

## Heirloom Textiles 1/6

### **Conservation Quality Storage Materials**

Hello and welcome to the Textile Conservation Lab of the Minnesota Historical Society. We have created a series of podcasts to assist you in the storage of heirloom textiles. In this podcast I'll be showing you suitable storage materials made out of paper, plastic and fabric.

Storage materials are important because they lie in direct contact with your textiles. Therefore, only stable materials that will not cause harm should be used.

#### **Paper Boxes, Boards, Tubes, and Tissue**

Let's look at acid-free paper materials first as they are used most commonly. Paper materials that are not acid-free can cause discolorations to textiles when in direct contact. Conservation quality paper materials are fabricated with wood pulp where the lignin and other impurities have been removed. Acidity of materials is identified by a measurement on a pH scale of zero to fourteen. Seven is considered neutral. Anything below 7 is acidic and anything above 7 is alkaline. When ordering paper-based materials it is important to check with the supplier that the pH is neutral or between 7-8.5.

#### **Buffered vs. Unbuffered**

There are two types of acid-free tissue paper to choose. Impregnated with calcium carbonate Buffered acid-free tissue paper assists to maintain a neutral pH. Buffered acid-free tissue paper has a slightly higher pH up to 8.5. In comparison unbuffered acid-free tissue has no calcium carbonate and is simply acid free with a neutral pH 7.0.

#### **Buffered acid-free tissue**

Why are there two types of acid free materials? Plant fibers deteriorate in an acidic environment at a lower pH. Buffering paper materials with calcium carbonate helps to maintain an acid-free environment around the textiles at a slightly elevated, alkaline, pH. Buffered acid-free paper products are used for cotton, linen, and jute, textiles made with plant fibers.

#### **Unbuffered**

In comparison unbuffered paper based materials can be used for both plant and animal fibers, like wool and silk. Fibers that are grown or extruded such as wool and silk are animal fibers. Animal fibers break down faster in acidic or higher pH. So always surround textiles made with animal fibers with unbuffered acid-free materials.

There is still discussion within the conservation community as to the efficacy of buffered verses unbuffered materials. Many conservators and institutions simply use unbuffered tissue because it is easy to confuse the two materials, as they look similar or the same. It is important to note that all acid-free boxes are unbuffered. That means that the pH is slightly higher, or alkaline, than what is considered best for animal fibers such as wool and silk. Because of the slightly higher pH all boxes are lined with unbuffered tissue or muslin preventing direct contact between the animal fibers and the box.

Finally, a quick note, dyed tissue paper is considered a threat to textiles. High humidity, floods, or even direct contact can transfer color from the tissue to the textile. That is why we only use white tissue when storing heirloom textiles. It is not uncommon to receive wedding dresses wrapped in blue tissue, which is why I mention it here.

Plastic materials polyester, polyethylene, polypropylene.

All though most storage materials are paper based some can be made of plastic. Generally, all plastics are damaging and should never be used. However, three types of plastics are safe for use with heirloom textiles and will not damage or discolor them.

### **Polyester**

Polyester film, or Melinex, is a clear film which is often used when storing heirloom textiles. It comes in sheets, rolls, or even premade envelopes. Common uses include lining shelves, covering acidic paper tubes, or supporting and protecting textiles.

### **Polyethylene**

Marvel seal is an aluminized polyethylene and or polypropylene barrier film that prevent the transmission of water vapor and off gassing to pass through. The polyethylene film is applied to the matt side of the Marvelseal. This barrier film is often used to line shelves or cover acidic paper tubes, making them safe environments for textile storage.

### **Polypropylene**

Corrugated polypropylene, boxes, and boards, or Coroplast as it is known today, is quite rugged and will not off gas or deteriorate your heirloom textiles. Coroplast boxes will protect your textile from water damage say during a flood or leak unlike paper-based boxes. Unfortunately, these boxes

come in very few sizes. If you do want Coroplast boxes you will probably be making your own.

### **Fabric Muslin, Stockinet, Batting, and Felt.**

Muslin, stockinet, batting, and felt are commonly used when storing textiles and can be made from cotton or polyester.

Un-dyed muslin is the most common fabric used when storing textiles. However, un-dyed muslin has finishes applied during weaving and processing. Always wash fabric before use in a base surfactant like Orvus W.A. paste, a common soap used by art conservators. Orvus W.A. paste, soap can be purchased at most quilt shops. Be sure to use a small amount of Orvus W.A. paste and rinse it well as residual soap can attract pests. Un-dyed muslin is usually an all cotton fabric, but a cotton polyester blend is also suitable for use.

Cotton or cotton/polyester stockinet tube is also used when storing textiles. Stockinet is a knit fabric that comes in different sizes. Just like the un-dyed muslin, stockinet also needs to be washed prior to use to remove finishes applied during the manufacturing process..

Conservation quality polyester batting and felt are used to cushion a surface the textile rests on. Most polyester batting and felt purchased in craft stores is created by using an adhesive that emits acidic acid, which is harmful to textiles. Acidic acid smells like vinegar, and is often noticeable when you first open a bag of batting or felt from a craft store. In comparison, conservation quality polyester batting is spun bonded, and conservation felt is needle punched, no adhesive is used in its construction. Therefore, conservation quality polyester batting and felt is free of adhesives so purchase polyester batting and felt from a conservation supplier to be assured of its quality.

### **Closing**

Obtaining the proper storage materials is a costly time consuming process. However, in the end it is the only way to promote the long-term preservation of your textiles while in storage. Please refer to the Minnesota Historical Society website for information on where to purchase suitable storage materials for your needs online or by catalog.

**Minnesota Historical Society**

[www.mnhs.org](http://www.mnhs.org)

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## **Podcast Series 1**

Storage of Heirloom Textiles

### **Material list**

Acid-free paper materials

Buffered Boxes, Acid-free

Buffered Boards, Acid-free

Buffered Tissue, Acid-free

Unbuffered Tissue, Acid-free

Buffered Tubes, Acid-free

### **Plastic materials**

Melinex , Polyester clear film

Marvelseal, Aluminized polyethylene and or polypropylene barrier film

Coroplast, Polypropylene boxes and boards

### **Fabric materials**

Un-dyed Muslin, Washed in either cotton or cotton polyester blend

Stockinet, Washed in either cotton or cotton polyester blend

Polyester Batting, Spun bonded

Polyester Felt, Needle punched

## **Conservation Suppliers**

University Products 1-800-628-1912

[www.universityproducts.com](http://www.universityproducts.com)

Gaylord 1-800-448-6160

[www.Gaylord.com](http://www.Gaylord.com)

Talas 1-212-219-0770

[www.talasonline.com](http://www.talasonline.com)

Bird & Cronin Inc. 1-800-328-1095 They carry stockinet and commonly supply the medical industry.

[www.birdcronin.com](http://www.birdcronin.com)

Light Impressions 1 800-828-6216

[www.LightImpressionsDirct.com](http://www.LightImpressionsDirct.com)