

Humidification

Definition

Humidification is the gradual introduction of moisture in a sheet of paper in a controlled manner.

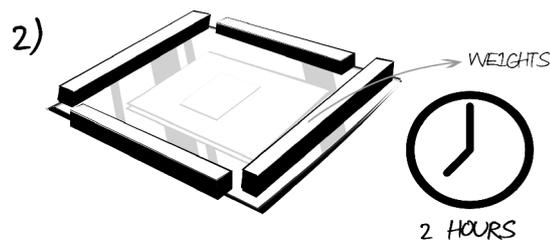
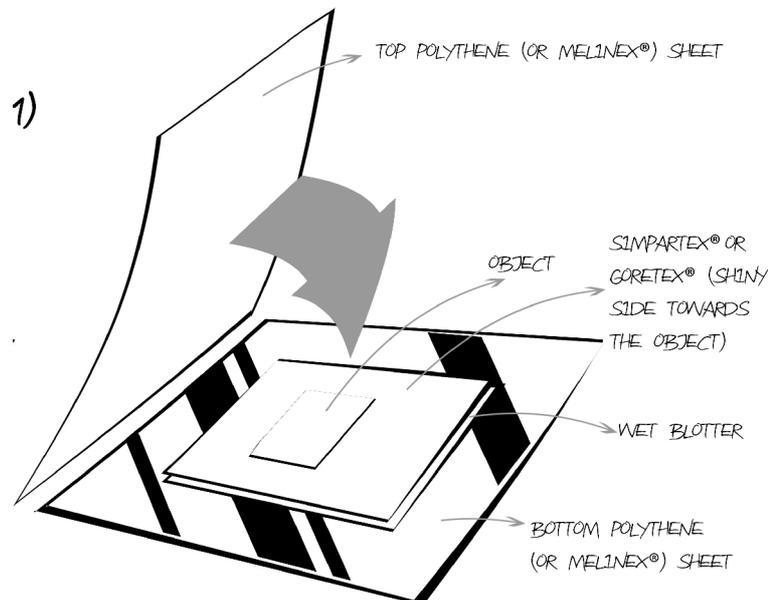
This operation is useful:

- Soften papers with creases or planar distortions before pressing
- Unroll brittle, tightly rolled sheets
- Regenerate desiccated binding media
- Restore moisture content balance after solvent treatment
- Relax paper prior to washing, lining or application of temporary fixatives.
- Expand paper prior to stretching
- Soften an adhesive layer before removal.

Methods

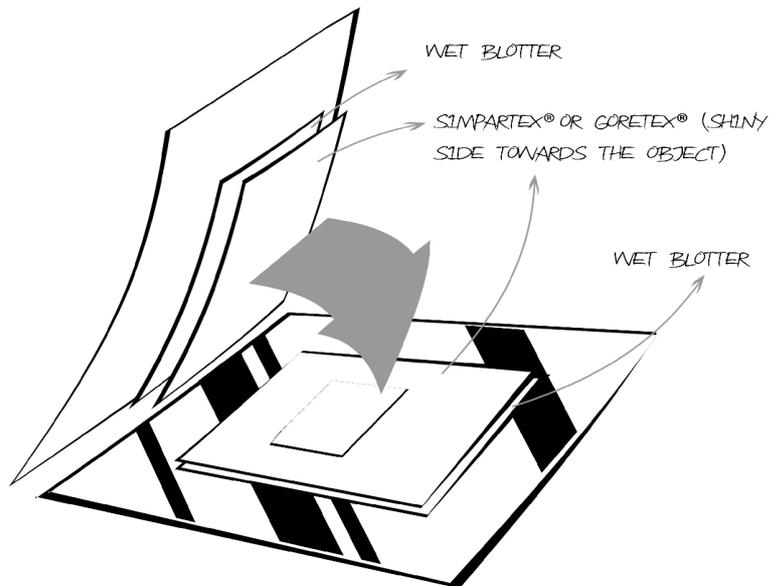
There are different methods for humidifying a sheet of paper. We are going to take a look to some of the most practical.

Simple polythene envelop method



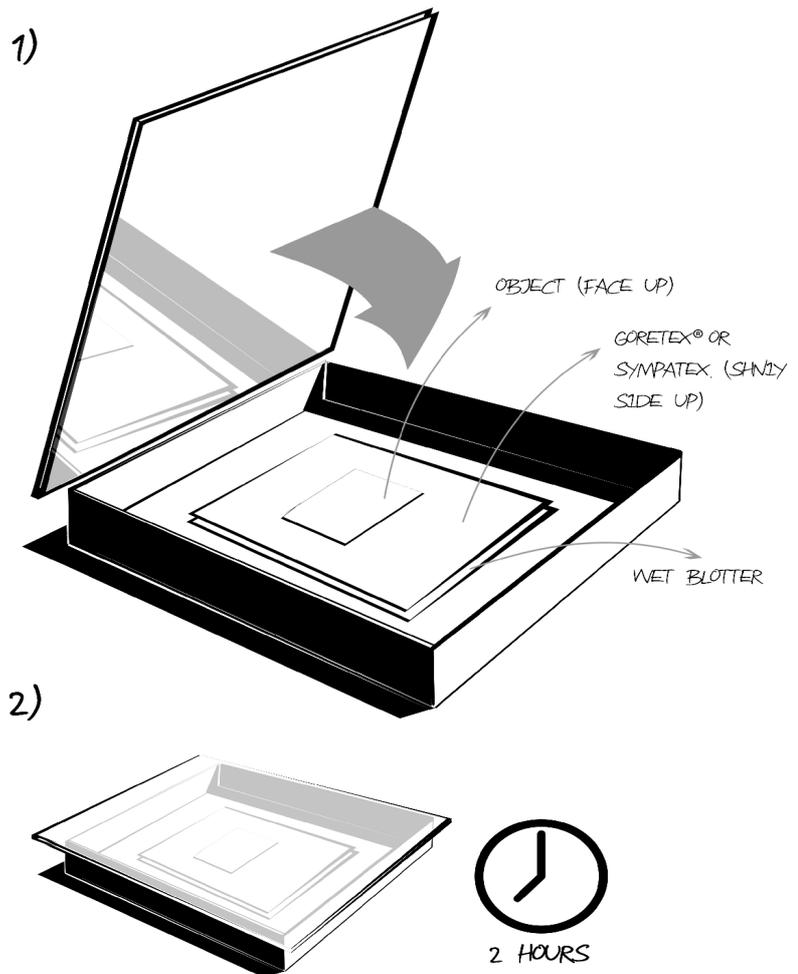
Sandwich polythene envelop

A variation of the former:



Goretex® (or Sympatex®) Chamber

This technique is specially recommended for very friable image layers that cannot withstand contact with the surface



Warning!

- Make sure the shiny layer of Goretex® or Sympatex® isn't folded and cracked, as liquid water can migrate through the cracks to the object and create tide-lines.
- If objects are kept longer than 2 hours in a humidity chamber leave two gaps by displacing slightly the lit and letting the air circulate.

Further Reading

Weidner, Marilyn Kemp, "Water Treatments and Their Uses within a Moisture Chamber on the Suction Table", Preprints of 13th Annual Meeting of the American Institute for Conservation of Historic and Artistic Works, May 1985, pp.127-139

Masson, O. et al. "The Use of the Lascaux Humidification Chamber in the Treatment of Works on Paper, Paper Conservation News No. 43 (September 1987), pp 4-7

Hofmann, C. et al. "The Effect of Three Humidification, Flattening and Drying Techniques on the Optical and Mechanical Properties of New and Aged Transparent Papers", IPC Manchester Conference, pp 247-254

Glaser, Mary Todd. 1999. Relaxing and flattening paper by humidification. Conservation Technical Leaflet #4. Andover, MA: Northeast Document Conservation Center. At <<http://www.nedcc.org/plam3/tleaf64.Htm>>

Eusman, Elmer. 1995. Tide-line formation in paper objects: cellulose degradation at the wet-dry boundary. In Conservation research 1995: studies in the history of art, 51:11-28. Washington, D.C.: National Gallery of Art.

Flattening large rolled paper objects, V&A Conservation Journal, Issue 10

1994 <http://www.vam.ac.uk/content/journals/conservation-journal/issue-10/the-flattening-of-large-rolled-paper-objects/>

Dobruskin et al. "Humidification with Moisture Permeable Materials", http://cool.conservation-us.org/iada/tag1_143.pdf

Caldaro, N. "Tests on the effects of the use of ultrasound in the humidification of paper", The Book and Paper Group Annual, A.I.C.-B.P.G., 1992, pp. 1-20.

Purinton, N., Filter, S. " GORE-TEX®: an introduction to the material and treatments", The Book and Paper Group Annual of the A.I.C., Vol. 11, 1992, pp. 141-155.