

ARTICLE

An Introduction to Flag Preservation and Storage

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Proper storage is critical for all collecting institutions and private collections. In this first in a series of short articles, I will provide some tips and considerations for those looking to better store and preserve their collections. The goals of storage are to provide proper support and environment. Flags and other artifacts deteriorate from poor handling and lack of archival materials, high light levels, mold, pest, temperature and relative humidity and inherent vice, i.e., a material's intrinsic and irreversible instability to a chemical or a process used in its manufacture. The role of proper storage is to lower the effects of these modes of deterioration.

A flag's condition is a result of its previous use and environmental exposure over its lifetime. Often little can be done to correct the results of poor materials. Some materials inherently are more sensitive to environment than others, such as silk, plastic, and some synthetics. However, to lengthen the life of an object by controlling its environment is what we aim to do with proper storage.

Another important aspect to flag condition is the deterioration from former use. Fly ends of flags are often tattered, showing tears and losses. In addition, vast majorities have been exposed to sunlight. The length of this exposure is in direct relation to flags that are in poorer condition versus those that have not suffered extensive light exposure. The energy of sunlight is far stronger than any other light source. Fibers not only lose color by fading, but also become brittle and weak. The effect might not be immediately apparent. But when added to other environmental conditions over time they will appear and, of course, are irreversible.

In conjunction with a flag's condition, the flag's fiber content, construction, and size of collection also need to be considered. Cotton and wool flags that are a single layer can be rolled around tubes, whereas silk prefers to be kept flat. In addition to fiber content, a full evaluation of the flag or group of flags in which the degree of damage is understood is needed in order to determine the best means of storage. There are always exceptions; for example, a wool flag that has very brittle fibers should be stored flat.

The construction of a flag is unique. Unlike some other textiles, flags are typically a single layer, but on occasion they are double-layered or have a section that is double. All double-layered sections need to remain flat. This is also needed when painted surfaces are present, as well as other embell-

ishments on flags.

The presence of a staff needs to be considered when designing storage. Any association between a flag and its staff should be preserved and the connection noted with documentation. Separating the two is common among museum collections due to the difficulty of storage and the amount of space needed. When separated, each part can be stored with the best means for that material.

Evaluating storage

A useful way to approach any storage is to think of it as a "a box within a box within a box." The first level of box is the building itself, then the room, then the storage furniture, and last is the possible boxes that contain each item. Each layer of protection enhances the environment of your collection. Large fluctuations in temperature and relative humidity are diminished with slower transitions; and pests are more prevented from getting to the flag. This is especially important for wool and cotton. Covering items will protect them from dirt carried in the air, and on hands.

When selecting a location for your storage, it is best if it is dedicated, kept clean, and has easy accessibility.

The goal for any collection storage is that it should be housed in closed cabinets, or at least in lidded boxes. However, all the textiles, regardless of condition or configuration, should be supported and covered. Any unsupported or unpadded fold will be vulnerable to being crushed; causing a crease that can in time can become a slit or tear. Evidence from these sharp creases cannot be reversed and only become a weak area. Proper support protects flags from mechanical damage that can result from these creases as well as flexing when the flags are moved.

Size and weight also need to be considered; heavier should be placed lower, and lighter more towards the top of the storage container and area.

Questions to Consider When Evaluating Storage Needs

While in future installments I will provide greater detail into the various storage methods, a necessary first step is evaluating your needs based on the nature of your collections. The following questions will aid the collector in storage planning:

Question to ask	Storage comment	Flat	Box	Roll
What is the age of your flag?	The age of the materials that compose the flag greatly affect the method of storage to select. Older flags need more protection and support. Therefore it is important to realize that the better the storage early on, the better the preservation in the long term. Early flags that have been kept off display remain in far better condition than those that have been exposed to poor environments.			
Is your flag made of silk?	Silk becomes quite brittle with age, loosing its flexibility. Of the natural fibers, silk is the most dependent on its environment.	x		
Is your flag made of cotton?	Cotton is susceptible to moisture and mold growth.		x	x
Is your flag made of wool?	Wool is most susceptible to insects, like webbing clothes moths and carpet beetles. Protection from these insects is critical.		x	x
Is your flag made of Nylon or other synthetic material?	Many synthetic materials are easily degraded in sunlight, and the effect is not fully realized for several decades later. Caring for these flags now will only lengthen their preservation. Flags from WW II and the Korean War are deteriorating and are becoming weakened.		x	x
What is the size of your flag?	Small flags are quite easy to store flat in sink-mats or layered and placed into a box. It is when the flag becomes large that require storage solutions to be found, where boxing and rolling become necessary.			
How is the flag constructed?	Sewn/stitched Glued Printed Painted			
What is the condition of the flag?	Being able to evaluate the condition assists the determination of the flag's storage needs. The condition of the various materials of which the flag is composed is critical.			
Has your flag been treated previously?	Treated flags often have additional supporting layers that prevent the flag from being rolled. In additional, early treatments can contain materials in which their aging properties were not well understood and the flags may now be brittle. Learn the date and materials used in the treatment. It is best to follow the instructions of the treatment.	x		
Is it a thinner, flexible, flat textile in good condition?	When flags are in good condition with no embellishments or paint, and made of flexible fibers, rolling is a very good option.			x
Is it a weak or damaged or fragmented textile?	Such flags should be kept sandwiched between two layers of fabric or other flexible material. The layers support the flag, lowering stresses on the textiles when handling or moving. Keeping such flags flat is the best solution, but some can be rolled if done on a large diameter tube.	x		
What embellishments are present?	Embellishments present on flags are often thick isolated areas. When these areas are rolled, they cause isolated pressure points in layers.	x	x	
Are painted surfaces present?	Paint layers, as they age and become dry, are no longer flexible. They crack when flexed and are vulnerable to flaking.	x		
Is the flag a single or double layer of fabric?	A double-layer flag must be flat; a single layer can be boxed or rolled. When a double-layer is rolled, the inner layer is crushed and the outer layer is stretched, making the option not possible. Also, double-layered flags frequently have additional cord edging or other embellishment the cause a range of thicknesses.			
Is the flag too large to be accommodated in a box?	Box sizes can be quite limiting for larger flags, requiring the flag to be folded in two different directions that cause more creases and folds. Rolling provides support. When rolled, it is the height of the flag that will be the length of the tube.			x
Is the flag unusually shaped and will not roll evenly?	Textiles that are flat and square are the most easily rolled textiles. However, it is rare that a textile is either flat or square. As the textile becomes more distorted, the chances of a successful roll decrease. A flag hung on a pole for an extended time gradually elongates into a parallelogram.	x	x	
Is the flag thick, layered, embellished with thick fringe or three dimensionally decorated?	Any flag that has uneven surfaces due to embellishments or thick fringe should be flat or boxed.	x	x	
Does the flag need to be viewed frequently?	Any flag that is accessed extensively should be kept as flat as possible. Rolling is another good alternative, especially if only the section of the flag near the hoist is of interest.			x