



Care of Objects Decorated with Glass Beads

Introduction

Many objects in Canadian museums are decorated with glass beads in a multitude of colours, shapes, and sizes. Glass beads are almost always found in combination with other materials. They are frequently threaded with sinew, cotton, or wool, and are usually applied to commercially tanned or native-tanned (semi-tanned) leather or to a woven wool or silk support material. When caring for these items, consideration must be given to weak support and threading materials. Most frequently, the beads have simply become dirty or loose, but occasionally the glass itself may have deteriorated.

Handling

Handle all heavily beaded, flexible objects with extreme care. Before moving a beaded object, check for loose beads. Do not assume that all the beads are still secure because the object has been handled safely before. Previous handling, even when correct, might have loosened some beads. Place adequate support beneath the artifact before moving it, e.g. a rigid support such as acid-free matboard or corrugated plastic board cut slightly larger than the object. Ensure that beaded fringes are well supported and are not hanging.

Storage

Materials decorated with glass beads are generally light-sensitive, and should be stored in the dark. To protect beaded objects from the effects of small, rapid fluctuations in relative humidity (RH), wrap them in hygroscopic materials, such as unbuffered acid-free tissue or clean cotton fabric, and place them in acid-free containers.

Flexible objects or objects of unusual shapes, such as beaded bags, require special support. To maintain the shape of these objects, lightly fill them with unbuffered acid-free tissue paper (see Figure 1), cloth inserts filled with polyester batting, or rolled acid-free paper inserts.

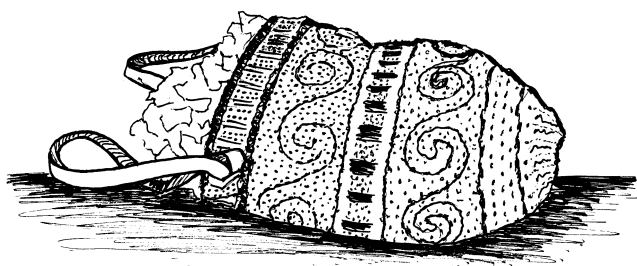


Figure 1. Object filled with unbuffered acid-free tissue.

Heavily beaded objects are best stored and displayed flat. Ensure that beaded fringes are well supported and do not hang over the edges of shelves.

Clothing decorated with beads should be laid flat rather than hung. Due to the weight of these items, hanging will strain seams and threads and create folds and creases that will, in time, distort the applied decoration. Sleeves, folds, and other shaped areas can be lightly filled with unbuffered, acid-free tissue paper or batting-filled pouches to maintain the desired shape. If the object has loose beads, wrap it in acid-free tissue paper and place it in a box so that if the beads fall off they will remain with the object. Place all detached beads in a labelled container and store them with the object.

The irregular surface of beadwork will easily catch and hold dust particles. Dust, besides being obtrusive, contributes to damaging abrasion, provides nutrition for insects and mould, and can react with moisture to accelerate chemical degradation. Objects in storage should therefore be kept as dust-free as possible by practising good housekeeping, placing polyethylene or cotton sheeting dust covers over storage shelves, and using closed storage containers.

Damage from insects is a major consideration in the storage of beaded objects. Given proper conditions, the larvae of some common museum pests, such as clothes moths and carpet beetles, can destroy woollen or leather support materials and threads very quickly.



Inspect these objects for insect damage as well as for other kinds of damage every 3 months (see CCI Notes 3/1 *Preventing Infestations: Control Strategies and Detection Methods* at www.cci-icc.gc.ca/crc/notes/html/3-1-eng.aspx and 3/2 *Detecting Infestations: Facility Inspection Procedure and Checklist* at www.cci-icc.gc.ca/crc/notes/html/3-2-eng.aspx). Immediate attention is required if an infestation is detected. Contact the Canadian Conservation Institute for advice.

Cleaning

Cleaning beadwork is a delicate operation and should be avoided or referred to a conservator where possible.

If this is not practical, it is essential to first examine the beadwork very carefully to identify areas of weak or broken thread and support material, as well as any cracked or unstable glass beads. Unstable glass, usually the result of an imbalance in composition during manufacture, should not be cleaned. Unstable glass is often fragile and its deterioration is accelerated by the presence of moisture. Indications of unstable glass include large numbers of broken or cracked beads, a crusty or sticky deposit on the glass or threading material, a fine crazing over the bead's surface, or discoloration or bleaching of the support material where it is in contact with the bead.

If the object is sound and all thread ends are secure, begin cleaning using a small, soft brush. Brush the dust into the nozzle of a vacuum cleaner held several centimetres from the artifact. If possible, use a vacuum that allows for adjustment of power and suction. Use a low power and mini attachments for the vacuum. A piece of fine gauze or screen placed over the nozzle will prevent the accidental suction of loose beads. Clean one small area at a time.

Dirt caught between beads is usually better left alone. The pressure required to remove the dirt can sometimes cause threading material to break.

Ingrained dirt can sometimes be removed from stable beads using a cotton swab dampened — not saturated — with a solution of approximately 40% ethyl alcohol or isopropyl alcohol and distilled water. To ensure the swab is not too wet, blot it first on a paper towel. Use ethyl alcohol or isopropyl alcohol in a well-ventilated room. Keep the solvent away from sources of heat or open flame.

Test all wet cleaning methods on an inconspicuous spot to determine the colourfastness of beads, backing material, and thread. In rare instances, beads have been coated with a coloured solvent-soluble substance.

Ensure that excess solvent does not touch the thread or support material. Never immerse an object in water or in any cleaning solution.

Keep a record of all cleaning methods and the locations on the object at which they were used.

Securing Loose Beads

Securing loose thread ends will help to prevent bead losses. Because every beaded object has its own unique problems, it is difficult to make generalizations regarding methods of securing threads.

In some instances, if a loose thread is long enough, a second thread can be knotted with it to produce a knot large enough to prevent beads from slipping off (see Figure 2). In other cases, an unsecured thread can be tacked down to the support materials with a small stitch, using fine colourfast cotton thread (see Figure 3). If the thread end is too short or too weak to knot or tack, a second thread can be passed through a few beads beside the original thread and can be tacked at each end or through adjacent secure beads (see Figure 4). When securing loose threads, it is important not to damage the original thread or support material.

The centre of some beads may be too small to allow the passage of a needle and new thread along with the

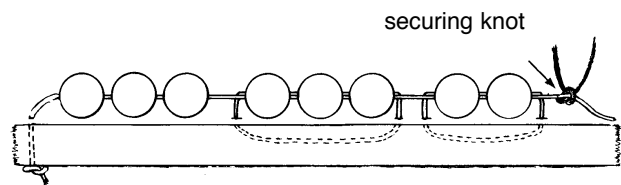


Figure 2. A securing knot made with a second thread.

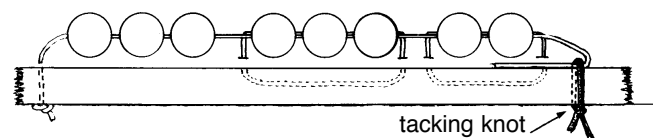


Figure 3. Securing a loose thread with a tacking knot.

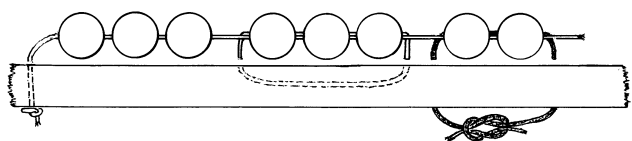


Figure 4. Securing beads by passing a second thread through them.

original thread. If a suitable length of original thread is extending from the bead, it can be tacked in place. If there is not enough of the original thread to tack down, remove the end bead(s) to free up enough length to tack down the original thread. Then secure the end bead(s) with new thread, as shown in Figure 4.

Keep a record of all securing methods and the locations at which they were used.

Illumination

Coloured glass beads are not sensitive to high light levels, but uncoloured glass sometimes turns purple when exposed to high levels of ultraviolet (UV) radiation. Silk or dyed wool support materials are very light-sensitive. They fade and become embrittled under excessive light — and this damage is irreversible. Light levels for objects containing silk or wool should not exceed 50 lux with a UV component less than 75 $\mu\text{W}/\text{lm}$. Unless they are painted or dyed, skin or leather substrates are not as light-sensitive as silk or wool. Light levels in these cases can reach up to 150 lux with a UV component less than 75 $\mu\text{W}/\text{lm}$.

Protect objects from sunshine and daylight, and do not place them near bright artificial light sources. Information regarding the measurement of light levels can be found in CCI Notes 2/4 *Environmental Monitoring Equipment* (www.cci-icc.gc.ca/crc/notes/html/2-4-eng.aspx). More in-depth information on light is available in *Light, Ultraviolet and Infrared* (www.cci-icc.gc.ca/crc/articles/mcpm/chap08-eng.aspx).

RH and Temperature

Each of the materials present in an artifact expands and contracts individually in response to changes in atmospheric moisture. This can create stress at points where different materials come into contact. It is therefore important to try to maintain an appropriate, stable RH or, at the very least, to slow the rate of RH changes.

Extremely low RH conditions may cause sinew on which beads are threaded to shrink and become embrittled. Shrinkage of sinew usually causes beads to be pulled together tightly. This can cause cleavage of individual beads, especially if the adjacent bead has a rough or sharp edge.

If beads in a decorated panel are tightly pulled together, the overall flexibility of the panel may be lost. In extreme cases, a panel can buckle out of proper alignment. If the threading material is brittle, even careful handling could cause breakage and a subsequent loss of beads.

In conditions of high RH (over 65%), mould can flourish on a thread or support material made of wool, silk, or leather. The presence of mould can weaken, discolour, and stain these materials (see CCI Notes 8/1 *Removing Mould from Leather* at www.cci-icc.gc.ca/crc/notes/html/8-1-eng.aspx and Technical Bulletin 26 *Mould Prevention and Collection Recovery: Guidelines for Heritage Collections*). High or low RH can also accelerate deterioration of unstable glass. Signs of instability include a fine crazing over the surface, a crusty or sticky deposit on the surface, or numerous cracked or broken beads.

The optimum RH for most objects decorated with glass beads is a stable 45–55%. Unstable glass, depending on its condition, may be best stored at a slightly higher or lower RH. If signs of unstable glass are noted, contact an experienced conservator or the Canadian Conservation Institute for advice.

High temperatures accelerate the embrittlement of organic materials found in conjunction with glass beads. Every effort should be made to maintain display and storage temperatures at less than 25°C.

Take care to prevent radiant heat, generated by bright spotlights, from heating tightly closed display cases and raising the surface temperature of the objects. This can be accomplished by maintaining moderate light levels and using lights that emit less radiant heat.

Environmental Guidelines for Museums — Temperature and Relative Humidity (www.cci-icc.gc.ca/crc/articles/enviro/index-eng.aspx) provides a general introduction to CCI's current approach to controlling ambient RH and temperature in museums. More information regarding RH and temperature is available in *Incorrect Relative Humidity* (www.cci-icc.gc.ca/crc/articles/mcpm/chap10-eng.aspx) and *Incorrect Temperature* (www.cci-icc.gc.ca/crc/articles/mcpm/chap09-eng.aspx).

Suppliers

Note: The following information is provided only to assist the reader. Inclusion of a company in this list does not in any way imply endorsement by the Canadian Conservation Institute.

Ethyl alcohol:
chemical suppliers

Isopropyl alcohol (rubbing alcohol):
sold in drugstores at 70% strength (dilute in same quantity of water for cleaning beads)

Corrugated plastic board (Cor-X, Coroplast):
renovation centres, craft stores, suppliers of plastics

Acid-free paper and matboard:
art supply stores, and conservation product suppliers such as:

BiblioFiche
www.biblioFiche.com

Carr McLean
www.carrmclean.ca

University Products of Canada
www.archivalproducts.ca

Woolfitt's
www.woolfitts.com

Polyester batting (do not use bonded batting because the fibres are coated with an adhesive):
department stores, fabric stores, craft stores

Mini attachments for vacuum cleaner:
vacuum cleaner retailers, sewing machine / serger stores

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by Tom Stone

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