Canadian Conservation Institute
Institut canadien de conservation

CCI Notes 8/1

Removing Mould from Leather

Introduction

Leather objects are particularly susceptible to mould growth, which can disfigure, stain, and weaken them. Although mould spores are always present in the air, they are only able to grow if they have a source of food and if the environmental conditions are suitable. The food source in this case is the leather. High relative humidity (RH) between 65% and 100% (i.e., complete saturation with water) provides environmental conditions that encourage mould growth. Warm temperatures and poor air circulation, although less important factors, also speed up mould growth.

Examine collections at least twice annually for signs of mould growth, and more often if the climate in the museum tends to be humid.

Mould growth on leather is usually characterized by fluffy strands on the surface of the leather object. However, mould can also penetrate the interior of leather through cracks and hair follicles. Both types of growth are addressed in the treatment outlined below.

Treatment

When mould is discovered on an object, seal the object in a bag to prevent the transfer of spores to other objects in the collection. Take the bag to a clean, well-ventilated area that has an RH of about 65% or less and that is isolated from the rest of the collection. It may be most convenient to take it outside the building.

Remove the object from the bag. If wet or damp, allow the object to dry partially. Then use a vacuum cleaner to remove the fungal growth from all areas where there are no loose pieces or decoration. Do not press the nozzle of the vacuum cleaner onto the object; this may cause the mould to smear and stain the surface. Hold the vacuum nozzle very close to the artifact, and allow the suction to pull the mould off. Remove any remaining fungal strands by brushing the leather with a moderately stiff brush. In places where there is applied decoration or bead-work, or where the surface is fragile, use a soft brush. Brush towards a vacuum cleaner nozzle that is held at a distance. Cover the nozzle with gauze to prevent the loss of any piece that accidentally detaches from the object.

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Vacuuming and brushing remove the surface growth, but spores may still remain within the leather. These spores can be very difficult to kill. Treating the leather directly with a light application of isopropyl alcohol should kill some of these internal spores. The isopropyl alcohol should be at least 40% volume/volume.

Because the alcohol can cause discolouration or a transfer of paints or decoration, test it first. To do this, transfer a small drop of the alcohol, using a brush or eye dropper, to an inconspicuous area of the decoration. Blot the dampened area with white blotting paper and examine it. Only if there is no evidence of colour transfer onto the paper should the object be treated with alcohol. Transfer the alcohol to a spray bottle and lightly spray the surfaces from which mould has been removed.

Be very careful when treating light-coloured leather, because any sort of moisture application may result in discolouration or in a texture change if the surface is dirty or sueded.

To help objects retain their original shape while drying, fill them with crumpled polypropylene foam (e.g., Microfoam), or with crumpled, unbuffered, acid-free (neutral pH) tissue paper. Fill the object after the mould has been removed and when the leather is still slightly damp and pliable.

Storage Area

It is important not to return an artifact to an environment that can lead to further damage. Spores and actively growing mould must be removed from the container in which the artifact was stored. Vacuum the container thoroughly, wash it with soap and water, rinse it with water, make sure that it is completely dry, and spray it with isopropyl alcohol or with an o-Phenylphenol-based spray such as Lysol Spray.

Mould growth has very little chance of occurring if the RH is below 65% and if good air circulation is maintained. Temperatures below about 25° C are preferable. Eliminate poor environmental conditions in storage areas, including leaky pipes and cracks in windows and exterior walls. Use portable dehumidifiers to reduce the RH, and use fans to increase air circulation.

For advice on serious mould problems, see CCI Technical Bulletin no. 12, *Controlling Museum Fungal Problems*, or contact the Environment and Deterioration Research Division at the Canadian Conservation Institute.

Suppliers

Isopropyl alcohol:
grocery or drug stores

Lysol Spray:
grocery or drug stores

White blotting paper:
stationary suppliers

Microfoam:
Manufactured by
E.I. Du Pont de Nemours
& Co. Ltd.
1007 Market Street
Wilmington, Delaware
U.S.A. 19898
(302) 774-1000

Distributed in Canada through
Canadian Paper & Packaging
Co. Ltd.
800 Cochrane Drive, Unit 2
Unionville, Ontario
L3R 8C9
(416) 479-4999

Unbuffered, acid-free (neutral pH) tissue paper:
The Hollinger Corporation
P.O. Box 8360
Fredricksburg, Virginia
U.S.A. 22404
(703) 898-7300

Copies also available in French.

Le présent texte est également publié en français.

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