

Caring for your glass

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Conservation Studio

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W&A

This guide contains advice from V&A Conservation specialists on how to look after glass objects at home. It highlights common problems, tells you what to avoid and provides practical, step-by-step instructions on how to care for glass.

What is glass?

Most glass is a mixture of silica (sand), an alkali (usually soda or potash), an alkaline earth (lime) and a little waste glass (known as cullet). Other materials, typically metal oxides, are added to achieve different working properties or decorative effects, for example lead oxide gives weight and added brilliance, whilst barium produces optical glass.

Glass can be shaped and decorated during manufacture. Once cooled, it can also be embellished by working the surface of the glass, for example by cutting, etching or engraving, or by applying decoration in the form of enamels or gilding. Glass may be combined with other materials, such as metal (mounts, stained glass), wood (mirrors) or paint and gold (reverse painted glass or verre églomisé).



Things to avoid

In the right conditions, and with the correct care, glass can endure for hundreds of years. The main risks come from handling and other interactions.

Avoid dishwashers for historic or valued glass - hot temperatures, high pressure water and aggressive detergents can attack the surface of glass to produce an irreversible patchy or cloudy effect.

Prolonged contact with liquids may damage glass. The liquid can gradually extract elements from the glass, resulting in an irreversibly etched surface.

If your glass has metal mounts, avoid water creeping into inaccessible gaps and crevices where it may cause corrosion. Silver mounts may have been lacquered to prevent tarnishing, so avoid using solvents when cleaning. Mounts may also be attached with plaster or adhesive, which can be damaged by water or solvents.

Cleaning techniques

Depending on the surrounding environment, glass can gradually become dull and dusty over time. Occasional cleaning will restore the clarity and shine, but requires care and preparation. Before you start, remove all personal jewellery such as rings, bracelets and watches. Wearing thin disposable rubber gloves, examine the glass carefully on a padded surface. Consult a conservator for advice on cleaning if the object has any of the following:

- Repairs.
- Signs of glass deterioration (see section on glass deterioration below)

- Metal mounts.
- Unfired gilded or painted decoration - this may appear fragmentary or may be lifting or flaking. Unfired gilding rarely survives, but if it does, it adds historical and monetary value.
- Flaking or lifting enamel decoration. Consult a conservator about consolidating the enamel.

If the glass is in good condition, proceed to clean it as follows:

- Use a plastic bowl (avoid using a sink in case you accidentally knock the glass against the taps).
- Use warm water (glass can break if exposed to sudden changes in temperature). If you are in a hard water area, use distilled water rather than tap water.
- Add one drop of mild liquid detergent per litre of water.
- Clean one object at a time.

Method

1. Dip the object in the water.
2. Roll a small dampened cotton wool pad over the surface to remove dirt. You can use a long-handled artist's hog's hair brush for hard to reach areas (the hard metal band, or ferrule, should be padded with masking tape or fabric to avoid damaging the objects); a plastic bottle brush can also be useful if you don't have a hog's hair brush.
3. Rinse with clean, lukewarm water (without detergent) – either by dipping the glass object into a bowl or by wiping with a damp swab.
4. Blot dry using paper towels. For inaccessible interior surfaces (such as bottles and decanters), allow the inside to dry by carefully supporting the object upside down and leaving it for several hours.

Accidental breakage

If you are likely to make an insurance claim, photograph the scene of the accident before anything is moved. Collect all the fragments, no matter how small. Fragments can travel quite a distance after impact, so look carefully to find all the pieces.

- Place larger pieces into a tray or box, padding or loosely wrapping them with clean tissue.
- Use self-sealing bags for small pieces.
- Avoid attaching sticky labels, which can be difficult to remove.
- Try not to touch the broken edges, as fingerprints can interfere with bonding.

- Resist the urge to try to fit any pieces back together, edges can be fragile.
- Seek professional advice if you decide the object is worth repairing.

Repairing glass objects

Glass is a very unforgiving material - repairs to transparent glass are usually visible, though repairs to opaque, densely coloured or highly decorated glass may be less obvious.

Even a shattered glass can be repaired, as shown by this 19th century English goblet. However, damage reduces monetary value of collectable glass, so the cost of conservation should be balanced against the object's value after repair. Consult a conservator for advice on the work that might be involved.



Removing stoppers from decanters

When a stopper becomes jammed in the neck of a decanter it can be difficult to remove. If there are no signs of structural damage (cracks, restored break lines) to either part, the following approach may help to release it:

- Add warm (not hot) water into a plastic washing-up bowl.
- Slowly heat the neck of the decanter by immersing the neck and the stopper into the water.
- After several minutes, hold the decanter in one hand and gently pull the stopper with the other.
- Apply a small amount of penetrating oil (e.g. WD40, available from hardware shops) around the stopper. This gradually seeps into the gap and can provide sufficient lubrication for the stopper to be removed.

Removing white deposits from inside a vase

The whitish, cloudy calcium deposits left by hard water on the interior surface of flower vases can sometimes be removed with a mild acid such as household white vinegar. The vessel should be filled with the vinegar and left overnight, then thoroughly washed, rinsed and allowed to dry.

Glass deterioration

The composition of glass can affect its durability. Glass deterioration is typically associated with 16th century Venetian and 17th century Cristallo glass. However, many other types of glass can be of unstable composition, for example, some contemporary glass, the glass covers of portrait miniatures or old

watches, as well as 19th century pressed glass. The deterioration (sometimes referred to as 'glass disease') cannot be reversed, but progress is slower at low temperatures and in dry conditions.

'Weeping glass'

In terms of caring for your antiques, it is important to be aware of relative humidity (this is the amount of moisture that's in the air relative to the maximum amount of moisture that the air could hold at that temperature). If relative humidity is high, affected glass will feel slippery and appear dull. If relative humidity is low, salts will form and the surface will appear patchy or fogged. In subsequent humid or damp conditions, salts on the surface attract moisture and form droplets of liquid. This is known as 'weeping' glass.

It is a good idea to remove the salts as there is some evidence to suggest that leaving salts in place exacerbates the problem. If the surface of the glass is smooth, it can be cleaned with a cotton wool swab. Barely dampen the swab with distilled water. Follow by blotting the surface dry with a paper towel. This method should not be used when the surface is rough or has begun to flake.



Crizzling

'Crizzling' is the appearance of very fine cracks on the surface of deteriorating glass. As the cracks become deeper and more pronounced, the glass may begin to flake and eventually the object disintegrates. Consult a specialist conservator for advice on cleaning crizzled or flaking deteriorated glass.

Images:

Wine glass, engraved, twisted enamel threads in stem. George Bacchus & Sons, 1849–51, Birmingham. Museum no. 4449-190. © Victoria and Albert Museum, London

Glass goblet, Pellatt & Co, Falcon Glass Works, England, 1862. Museum no. CIRC.618-1967. Fragments of broken glass bonded with an optically clear adhesive. © Victoria and Albert Museum, London



17th century glass goblet displaying early signs of instability ('weeping glass'). Droplets are visible on the surface. Museum no. 2467-1856. © Victoria and Albert Museum, London

Glass goblet displaying advance stages of deterioration, 17th century, Venice. Museum no.102-1853. © Victoria and Albert Museum, London

