

# Packing museum objects

*A Collections Care How To Guide*



Packing museum objects: a Collections Care *How To* Guide  
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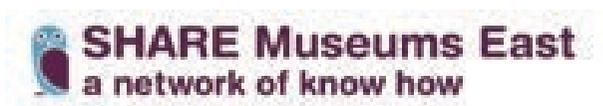
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# Collections Care *How To* Guides

This How To Guide is published by Norfolk Museums and Archaeology Service in partnership with the Collections Trust. It provides an introduction to the packing of museum objects. Museums generally pack objects to protect them from accidental damage, pollutants and environment whilst in storage, or perhaps in order to move them within the museum building. Packing objects for transportation – perhaps to be shipped to a different venue as a loan – requires specialist methods and materials, and in this case you should always seek professional advice.

Correct storage methods and materials are important for the preservation of museum objects and play a major part in any collections care programme: if incorrect methods and materials are used they may result in permanent damage to the object.

If you are packing a previously unpacked object you will find the guidance in the How To useful. You may also want to consider any 'old' packing used for your objects, as it is possible that these will be made from harmful materials. If this is the case, you may want to consider any repacking projects in the context of a risk assessment - in which it is advisable to assess the risk to the objects first and then prioritise the repacking of the objects most at risk from damage.



Acid free tissue paper providing support to shoes

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# Packing museum objects/

Poor packing of museum objects can result in long term damage such as breakage and distortion and can encourage other problems such as insect activity and pollutant damage. Good packing will provide long term support and protection and is a cost-effective method of collections care.

## What are the desirable properties of packing materials ?

- Surface protection – the packing materials should protect the objects from contact with people, pollutants etc. They should be soft and inert so as to avoid damaging the surface of the object.
- Shock protection – the packing materials should help to absorb shock and vibration, diverting it away from the object.

Doll packed in acid free tissue and box. The tissue has been folded into wedges to act as cushioning, protecting the doll from movement. The doll has moving eyes and has been stored face down to reduce strain on the hinges in the head.



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- Insulation – this will prevent the object from damage caused by a sudden change in temperature.
- Moisture absorbing buffer – if packing materials can help to buffer the object against fluctuations in ambient humidity, this will help to prevent damage to the objects from being caused by those fluctuations.
- Conformation to the shape of the object – this will provide good support to all parts of the object.



Metal objects stored in individual boxes containing Plastazote cut to the shape of each object to protect from movement. Plastic polystyrene boxes have been used, which are low acid. Generally, if you can't afford acid free boxes, low acid is acceptable. If using low acid containers, buffer objects in acid free tissue or Plastazote.

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Ceramic and glass objects cushioned by acid free tissue paper

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- Cushioning – where several objects are in close contact, cushioning layers of packing materials will help to reduce localised stress to objects.
- Fill the voids in packing crates and boxes.
- Light in weight – this will reduce stress on the objects.
- Economic to use and easily obtained.
- Can be safely re-used.

## Selecting a container

When selecting a container in which to pack objects consider the following points:

- Is it large enough to safely house the objects and sufficient packing materials ?
- Strength – is it robust enough to house objects or be stacked under other boxes ?
- Is there a lid, which will increase protection and protect the object from dust accumulation ?
- Will it fit into the existing storage systems and use the space efficiently ?
- Is it acid free or inert ?
- If it is a second-hand box, what was its previous use? If it has housed some food products or flowers for example, insect pests may be present and it should not be used.



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## Recommended packing materials

### Acid free tissue paper and acid free card.

The presence of lignin (and other impurities) in wood pulp which is used to make paper can cause damage to museum objects. Lignin breaks down over time, producing harmful acidic by-products. Acid free tissue and card is produced by excluding the lignin in the manufacturing process. Tissue will eventually become acidic and should be replaced every few years.

Acid free tissue can be bought buffered or unbuffered. Buffered tissue has an alkaline composition, and can be used for storing objects made from synthetic materials, or from objects with a plant origin, such as cotton and linen, where its properties protect surrounding objects and surfaces from acidity migrating from the stored object. The composition of unbuffered tissue is neutral, it is neither acidic nor alkaline, and it can be used with objects made from proteins with an animal origin like feathers, fur, silk and wool. If in doubt it is safer to use unbuffered tissue, which is also usually cheaper.

### Polyester film

Trade names for this include: Secol, Mylar or Melinex. It is a transparent, colourless, inert plastic, commonly used for making



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Secol envelope used to store photograph

envelopes in which paper items or photographs are housed. It can also be bought by the roll and comes in a variety of thicknesses.

### Tyvek

This is a trade name for a spun-bonded polyolefin and can be bought in a number of different grades. Tyvek is lightweight, inert and can be stapled, stitched or adhered together. It is used to make very lightweight, water repellent covers for objects. It is also commonly used for museum labels as it is water resistant.

### Unbleached & undyed cotton or calico

Calicos are relatively cheap fabrics and are commonly used to make padded hangers for textile collections and dust covers for objects. They should be washed prior to being used in order to remove any manufacturing additives and also because the fabric may shrink. These fabrics can

be washed and reused.



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Unbleached calico bags used to store costume on padded hangers. Costume can also be stored in Tyvek bags, however these can be more expensive than calico. Remember that taking a photograph of the object and attaching it to the outside of the bag or box, with the accession number, means that you don't have to open boxes or bags to find out what is inside. If hanging costume, always use padded hangers.

### Inert foams

Commonly found in the UK under the trade names of Plastazote, Ethafoam or Jiffy foam. Plastazote and Ethafoam are polyethylene foams and come in a range of colours, densities and thickness. They are good shock absorbers and the higher densities and thickness can cushion heavier items. They can also be cut to the shape of objects using a scalpel or



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Costume stored using Plastazote foam sheets.

knife and can therefore be tailored to complex shapes. All three foams can be used to line metal shelves as they provide cushioning against vibration and more “grip” for the objects than painted metal shelving.

## Acceptable short-term packing materials

### Bubble wrap

Bubble wrap can be used to protect and cushion objects against shock. It should not be used in damp conditions, as it will trap moisture against the surface of the objects. If the bubbles face AWAY from the object’s surface, the risk of

them causing a “dimpling” effect in softer surfaces, will be reduced.

### Polythene (Polyethylene)

If polythene bags are used, try to obtain food grade bags, as the polythene is not contaminated with finishing products. Do not seal the bags (unless the object is suffering from pest infestation or a controlled microclimate using a desiccant is being maintained). Polythene is useful



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Polythene food bags used as temporary packing

in conditions where objects need to be protected from water or from building work but it is fairly impermeable to air and so will form microclimates around objects. This can result in trapping moisture against an object, which may damage it and care should be taken when using this material. It can often feel slightly greasy and this is due to oils and contaminants from the manufacturing process and these too can damage objects if they come into contact with them.

### Polystyrene

Polystyrene is not generally recommended as a packing material, because it is a poor shock absorber as well as being static and attracting dust. However, white (not dyed) polystyrene peanuts, can be used inside sealed polythene bags to provide void filling materials and polystyrene itself is inert.



## Materials which are not recommended

**Non acid-free tissue or cardboard** – as they age, they become more acidic and this can attack objects.

**Newspaper (printed or plain)** – this rapidly becomes very acidic due to its high lignin content. The newsprint can etch the surfaces of objects and will rub off onto the objects. It can also be transferred by handling, to other items.

**Biodegradable packing peanuts** – these are made from grains and are water soluble.

**PVC Poly (vinyl chloride)** – some plastic file pockets and cling films are made from this. It can become sticky and stick to the objects, damaging their surfaces & attracting dust.

**Dyed textiles** – some dyes in textiles can be corrosive and some can “bleed” in the presence of moisture in the atmosphere. This can irreversibly stain the objects.

**Woollen textiles** – these can now contain moth repellent which may adversely affect objects. Untreated wool will also act as a food source for some insects.

**Polyurethane foam** – this is cheap, easily available foam but it ages very badly. As it ages it becomes sticky, then brittle, finally breaking up into crumbs.

**Cotton wool** – this contains a large amount of lignin and will therefore become rapidly acidic. It can also easily snag on rough or delicate surfaces.

**Wooden fruit crates or used flower boxes** – the wood is poor quality and may give off gas containing organic acids which can attack objects. Insect problems may also be inherent through woodworm (in the crates) or carpet beetle (in the boxes).

**Pressure sensitive adhesive tapes** – these include Sellotape, masking tape and Scotch tape. The adhesives can bleed through tissue and card. The tapes may also accidentally be stuck directly to the objects during packing.



## Packing museum objects

A collections manager from a national museum says:

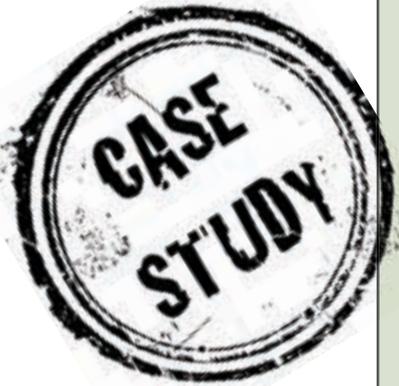
*'As a temporary measure we were using an industrial unit to store some collections, which included a large number of objects from the studio of a local photographer. The industrial unit was very cold at night, and heated up quickly during the day. We had to vacate the unit, which considering the fluctuations in temperature was not a bad thing, and as part of the move we assessed the packing of many objects as we moved them. The photographers shop contents included plate glass negatives, which many years previously had been wrapped in newspaper. The negative images on the glass had lifted from the glass itself, were flaking, and in places were stuck to the newspaper. This was a direct result of poor storage environment and materials.'*

A curator at an independent museum says:

*'We used ordinary supermarket cardboard boxes to store a collection of bottles. This didn't present a problem in the short term – the boxes were only temporary and they were stored well away from other parts of the collection. However the 'temporary' storage lasted rather a long time, and when we finally moved the boxes some of the bottles had contained liquid which had leaked, and the boxes were disintegrating. Luckily we realised this before we actually picked any of them up'*

A curator at an independent museum says:

*'We had a wonderful collection of nineteenth century Sunday School banners. These were carried on special occasions, and we had photographs of children carrying the banners in processions. They were packed folded in old boxes. When we took them out they had cracked along the folds and were in very poor condition. We managed to raise some funds to work with a conservator and get them mounted and hung properly on a special backing, and then displayed them in a new case with low level lighting. One couldn't be displayed, and was hung on a wall in the store in a washed calico case.'*



# Where can I find out more?

***Packing and moving library and archive collections***, (2005), National Preservation Office  
[http://www.collectionslink.org.uk/media/com\\_form2content/documents/c1/a107/f6/000507.pdf](http://www.collectionslink.org.uk/media/com_form2content/documents/c1/a107/f6/000507.pdf)

***Signpost Factsheets 3 – Handling and Packing***, (2006), South West Museums, Libraries and Archives  
[http://clbeta.org.uk/media/com\\_form2content/documents/c1/a268/f6/001260.pdf](http://clbeta.org.uk/media/com_form2content/documents/c1/a268/f6/001260.pdf)

***Control of Hazardous Substances in the Collections Policy***, (2007), Royal Cornwall Museum  
<http://www.collectionslink.org.uk/discover/site-information/1306-royal-cornwall-museum-collections-hazards-policy>

***Working with Substances Hazardous to Health***, (2009), Health and Safety Executive  
<http://www.collectionslink.org.uk/discover/environmental-control/842-working-with-substances-hazardous-to-health-coshh>

More about suppliers of archival quality packing material are available on the Collections Link Suppliers list at:

***Collections Link*** - <http://www.collectionslink.org.uk/suppliers>