



Preservation Tips

Humidification of Rolled Documents

Rolling and folding are common ways to store oversized items, but unrolling and unfolding historic documents can cause damage when not done properly. The use of humidification to gently relax the paper allows for the flattening of documents without damage.

Benefits of humidification:

- Reduces potential damage to paper based collections
- Increases usability of paper based collections

Tools needed:

- Clean, soft bristle brush, vacuum or smoke sponge
- Goretex or other water absorbant material
- Two clean plastic trash cans with lids (one that fits inside the other)(method 1)
- Two clean plastic or metal trays (one that fits inside the other)(method 2)
- Sheet of Plexiglass or plastic big enough to cover the large tray(method 2)
- Heavy weights or books
- Blotter paper
- Hot water
- Microspatula (for fastener removal)
- Mylar/Melinex (for fastener removal)

Humidification treatments take several hours and need to be constantly monitored. Do not start a treatment at the end of the day. Before undertaking any humidification treatment carefully assess the condition of the documents to ensure the most appropriate method of humidification is used. Fragile documents, documents with water soluble media, layered documents or photographs should only be humidified by a trained conservator.

Pre-treatment:

Humidification swells the fibers of the paper allowing surface soiling to be pulled into the paper structure. In order to avoid permanent staining, documents should be gently cleaned prior to humidification, this can be achieved through light brushing, vacuuming or light cleaning with a smoke sponge. If a document is heavily soiled consult a conservator before proceeding with cleaning or humidification.

All fasteners should be removed from documents prior to humidification. Please see the Preservation Leaflet entitled "Removing Fasteners" for instructions on proper methods of removing common fasteners.

Humidification using either of the following methods may produce condensation. Documents should be protected from condensation "rain" by gently covering with a water absorbent material such as GoreTex.

If you are interested in learning more about USAHEC conservation and preservation practices, or for more information about the organization, please contact us at: 717-245-3972 or visit us at: www.usahec.org or 950 Soldiers Drive, Carlisle, PA 17013.

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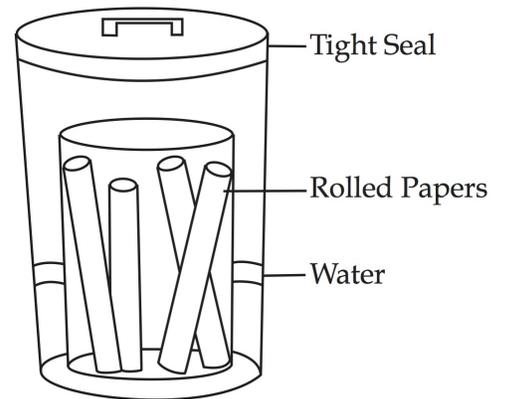
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Method 1:

This method is appropriate for large rolled documents on sturdy, heavier weight paper. It is inappropriate for fragile documents, those with edge tearing or documents on thin papers.

1. Place small trash can into larger trash can.
2. Pour hot water into large trash can, making sure not to get water into small can. (Recommend water level be between $\frac{1}{4}$ and $\frac{1}{2}$ the height of the small trash can.)
3. Place rolled documents into the small trash can.
4. Place lid on larger can.
5. Allow the paper to remain in the chamber for up to 6 hours, checking hourly.
6. Once the document can be easily unrolled, remove from the chamber for flattening.



Do not allow documents to become over saturated or remain in the chamber unsupervised. If documents do not relax after 6 hours remove from the chamber and scroll around an acid free tube with a slightly larger diameter than the original roll. Allow the document to dry overnight and place back in the chamber the next day. It may take several days for the process of humidification and rolling around progressively larger tubes to relax the document enough to flatten.

Method 2:

This method is appropriate for small documents. It can be safely used for documents with slight edge tears or thin papers. It may be cumbersome for large documents or batches of documents.

1. Place a small plastic or metal tray inside a larger tray.
2. Add 1-3 inches of hot water to the larger tray (do not exceed $\frac{1}{2}$ the height of the smaller tray) making sure to avoid getting water in the small tray.
3. Line the small tray with spun polyester, lay documents in the small tray.
4. Cover with GoreTex or other water absorbent material.
5. Place a large piece of Plexiglass or plastic over the larger tray, sealing the environment.
6. Allow paper to remain in the chamber for up to 6 hours, checking hourly.
7. Documents can be gently unrolled in the chamber to ensure even saturation of moisture.
8. Once the document lays flat on its own remove from the chamber by lifting the spun polyester under the document.

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Flattening:

Once papers are sufficiently humidified they will need to be dried flat. Prepare a flat surface large enough to accommodate the entire flattened document near the humidification chamber. Line the surface with blotter paper to help absorb moisture.

As soon as the documents come out of the chamber, lay the documents on the flat surface. Ensure all tears are aligned and folds are removed from the document. Cover with a second layer of blotter paper then with weights. If you do not have sufficient weights to cover the entire document a board or piece of plexiglass can be used to distribute weight over the entire surface area. Allow the document to dry under weight for at least 24 hours. If you are flattening several documents it is OK to stack up to five documents by placing a layer of blotter in between each document.