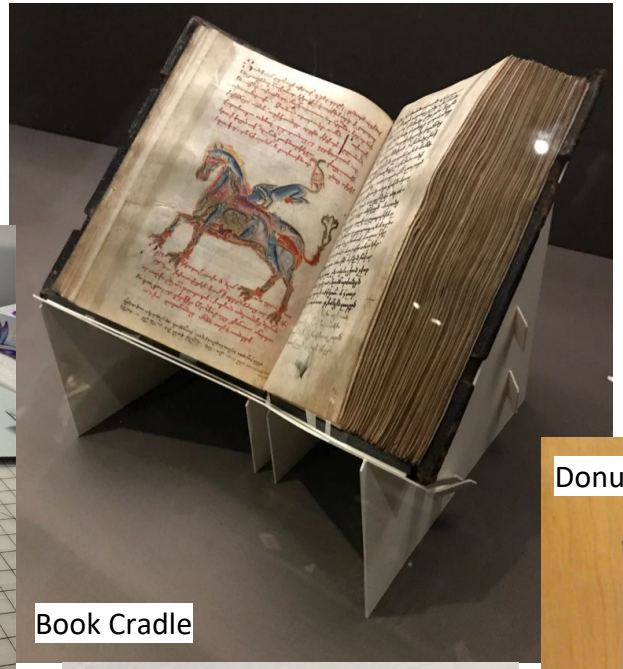
Pulled from the Image Permanence Institute (2017)
Storage Environments: The Big Picture

COMMON EXHIBITION DISPLAY METHODS: Mounts

Your mount should:

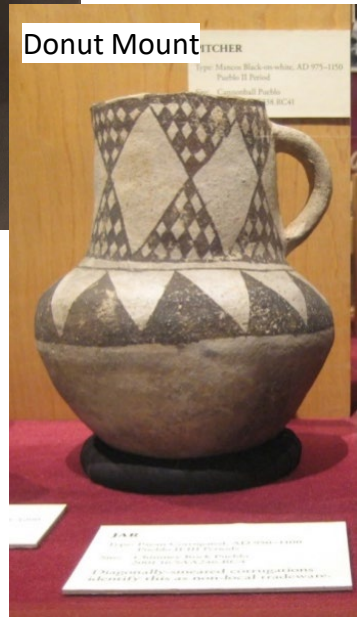
- Be supportive
- Be easy to install/deinstall
- Hold the object firmly in a well-balanced position
- Be made of inert materials
- Be unobtrusive
- Not require alterations to the object
- Not cause damage at the points of contact
- Not exert pressure on the object


Slant Board


Book Cradle


Shoe Padding


Cavity Mount


Donut Mount

COMMON STORAGE METHODS: ENCLOSURES

Your enclosure should:

- Be supportive & protective
- Be easy to install/deinstall
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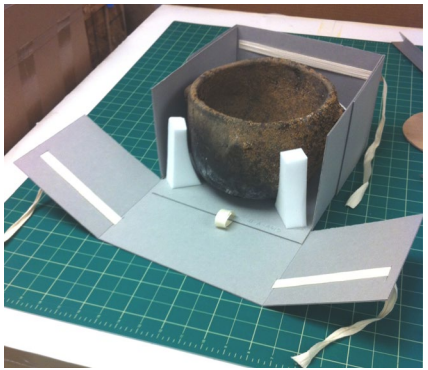


Custom "drop front" box (Ellen Carrlee)

Tray (Ellen Carrlee)

Four Flap

Dust cover (San Francisco Fine Art Museums)

Donut

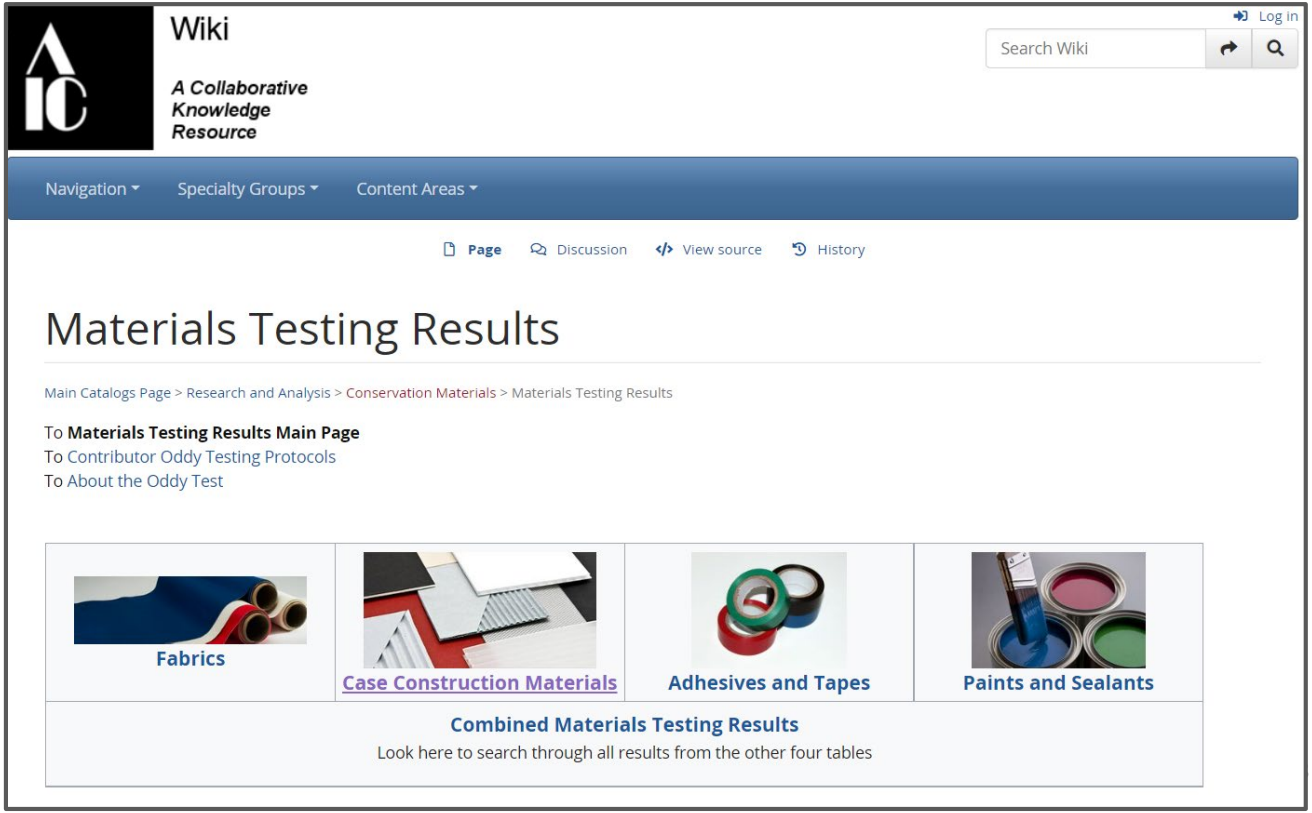
Commercial box

COMMON STORAGE METHODS: CHOOSING MATERIALS

We know that the materials we build boxes, cases, and mounts from can negatively chemically interact with our objects.

Conservators and conservation scientists have done testing to determine which materials are acceptable.

Conservation “wiki” from American Institute for Conservation



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How to Use [edit source]

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The quickest way to find a material is by hitting CTRL+F to access the search or find function of the browser page.
Questions and suggestions can be directed to the Materials Testing Results Coordinator.

Case Construction Materials [edit | edit source]

This table includes construction, packing, and storage materials.

Material Name	Manufacturer	Supplier	Test Results	Date tested yyyy/mm/dd	Tester	Test(s) Used	Description/ Composition	Comments	Material Type	Results Image or Description
Wonderflex	Dazian fabrics	Dazian fabrics	pass, but no direct contact with object	2011/03/15	NMAI	Oddy Test		coupons adhered to the sample, material adhered to the glass	plastic	Cu: no changes; Ag: no changes, the coupon is well adhered to the sample; Pb: darkening, comparable to control
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Aquaplast	Sammons Preston	Patterson Medical	fail	2011/03/15	NMAI	Oddy Test		material melted and embedded metal coupons	plastic	Cu: green corrosion; Ag: no change; Pb: white bloom
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Fisherbrand* Solid Silicone Stoppers		Fisher Scientific	pass	2011/03/15	NMAI	Oddy Test		contact	silicon rubber	Cu: no change; Ag: no

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The **Oddy Test** is used as a subjective method for determining whether or not a material, such as wood, fabric, or paint, is appropriate for use in an enclosed space with artwork or other cultural heritage artifacts. In essence, it is a low-cost, non-specific accelerated aging test

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Aquaplast	Sammons Preston	Patterson Medical	fail	2011/03/15	NMAI	Oddy Test		material melted and embedded metal coupons	plastic	Cu: green corrosion; Ag: no change; Pb: white bloom
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Fisherbrand* Solid Silicone Stoppers		Fisher Scientific	pass	2011/03/15	NMAI	Oddy Test		contact	silicon rubber	Cu: no change; Ag: no

Disclaimer [edit source]

Test results are provided for informational purposes only. Neither AIC nor participating institutions endorse particular products, businesses, or services. It is recommended that all materials be re-tested before use as proprietary formulas and manufacturing processes can change without notice. Test results are not peer-reviewed or vetted. Use this information at your own discretion and assess it in conjunction with the provided protocol.

How to Use [edit source]

Please use the following table as a reference. The table is sortable by any of the headings with stacked double arrows.
The quickest way to find a material is by hitting CTRL+F to access the search or find function of the browser page.
Questions and suggestions can be directed to the Materials Testing Results Coordinator.

Case Construction Materials [edit | edit source]

This table includes construction, packing, and storage materials.

More Variables:
How long is the material being used?
How close is it to an object?
What kind of object?
How is the material being used?
Is it for storage or display?
What is the environment like?
…….

Material Name	Manufacturer	Supplier	Test Results	Date tested yyyy/mm/dd	Tester					
Wonderflex	Dazian fabrics	Dazian fabrics	pass, but no direct contact with object	2011/03/15	NMAI	Oddy Test		coupons adhered to the sample, material adhered to the glass	plastic	Cu: no changes; Ag: no changes, the coupon is well adhered to the sample; Pb: darkening, comparable to control
Wonderflex	Dazian fabrics	Dazian fabrics	pass, but no direct contact with object	2011/03/15	NMAI	Oddy Test		coupons adhered to the sample, material adhered to the glass	plastic	Cu: darkening of the copper on contact side, the coupon is well adhered to the sample; Ag: no changes, the coupon is well adhered to the sample; Pb: darkening, comparable to control
Aquaplast	Sammons Preston	Patterson Medical	fail	2011/03/15	NMAI	Oddy Test		material melted and embedded metal coupons	plastic	Cu: green corrosion; Ag: no change; Pb: white bloom
Aquaplast	Sammons Preston	Patterson Medical	fail	2011/03/15	NMAI	Oddy Test		material melted and embedded metal coupons	plastic	Cu: green corrosion; Ag: no change; Pb: white bloom
Fisherbrand* Solid Silicone Stoppers		Fisher Scientific	pass	2011/03/15	NMAI	Oddy Test		contact	silicon rubber	Cu: no change; Ag: no

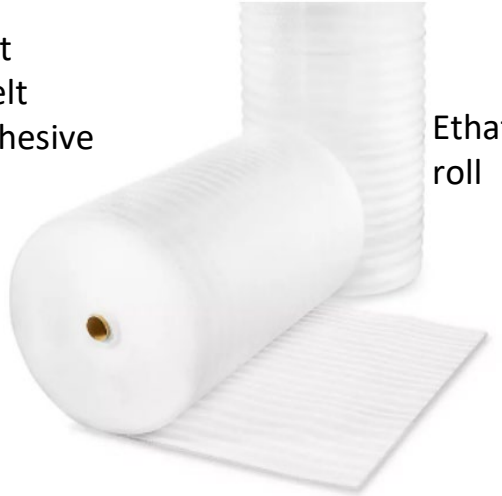
SIMPLIFIED APPROACH with Utah Field Services

Rely on trusted, conservation-approved materials from archival suppliers

Ethafoam blocks

Stockinette

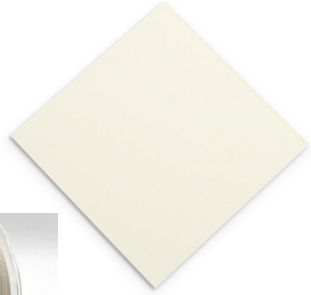
Hot Melt Adhesive



Ethafoam roll

Corrugated Blue Board

Cotton Twill Tape



Archival Mat board

Unbleached Cotton Muslin

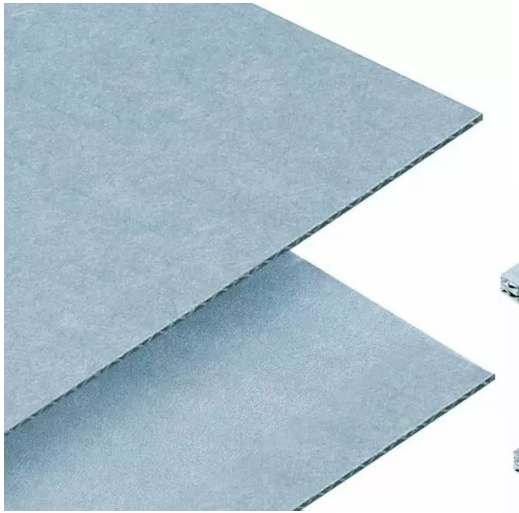
Linen tape

SIMPLIFIED APPROACH with Utah Field Services

Ethafoam = Polyethylene

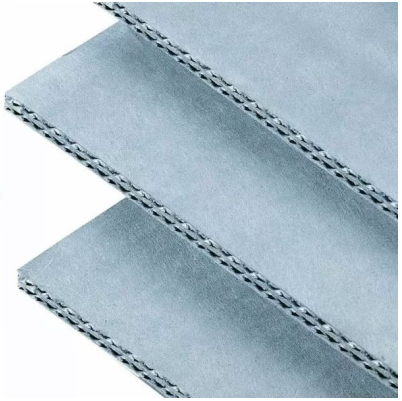
- Specific plastic type, comes in many shapes and densities
- Excellent material for both display and storage mounts
- Doesn't last forever, and may lose its appealing properties over time

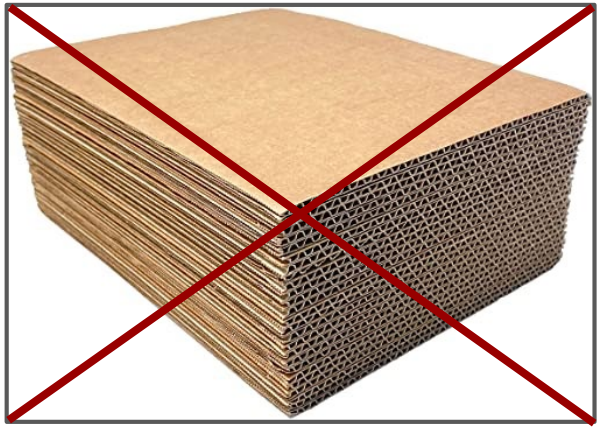
COMMON STORAGE METHODS: Materials



Corrugated Blue Board

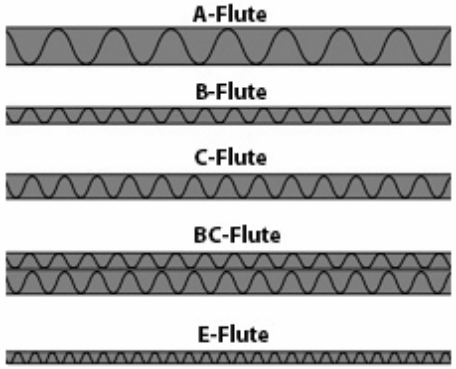
- Acid-free and lignin-free
- Buffered with 3% calcium carbonate





Regular cardboard- acidic, low quality wood pulp paper and adhesive

Examples of blue board that come in a variety of weights and corrugation types



Different types of corrugation

COMMON STORAGE METHODS: Materials

“Hot Melt Adhesive”

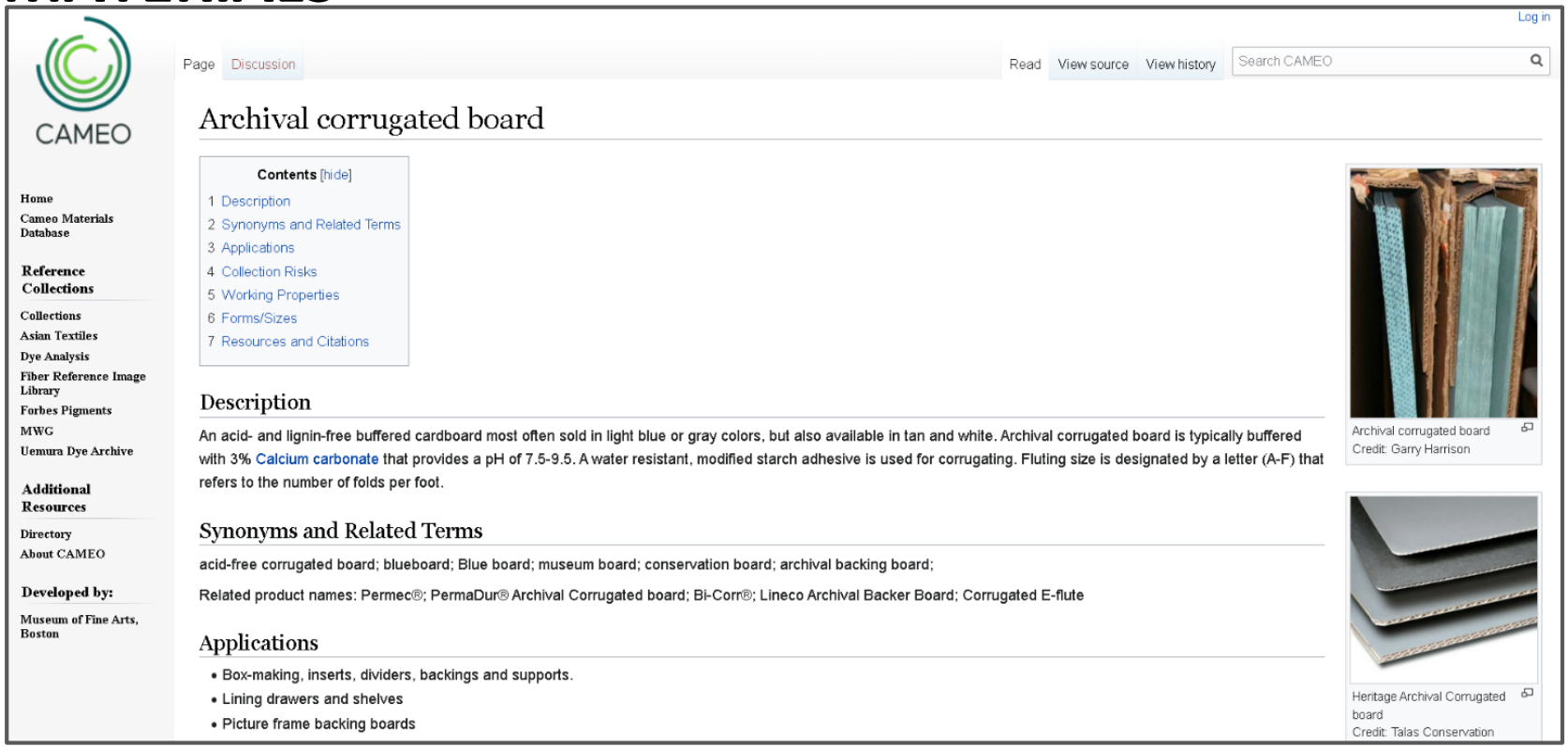
A vendor’s description:
“This gentle hot-melt adhesive comes highly recommended by conservators for use around art and artifacts. Bonds most polyolefins (Ethafoam, Volara and Plastazote). Its non-corrosive properties won't affect even copper. “

Vs. the humble “hot glue gun”

“Hot melt adhesives whose main component is an ethylene vinyl acetate copolymer are generally suitable for use in constructing supports for specimen and artifact storage.”

“The most commonly used polymers in hot glue sticks include **ethylene-vinyl acetate (EVA), polyesters, polyethylene, and ethylene-methyl acrylate (EMA)**.”

COMMON STORAGE METHODS: SOURCING MATERIALS



CAMEO

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Archival corrugated board

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1 Description
2 Synonyms and Related Terms
3 Applications
4 Collection Risks
5 Working Properties
6 Forms/Sizes
7 Resources and Citations

Home
Cameo Materials Database

Reference Collections
Collections
Asian Textiles
Dye Analysis
Fiber Reference Image Library
Forbes Pigments
MWG
Uemura Dye Archive

Additional Resources
Directory
About CAMEO

Developed by:
Museum of Fine Arts, Boston

Description

An acid- and lignin-free buffered cardboard most often sold in light blue or gray colors, but also available in tan and white. Archival corrugated board is typically buffered with 3% Calcium carbonate that provides a pH of 7.5-9.5. A water resistant, modified starch adhesive is used for corrugating. Fluting size is designated by a letter (A-F) that refers to the number of folds per foot.

Synonyms and Related Terms

acid-free corrugated board; blueboard; Blue board; museum board; conservation board; archival backing board;

Related product names: Permec®; PermaDur® Archival Corrugated board; Bi-Corr®; Lineco Archival Backer Board; Corrugated E-flute

Applications

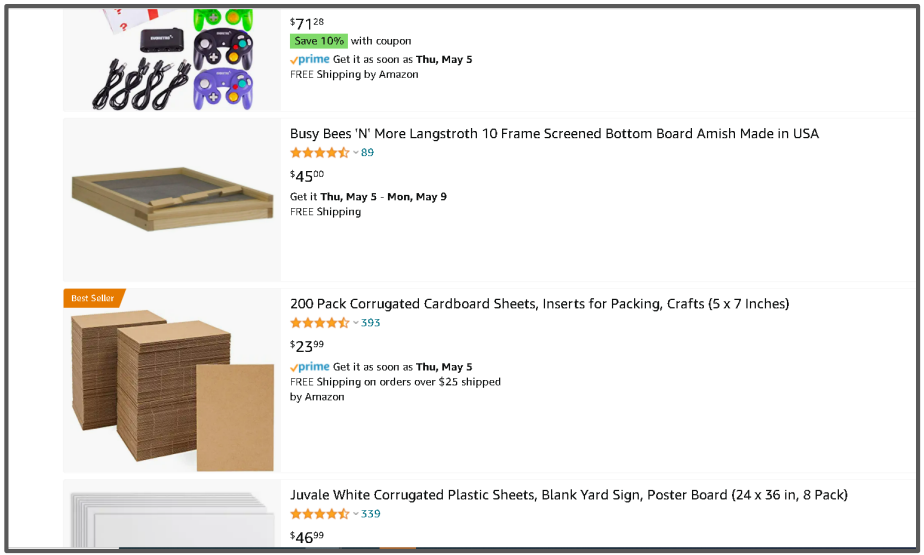
- Box-making, inserts, dividers, backings and supports.
- Lining drawers and shelves
- Picture frame backing boards

Archival corrugated board
Credit: Garry Harrison

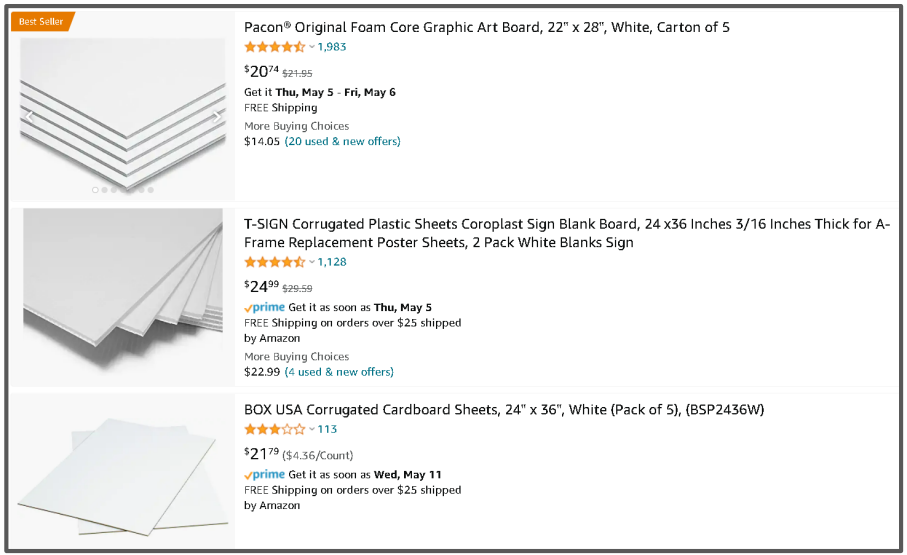
Heritage Archival Corrugated board
Credit: Talas Conservation

A great resource for better understanding your materials: https://cameo.mfa.org/wiki/Archival_corrugated_board

COMMON STORAGE METHODS: SOURCING MATERIALS

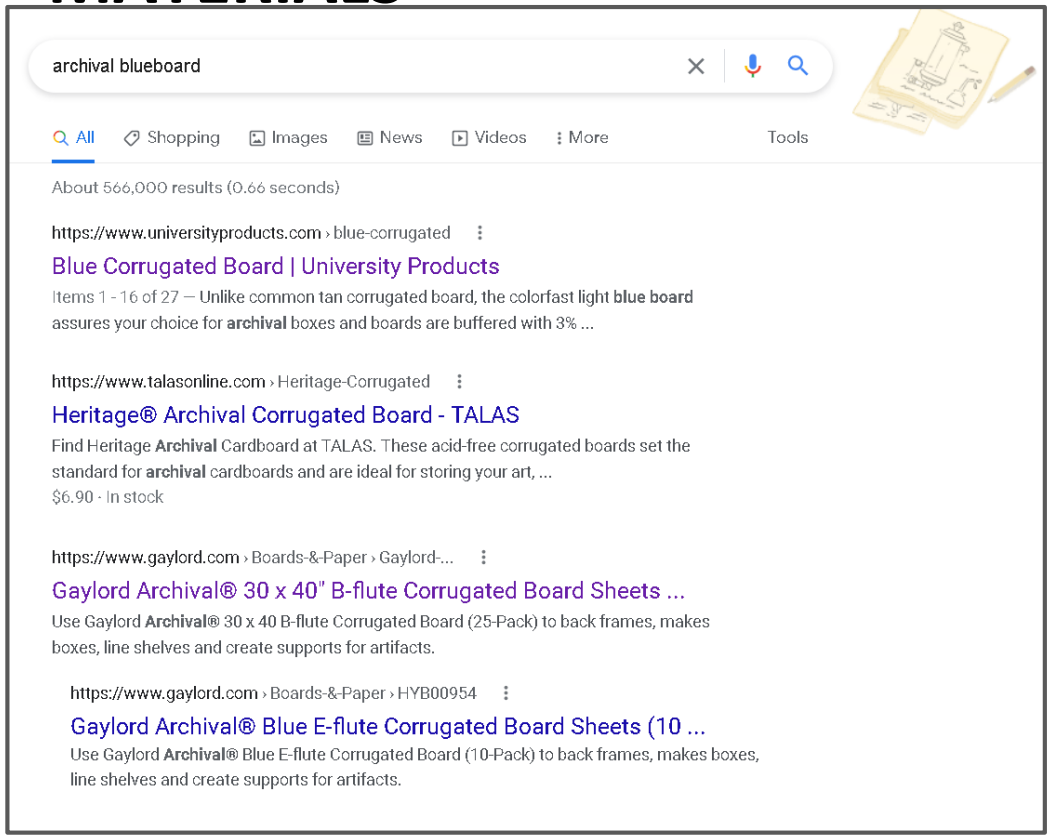


Search: “Blue corrugated board”



Search: “archival corrugated board”

COMMON STORAGE METHODS: SOURCING MATERIALS



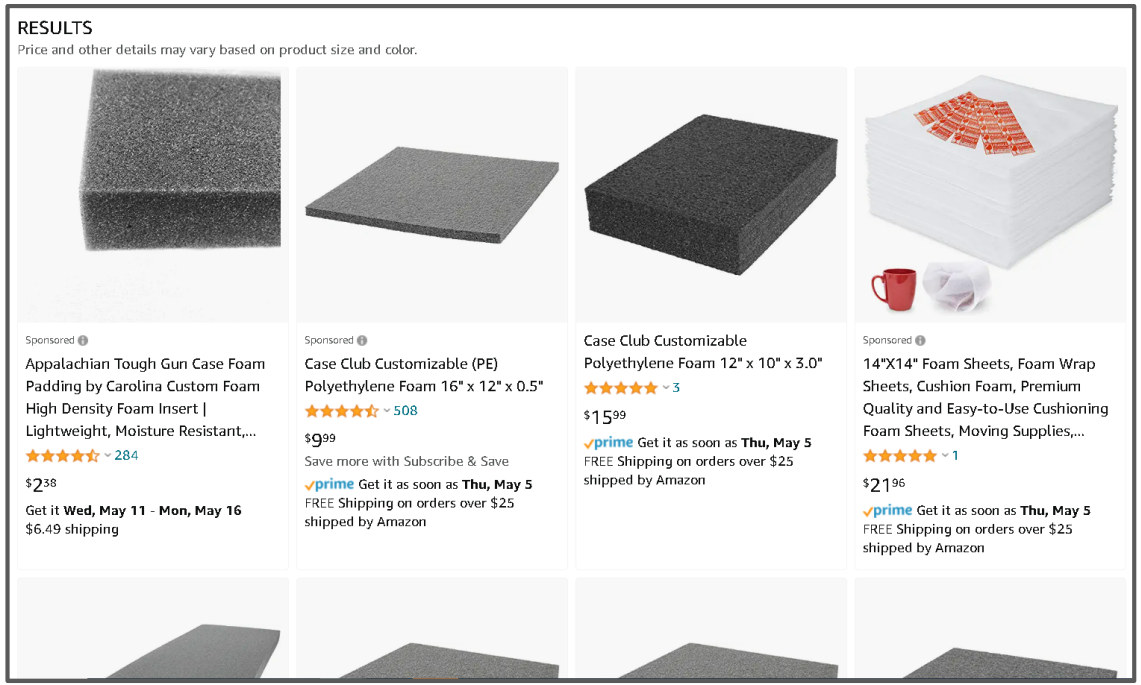
Common Suppliers for archival materials:

- University Products
- TALAS
- Gaylord Archival

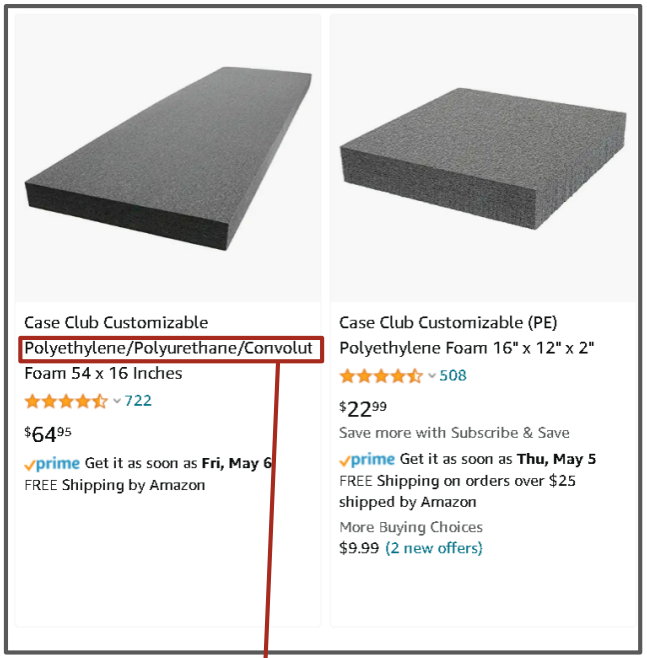
Also good:

- Blick Art Materials
- Uline- business supplies

COMMON STORAGE METHODS: SOURCING MATERIALS

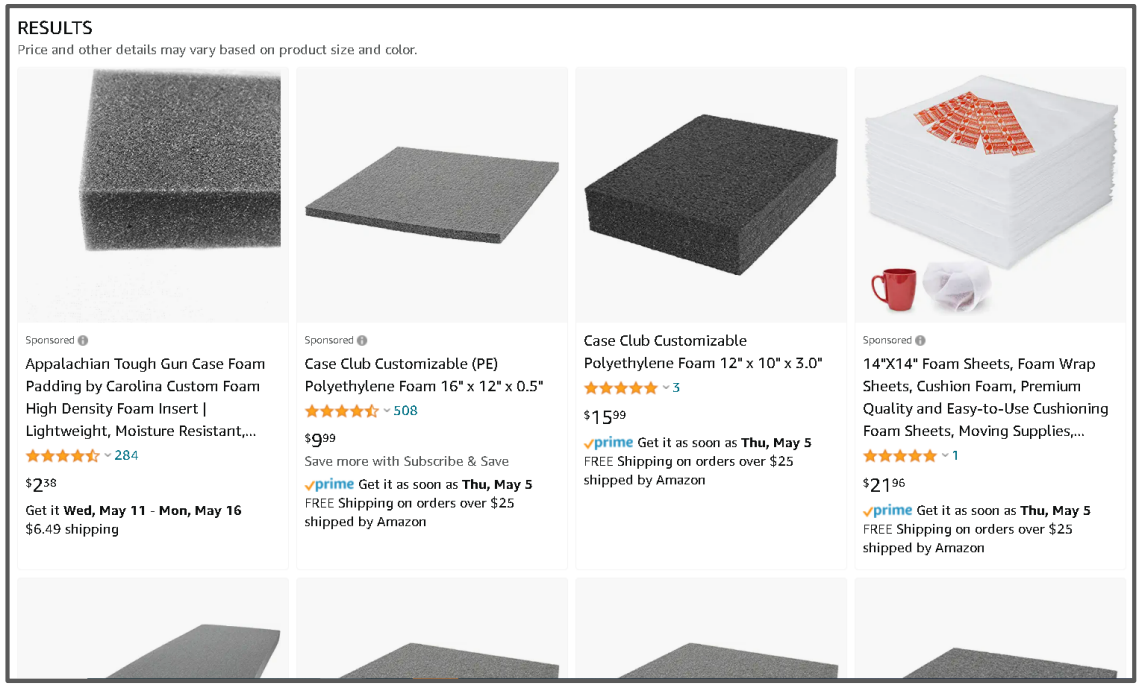


Search: “polyethylene foam”



The search results can be more complicated that one simple, “inert” material

COMMON STORAGE METHODS: SOURCING MATERIALS



Common Suppliers for archival materials:

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- TALAS
- Gaylord Archival

Also good:

- Blick Art Materials
- Uline- business supplies

COMMON STORAGE METHODS: SOURCING MATERIALS

Commercial materials are a risk. Purchasing from an established archival, museum, or conservation supply company is more reliable (see resources list).
If buying commercially, look for:

- – Acid-free
- – Standard photocopying/printing paper is usually fairly stable due to calcium carbonate fillers, but no guarantee if not classed as acid-free
- – Plastics: safe* plastics (may) include: #1, 2, 4, 5: polyethylene (PET, HDPE, LDPE),
  polypropylene and polypropylene (*these are safer, but use commercially available products with caution, plasticizers and other additives can cause problems)
- – Textiles: Cotton, linen, polyester. Undyed is safest. Wash before using.

Guideline text from “Choosing Materials for Museum Storage” (2021) Connecting to Collections Care by Maggie Hill-Kipling

COMMON STORAGE METHODS: SOURCING MATERIALS

(Continued) Paper Materials:

- Tissues, paper, folder stock/card stock, board, corrugated board
- Can use to line less ideal materials
- Acid-free
- Buffered (can use with papers, cotton, and other plant-based fibers; do not use for photographs, silk, or wool)
- Unbuffered (Photographs, wool, silk)
- When in doubt, use unbuffered paper products

Guideline text from “Choosing Materials for Museum Storage” (2021) Connecting to Collections Care by Maggie Hill-Kipling

BREAK (10 Minutes)

HANDS-ON: CUSTOM ENCLOSURES

ENCLOSURE 1:

Four Flap

Handout

THE MET

PROTECTIVE ENCLOSURES AND ARCHIVAL MATERIALS FOR PHOTOGRAPH ALBUMS AND BOUND VOLUMES

Protective enclosures serve as physical protection for bound volumes, reducing mechanical damage from handling, dust, and abrasion. As well, they provide a barrier from environmental fluctuations and airborne pollutants.

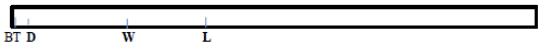
Whenever possible, use acid free or alkaline buffered materials to construct the enclosures. When acid free materials are not available, protective enclosures can still help protect archival objects. Use a barrier between the object and its enclosure, such as wrapping the object in a tri-fold of good quality paper or Mylar/Melinex before housing in the box.

1. Four flap enclosure
2. Card stock housing (tuxedo box) for materials less than 2cm thick
3. Corrugated box for materials more than 2cm thick

1. Four-flap protective enclosure

A four flap protective enclosure made from pH neutral or slightly buffered card stock or thin board will create a microclimate for an object. The bottom flap should be closed first, followed by the top flap. The flaps at the right and left sides should be closed so that the enclosure opens intuitively the way the volume inside does – either left reading or right reading, depending on printing/region of publication.

Measure the length (L), width (W), and thickness/depth (D) of the volume to be housed. Mark the measurements onto a strip of paper or board, as shown below. In the template, (BT) represents the thickness of the rehousing material being used for the enclosure.

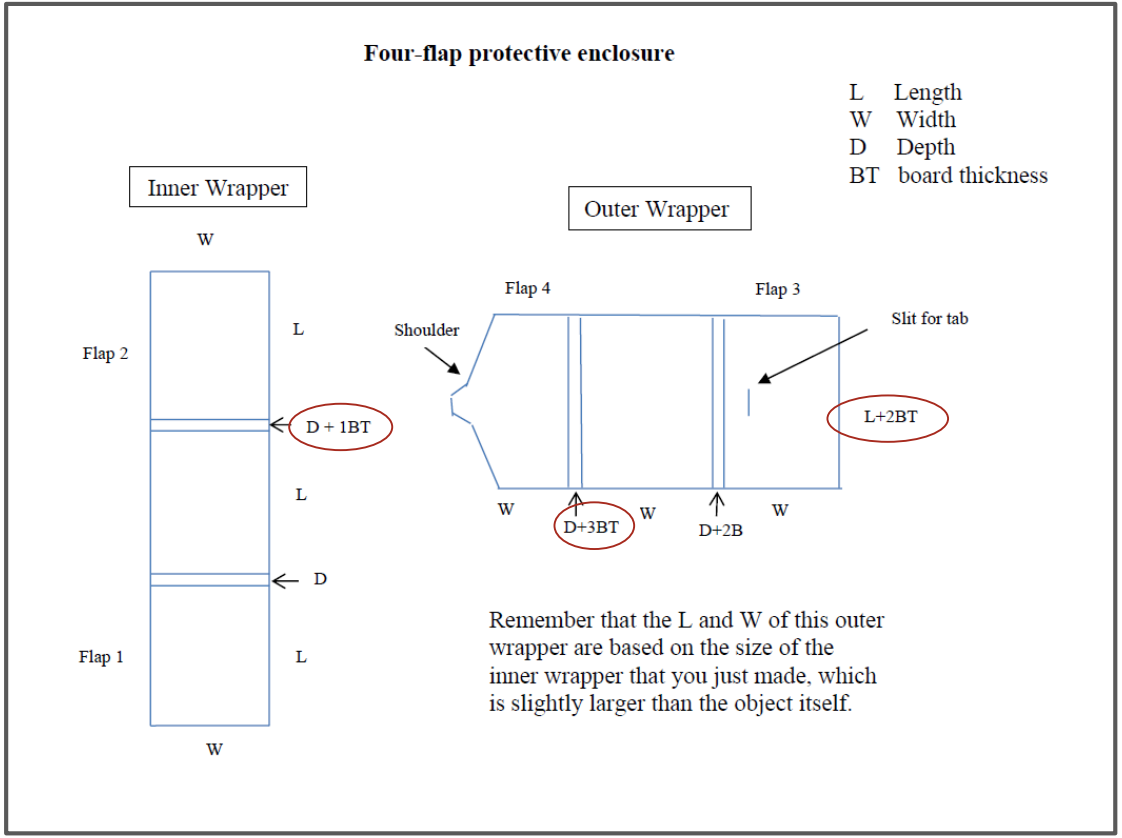


Inner Wrapper: *See image below*. Cut the first piece of card stock exactly the (W) of the object, and (3L+2D) long, based on the measurements taken on the strip of paper – be certain to accommodate the widest part of the object. Mark the piece at the distances noted in the image below, beginning at Flap 1. Using a bone folder and a straight edge, fold the piece at the locations marked, being sure that the folds are perfectly perpendicular to the long edge. This will create a wrapper that exactly accommodates the depth of the volume. Flap 1 and Flap 2 should extend the complete Length of the volume. Cut off any excess material from the end of Flap 2.

ENCLOSURE 1:

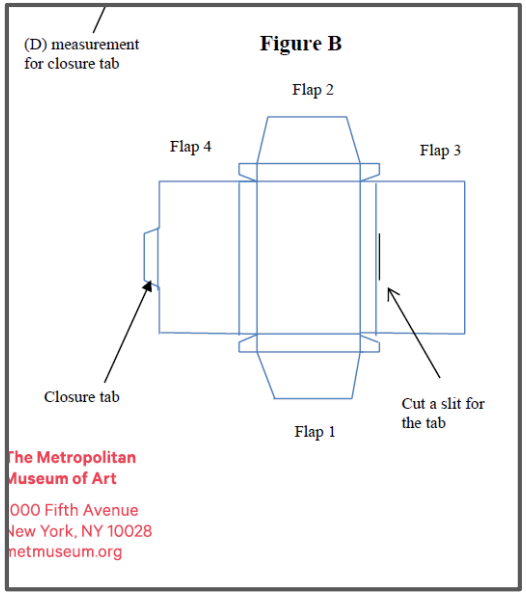
Four Flap

Handout



ENCLOSURE 2:

Card Stock Box



2. Tuxedo Box/Card stock box
for objects/volumes less than 2cm thick

Measure the length (L), width (W), and thickness/depth (D) of the volume to be housed. Mark the measurements onto a strip of paper or board, as shown below. In the template, (BT) represents the thickness of the corrugated board being used for the enclosure.

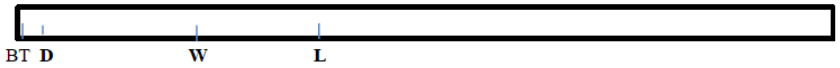


Figure A

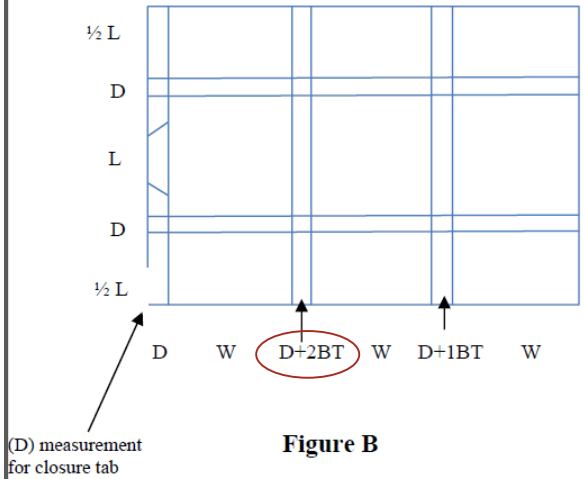


Figure B

Follow the template in **Figure A** to mark the card stock or other housing material, and then carefully cut out the template as shown in **Figure B**. The small tabs at the corners fold inside the box to keep out any dust/dirt. The (D) measurement at the left edge of the template is for the closure tab. There is not a formula for this tab, but it needs to be centered top to bottom.

Make the folds with a straight edge and bonefolder.

Place the object into the newly cut and folded box. Where each of the two angles of the closure tab (on Flap 4) meet Flap 3 below, make a pencil mark, exactly at the shoulders of the tab.

Take the object out of the box, turn the box over,

ENCLOSURE 3:

Clamshell box

Handout

Volume 15, Number 6
Oct 1991

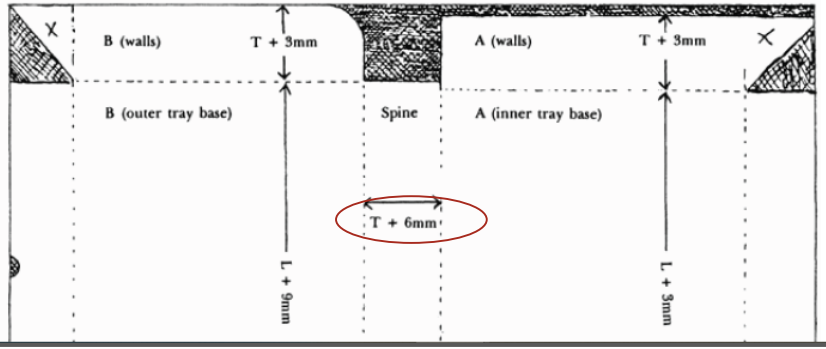
Abbey Newsletter

The Library Company's Corrugated Clamshell Box

by Andrea Krupp
Library Company of Philadelphia

I developed this phase box design here in the conservation department of the Library Company in 1988, with assistance from Lillian Greenberg. In November 1990 I participated in a Mellon Advanced Workshop in Iowa with Pamela Spitzmueller. We participants were invited to present a short topic to the group during the course of the week, and I demonstrated this box. The response was very enthusiastic and I was encouraged to submit the design for publication in hopes of sharing with a wider audience.

The Corrugated Clamshell Box is constructed of one piece of acid-free corrugated board which is measured, cut, scored and folded to form a drop-spine style box which fits the book precisely. This can be made to hold books over 1 " thick, and it works very well for extra large and heavy books. Rare and fragile books need only be handled during the measuring to find length, width and thickness. The book is then set aside and the box dimensions are calculated. The box has no flaps or ties so it is convenient for our curators and reading room assistants to open and reclose while searching for titles in the stacks.



ENCLOSURE 4:

Blueboard boxes and trays

Handout

Tray and Box Construction

Nancy Davis
Rochester Mus. & Science Ctr.
Publication: 1992

Illustrations: Figures 1-3, 7 and 9: Nancy Davis
Figures 4-6 and 8: Karen Ackoff after sketches by Nancy Davis

Purpose

Archival boxes and trays are commercially available but are expensive and come in a limited number of sizes. To protectively house artifacts of varying sizes, to maximize storage space, and to cut down on costs, it is often desirable to produce in-house, tailor-made boxes and trays. Trays allow excellent visibility and the outer boxes provide protection from light and dust. Trays are also useful for carrying artifacts.

Description

Stackable trays and boxes are made from alkaline buffered corrugated paper board. The sides are folded up and held in place with pH neutral linen tape. Trays can be stacked inside a box with a removable lid for maximum storage efficiency (Fig. 2).

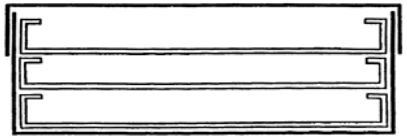


Figure 2: Cross section showing stacking trays inside a box.

Materials Tools Supplies

- 100% cotton terry cloth
- Alkaline buffered paper board, corrugated, 1/4in double wall or 1/8in single wall or pH neutral paper board, corrugated,
  or corrugated polyethylene board
- Ceramic water wheel to moisten tape
- Clothes pins, wooden
- Glue gun and hot melt adhesive
- Metal straightedge
- pH neutral linen tape, gummed, 1-11/2in
- pH neutral paper, lightweight tissue
- Polyethylene foam sheeting
- Polyvinyl acetate emulsion
- Scalpel with #11 blades
- Utility knife

ENCLOSURE 4:

Blueboard boxes and trays

Handout

Boxes with Removable Lids

This type of box is made following the same procedure as for the tray construction. The box bottom is measured and cut according to the diagram in Figure 3 or 4. Cut the lid slightly bigger on all four sides to overlap the bottom. (Increase the sides by 1/8in for single wall board and 1/4in for double wall board.) The lid is cut to half the size of the sides of the box to permit easy removal .

Figure 6. Side view cross section of corrugated box.

ENCLOSURE (Support) 5:

Beanbag Donut

Handout

BEANBAG DONUTS for Object Support

Thanks to Heather Joynes and Sue Valis, Conservation Department, Australian Museum

INGREDIENTS:

Washed unbleached muslin, cotton thread, polystyrene beads, sewing machine.

TO ASSEMBLE:

1. Draw 2 concentric circles as a pattern - the sizes we use are approximately:

    (a) small – 2" diameter inside 6" diameter
    (b) medium - 3" diameter inside 8" diameter
    (c) large – 4" diameter inside a 10" diameter

    These sizes can vary depending on your job. Leave a ½" seam allowance.

2. Pin 2 layers of washed unbleached muslin fabric and trace the pattern onto the fabric.

3. Cut around the perimeter of the outer circle and then cut out the inner circle.

4. Sew around the edge of the inner circle and reverse the fabric seam (you may need to iron this down).

5. Sew the seam around the edge of the outer circle, leaving approximately a 2" gap. You may wish to zig-zag or overlock the outer edge so that it doesn't fray.

6. Fill the inside with polystyrene beads. Use a paper funnel to direct the polystyrene beads into the casing.

7. Finish sewing the 2" gap.

3D VARIATION:

To make the donut 3D for a more convex shape, use a strip sewn between the two outer edges of your original circle. A starting point could be about 3" raw width (with ½" for each seam), giving you a 2" height.

INGREDIENT VARIATIONS:

Note that you can use polypropylene pellets to fill the bag instead of polystyrene, but this material is more expensive and will make pillow heavier.

ENCLOSURE 6:

Dust Cover

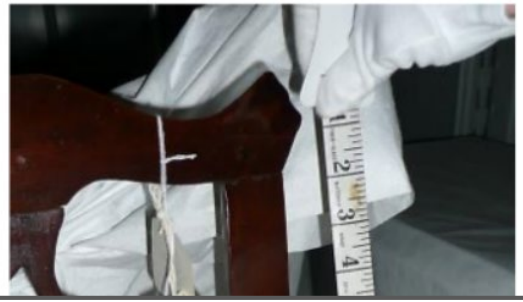
Handout

de Young \
\ Legion of Honor fine arts museums of san francisco

Under Wraps: The furniture at the Legion gets custom-made covers

For the last several months, Textile Conservation volunteers Kathy Murphy, Jean Scardina, intern Erica Storm and Objects Conservation volunteer Tegan Broderick have all been hard at work making covers for the furniture stored at the Legion of Honor. While most of the chairs were already stored beneath loose-fitting pieces of cloth, custom covers provide the objects with better protection from light and dust. Clearly labeled covers also facilitate quick identification of the objects underneath and prevent unnecessary handling.

To make a cover, we first measure each piece of furniture and record the dimensions on a measurement sheet.



Lunch (1 hour)

Thank you!

Marie Desrochers | mdesrochers@utah.gov

https://artsandmuseums.utah.gov/utah-collections-preservation/

This project was made possible in part by the National Endowment for the Humanities.

NATIONAL ENDOWMENT FOR THE HUMANITIES

UTAHHUMANITIES Ideas in Action

Utah Division of Arts & Museums