



MINNESOTA HISTORICAL SOCIETY

GUIDELINES FOR SELECTING AND PRESERVING ITEMS IN A TIME CAPSULE

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Introduction

The long-term survival of the time capsule and its contents depends on many factors including the construction of the capsule, the materials chosen for inclusion and the location of the capsule.

The following guidelines focus on the items most commonly chosen for capsules. They are intended to help you select and protect items to last for years.

Some Things Last Better Than Others

When selecting items made of paper, choose a good quality paper. Avoid newsprint and inexpensive yellow tablet paper as these deteriorate quickly.

Photocopy newspaper articles onto archival quality paper. “Permalife” paper is a brand that is acceptable. Lamination or dry-mounting is not recommended.

Black and white photographs last longer than color ones, so these are preferable. Those on fiber-based paper last the longest. If color is important, make color photocopies in a stable format such as those provided by Epson color printers.

Avoid canned foodstuffs as they may explode from trapped gases emitted during microbial breakdown of the food and stain surrounding items permanently. Freeze-dried foods sealed completely in impermeable packaging are preferable.

Don't use pressure sensitive tapes or adhesives of any kind for wrapping items or sealing envelopes, because these can stain other items.

PVC (polyvinyl chloride), vinyl sheeting, natural rubber, or polyurethane foam may deteriorate quickly over time and release gases that can harm other materials in the capsule space. These materials are commonly found in toys, dolls, and other objects. If you select these items, isolate them from the other items in the capsule.

Avoid wool, silk and nylon fabrics, if possible. Wool and silk contain sulphur that can tarnish metals. Nylon deteriorates relatively quickly over time.

Don't place loaded ammunition or other explosive materials or chemicals in the capsule. Unloaded weapons are acceptable, but isolate them so that lubricants cannot seep out and stain other objects.

How to Protect Items in the Capsule

Some items are fragile and need to be wrapped or otherwise protected for long term storage in the capsule.

If flowers are to be placed in the capsule, freeze-dry or press them and place into a polyethylene bag.

Polyethylene zip lock closure bags are the best to use as they are stable. They can be found in grocery stores, but check the box to be sure that the plastic is made of polyethylene only.

Items that are not in individual bags or other containers should not touch each other in the capsule in order to eliminate color transfer and the migration of acids and other chemicals from poor quality paper.

Place all natural and paper items in polyethylene bags or polyester film enclosures.

Polypropylene plastic is also very stable and can be used to protect photo and paper enclosures. Polyester clear film is very stable and also can be used to protect papers and photos.

Interleave between posters and maps or other flat items in the same bag or enclosure with acid-free tissue. Use unbuffered MicroChamber or ArtCare papers and boards for black and white photographs and protein-based materials.

Wrap textiles in polyester film and tie with un-colored cotton twill tape.

When folding clothing items, place crumpled pieces of acid-free tissue in the fold to prevent sharp creasing and broken threads.

Place coins and other metal objects in a tarnish-reducing enclosure such as Corrosion Intercept film or polyethylene/polypropylene coin holders. Tarnish-inhibiting papers and cloths should be avoided as the inhibitors are volatile organic chemicals and may dissolve plastics and harm other materials in the capsule.

Place items in enclosures such as Corrosion Intercept or Static Intercept film bags. Oxygen absorbers such as Ageless or RP may be used to further prevent oxidation of sensitive surfaces (available along with other supplies from Keepsafe Systems).

Place the heaviest objects on the bottom of the capsule.

Use only a soft pencil to label items rather than ink, ink pens or felt-tip markers. Do not use stick-on labels.

Fill any empty spaces around the items with crumpled acid-free tissue paper to prevent shifting. Don't use plastic packing materials, especially bubble pack. It is best to avoid the starch-based packing "peanuts", as they are not made for long term use.

The interior of the capsule, as a rule, should be conditioned to 20%-25% relative humidity. Desiccant silica gel may be used in individual enclosures for materials such as metals and electronic components, but paper and other organic materials require a minimal level of moisture to avoid extreme embrittlement and deterioration. Silica gel crystals in canisters or sheet form (ArtSorb panels) should be conditioned to 20%-25% and sealed until ready for use, then placed inside the capsule housing immediately before sealing. One ounce of gel should be used for every cubic foot of air inside the capsule.

Where to find and order the packing materials mentioned

NOTE: The following list is provided for informational purposes only and is not an MHS endorsement of any particular vendors or sources.

KeepSafe, Inc. Distributor of archival and long-term preservation supplies and equipment: www.ksafe.com.

University Products, Inc. Complete archival and collector's preservation supplies: www.universityproducts.com.

Future Packaging, Inc. Complete time capsule information, supplies and equipment distributor: www.futurepkg.com.

Grocery stores and large discount retailers: Scrapbook supplies, bags, photo sleeves.