# Stained glass windows and leaded lights

## 1. INTRODUCTION

**The conservation and correct repair of ALL stained glass is important and the PCC should, if any doubt, contact the DAC Secretary for help on how to proceed.**

Glass is a man-made material consisting of natural silica with a flux of potash or soda.

The production of stained glass in the medieval period was at its height in the 15th century and the master glaziers ranked with master masons in importance as craftsmen. By the end of the 16th century, the craft was in decline due mainly to the reformation and the loss of rich ecclesiastical patronage. In the 17th and 18th centuries, very little stained glass was produced and it was not until the middle of the 19th century that there was a revival of interest in the medieval craft. This reaches its peak with the arts and crafts movement and the appearance of a number of major stained glass studios. The second half of the 20th century saw a renaissance in the production of highly original stained-glass design, using many innovative techniques.

Very little medieval glass has survived, much was destroyed at the reformation and during the 17th century and much of that which survived into the 19th century was replaced with copies or rearranged in a patchwork of colour. **It is thus very important to save and conserve every surviving fragment of medieval glass**.

A very large number of windows were produced during the Victorian period and many of these now need urgent attention. Life expectancy of the lead cames is 100-150 years and the re-leading of these windows is going to be the largest single problem over the next 30-50 years.

It is important to know what stained glass survives from the various periods and to research the date, designer and manufacturer of the 19th century windows. A catalogue and photographic record should be gathered together with a survey of condition and priority for repairs identified to enable a case to be made for grant aid or appeals towards the cost of restoration. A good colour photographic record of each window is essential and will be invaluable if repair work is necessary after damage.

## 2. SURVEY OF CONDITION

Your architect will look for the following points during the Quinquennial Inspection and will:

1. Inspect the lead cames looking for fractures at the lead joints and general fatigue. In the case of medieval glass, check for the rare survival of cast medieval cames or unusual profiles.

2. Examine the condition of the waterproof cement under the edges of the cames noting if it is cracked or washed away. As this material deteriorates it can be seen as streaks on the glass and in conditions of heavy rain with driving wind the window is likely to leak badly at the cames.

3. Check the stability of the panels of glass - Do they rattle? Are they buckled or springy and weak? Have the individual panels of glass separated at the tie-bars or border?

4. Examine closely the support system. Note the type of material - if iron, is it rusting and expanding in the mullions and jambs causing the stonework to crack? Check also the condition of the ties which support the lead panels - are they stretching or broken?

5. Examine carefully the condition of the glass - looking for fractures, surface corrosion both inside and out and the stability of the painted surface for flaking or fading. Is the surface of the glass clean or covered with growths of lichen, patches of soot or mortar or material leaching from the surrounding stonework?

6. Make a careful note of any previous repairs - their techniques and condition. Has any new glass been inserted into repairs or extra fine cames used to repair cracks? Some repairs may have been undertaken using recent techniques of sandwiching the original damaged glass between thin sheets of clear glass or other resin and adhesive edge repair systems.

7. Examine any existing protective system for glazing. This may be in the form of wire guards and they may be rusting or corroding resulting in the staining of the stonework beneath. In some cases the windows have been secondary glazed on the exterior and this should be checked carefully to ensure that there is adequate ventilation behind and that the original glass and cames are not suffering from condensation.

If at any time you have worries about the state of your windows you should contact the DAC Secretary for advice or referral to a suitable advisor.

## 3. MAINTENANCE AND REPAIR

**If damage or vandalism occurs,** the area should be carefully recorded photographically. It is most important to carefully **collect and label every fragment of broken glass,** no matter how small, as with modern repair systems it is often possible to reconstruct these fragments or at least they will provide a pattern if a new section has to be painted. Tape up all loose edges and ensure that no sections of glass are left hanging freely. Then contact the DAC Secretary for advice on specialists in conservation and restoration. **This work will need a faculty**.

**Do not attempt to clean stained glass - this is a specialist job! Hose pipes and water, long brushes etc., can cause what may prove very costly damage**. The wrong sort of cleaning can actually remove paint from the inside surface of the glass.

**The major problem with windows stems from malicious damage.** Remove all 'missiles'' in the vicinity such as stones, rubble, bottles, etc. If the windows are in an area of high risk from vandalism, protect the glazing - first taking advice on the appropriate systems from the DAC (see Advisory Note W*indow Protection*). Regularly check existing guards for damage. If building works are to take place in the vicinity of the windows, make sure

they are adequately protected before work starts and especially where scaffolders are involved! Ban all ball games within the vicinity of windows. Do not forget that even plain leaded lights can be of historic importance, particularly if they contain crown glass and they are also expensive to repair.

**Remember** many stained glass windows are **real works of art** there for all to enjoy. They are vulnerable and do need care. A full set of colour photographs and, if you can afford it, black and white ones too, will enable craftsmen to make accurate repairs when windows get broken through vandalism or any other cause.

## 4. FURTHER INFORMATION

Further information can be obtained from

The Institute of Conservation (ICON): http://www.icon.org.uk/images/stories/stained_glass.pdf

The DAC also has a Stained Glass Adviser who can be contacted via the DAC Office.