

About Four-Flap Enclosures



A four-flap enclosure can be used to house several types of objects including books, glass negatives, photographs, manuscripts, and other items needing surface protection or an enclosure to keep loose parts together.

Simple four-flap enclosures for the protection of objects are important because they:

- protect objects from general wear and tear
- protect objects from particulate matter like dust, soot, and smoke
- protect items from prolonged light exposure
- protect items from severe water damage in the event of a leak or flood
- provide added protection to damaged objects while they await conservation.

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Four-flap enclosures are simple structures that are relatively easy to make. There are numerous variations on the basic structure, and templates are available from conservation and preservation experts online. The four-flap procedure detailed here requires minimal materials and can be constructed without measuring. This method is intended to be simple, fast, and utilizes materials with as little waste as possible.

Making a Four-Flap Enclosure

Four-flap enclosures can be constructed from folderstock and different types and weights of board, depending on the level of support needed. This template uses two separate pieces of

acid-free and lignin-free folderstock which we will call **Piece A** and **Piece B**. The pieces of folderstock (or board) are cut to the size of the object and constructed so they fully wrap around



Materials Needed :

- Pencil
- Folder stock that is acid-free and lignin-free
- Utility knife (or scissors)
- Bone folder
- Ruler

Additional Materials

(helpful but not required):

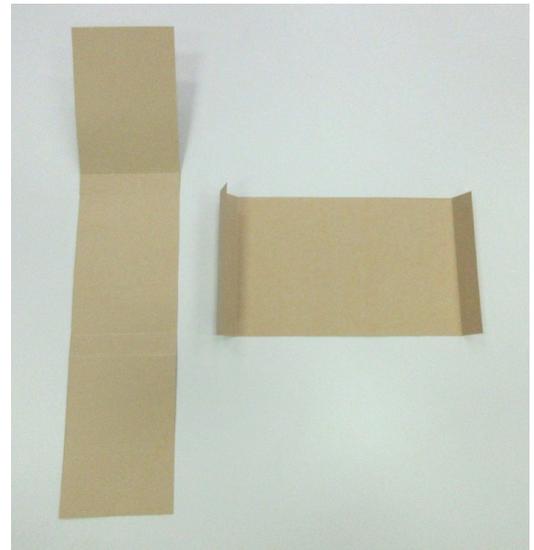
- Cutting mat

the item, to enclose and support it. There are different thicknesses of folderstock, called points. 10-point is commonly used and is ideal for thin, lightweight or structurally stable items. 20-point folderstock can be used for large or heavy books to provide more support.

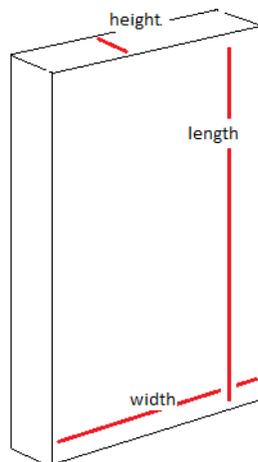
Before beginning, you must choose the appropriate point folder stock. Choose a piece that is long enough to accommodate the **Length of the item x 3 and the Height of the item x 2** (PIECE A). To make sure the board is long enough, place the item horizontally flush against a right angle corner on the folder stock. Walk the item down the board by tipping it up vertically, and then lay it back down horizontally; repeat this once more and you will have the length for piece A. You also need a piece of board to accommodate the **Width of the item x 2 and the Height**

of the item x 4 and you can roughly measure the width in the same way (PIECE B). Refer to Diagram 1 for help determining the height, length, and width of the item.

The three basic steps to making this four-flap enclosure are marking, folding, and attaching the folderstock pieces. Images have been incorporated next to the written steps to help explain the procedure.



Marking Piece A



Once you have found the appropriate length and width of board for pieces A and B you can begin marking on the board in pencil to show where the creases will be made. This forms a series of outlines that mark the **Width of the item, the Length of the item x 3, and the Height of the item x 2**. Refer to diagram 2 to follow the basic outline pattern.

Diagram 1

1) Position the item length-wise against a straight edge of the folderstock, approximately at the center. You may want to set a weight on the item to ensure it doesn't move while marking the lines. Place a ruler, straight edge, or piece of scrap board flush against the top edge of the item and draw a line. Repeat this for the bottom edge and the foredge (long edge). This should make an outline that is just slightly larger than the item.



2) Next, tip the item vertically, resting on its bottom edge. Line the item up with the pencil mark you just made, making sure it is also flush with the board edge. Draw a line along the far edge of the item. The distance between these two lines is the height of the item. If there is a large difference from one end of the item to the other, such as with a book that has a thicker spine than foredge, use a ruler to measure. If the item is too fragile or unwieldy to hold vertically, you should also opt to measure.



3) Next, lay the item horizontally so the bottom edge is lined up along the second mark. Place the ruler flush against the top edge of the item and draw another line. Do the same along the foredge. Repeat these steps directly below the first full outline of the item.



4) The result will be symmetrical with three full outlines of the item, and a smaller space for the item height between each outline (see diagram 2). You can now cut the board along the pe-



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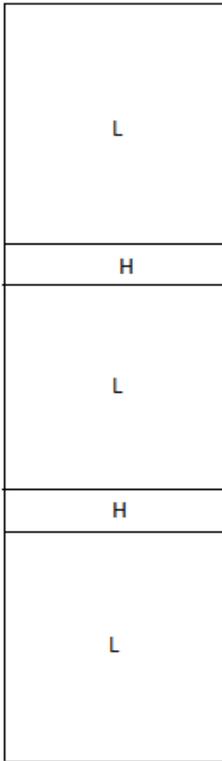


Diagram 2 Piece A AA

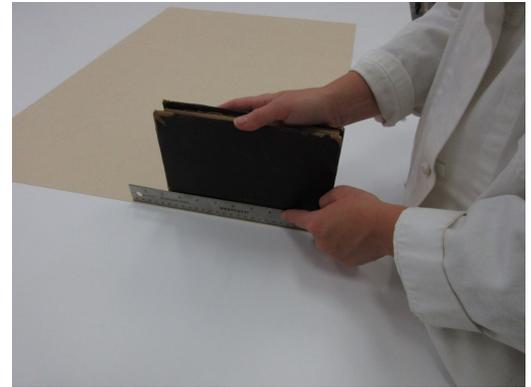
rimeter using either scissors or a utility knife (if you have a surface to cut on). This is piece A.

Marking Piece B

After marking and cutting out piece A you will also mark Piece B to show where the creases will be made. This piece is a series of outlines that mark the **Length of the item, Width of the item x 2 and the Height of the item x 4**. Refer to diagram 3 to follow the basic outline pattern.

1) Hold the item vertically with the height flush to the folderstock, positioned in a right angle corner. Place a ruler, straight edge, or piece of scrap board flush against the right side of the item and draw a line along the length of the item. Now, move the item and position it along the far side of this line and draw another line along the length of the item (Image). The two spaces outlined on the folderstock are equal to approximately twice the height of the item.

2) Next, lay the item horizontally on the folderstock and draw a line along the right side of the item. Also draw a line along the top edge of the item. Next, pick the item up and again place it vertically, with the height flush to the board, against the line. Draw a line along the length on the right side. Again, lay the item horizontally with the bottom edge flush along the folderstock; draw a line



along the right side of the item. Now draw a line along the top edge of the item. Again pick the item up and again place it vertically, with the height flush to the board, against the line. Draw a

line along the length on the right side.

The result will look like diagram 3. You can now cut the board along the outlined perimeter using either scissors or a utility knife.

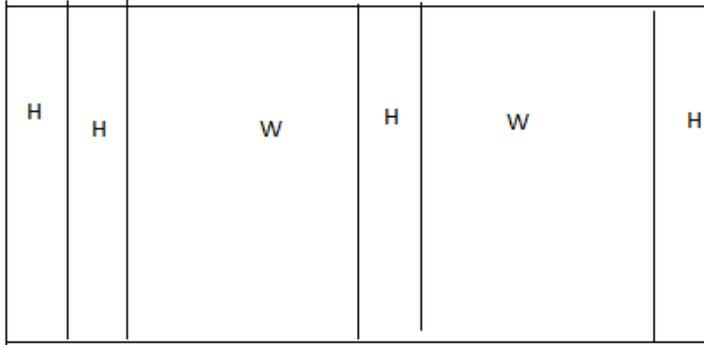


Diagram 3 Piece B

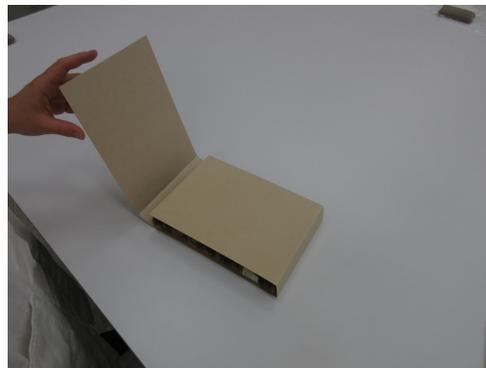
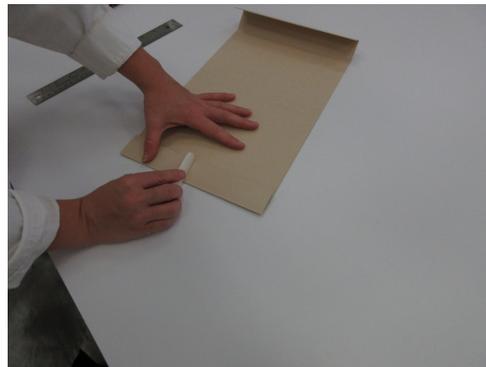
Folding

Now you will need to make folds along each of the pencil marks on pieces A and B. This can be done using a bone folder, which is used to score and crease the folderstock.

1) Line a straight edge or ruler up to the first pencil mark as a guide, and apply pressure with your hand to hold it firmly in place. Score along the length of the pencil mark with the pointed end of the bone folder. You may need to score it a few times to create a crease.

2) Once it is scored, fold the crease by hand and use the side of the bone folder to reinforce the crease on the other side of the folderstock. Do this along the length of each pencil mark. Piece A will have 4 folds and piece B will have 5 folds.

3) After you have created the folds, erase the pencil marks on the folderstock so it cannot transfer to the item. Place the item inside the piece to ensure it fits within the folded lines



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Attaching Pieces

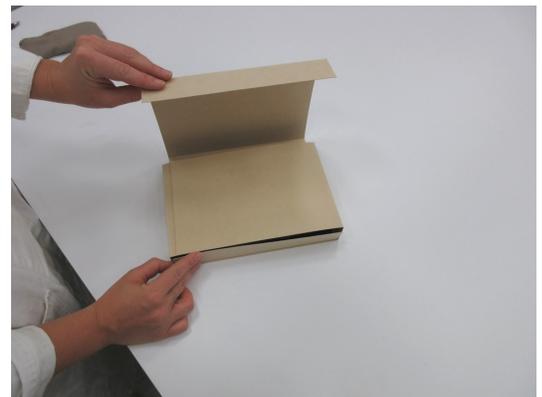
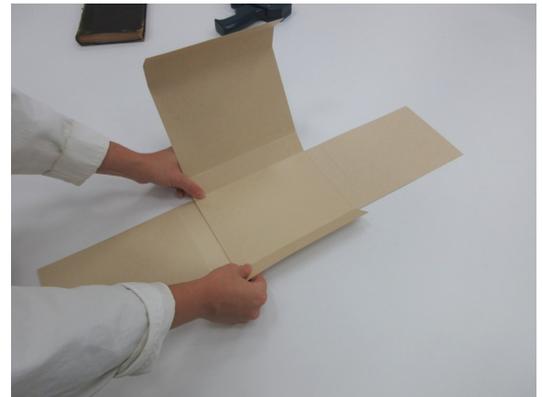
After the folds have been made for pieces A and B, they are ready to be assembled. Double-sided tape or adhesive, or an inert PVA-based adhesive can be used to adhere the two pieces. Take piece A and apply the preferred adhesive to the left half of the central outline. Do not put adhesive on the right side because the enclosure will not close properly.

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1) Now take piece B and carefully align the right full outline over top of the central outline on Piece A. These two outlines will be the same size. Attach piece B to piece A; apply pressure using the side of the bone folder to ensure the two pieces are securely attached. The four-flap enclosure is now complete.

2) Place the item where the two pieces of folderstock intersect. Flip up the bottom flap and flip down the top flap to cover the item. The item should fit snugly inside the enclosure.

3) The remaining flap at the left will cross over the front of the item and gets tucked around the foredge and into the small pocket created by the two overlapping pieces of folderstock.



Consulting a Conservator

If you have an object in need of repair, a trained conservator will be able to assess its condition and treat any damage that will interfere with its long-term care. A four-flap enclosure also can give protection to damaged objects, while they await conservation. A conservator will also be able to give recommendations on the proper storage of books and other objects to help slow down the rate of degradation. Consult a conservator for further information.

Conservation Suppliers

Conservation Resources International

5532 Port Royal Road
Springfield, VA 22151
Toll free: (800) 634-6932
www.conservationresources.com
Archival housing/storage supplies, photographic supplies, general

Gaylord Archival

P. O. Box 4901
Syracuse, NY 13221-4901
Toll Free: (800) 448-6160
www.gaylord.com
General conservation supplies, housing supplies

Hollinger Metal Edge, Inc.

6340 Bandini Blvd
Commerce, CA 90040
Toll Free: (800)-862-2228
www.hollingermetaledge.com
Archival housing/storage supplies

Light Impressions

100 Carlson Road
Rochester, NY 14610
Toll Free: (800) 975-6429
www.lightimpressionsdirect.com
Photographic supplies, housing, matting and framing supplies

University Products

517 Main Street
P. O. Box 101
Holyoke, MA 01041
Toll Free: (800) 628-1912
www.universityproducts.com
General conservation supplies, housing and matting supplies

Talas

330 Morgan Ave
Brooklyn, NY 11211
Telephone: (212) 219-0770
www.talasonline.com
Conservation supplies, photographic supplies, general

Gerald R. Ford Conservation Center

1326 S 32 Street
Omaha, NE 68105
402-595-1180
nshs.grfcc@nebraska.gov



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